



State Home Energy Rebate Programs

ENERGY STAR Messaging for Key Home Upgrades

ENERGY STAR for Residential Products

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General Messaging on Rebate-Eligible Products

Heat Pump for HVAC

- For the average American household, almost half the annual energy bill goes to heating and cooling - more than \$900 a year. Installing efficient home heating and cooling systems like an ENERGY STAR certified heat pump will help you save money and stay comfortable in your home.
- When replacing electric resistance heaters, ENERGY STAR heat pumps save an average of about \$460 a year. If you have an oil heating system, replacing it with a heat pump could save you even more on your energy bill - about \$950 a year.
- Replacing your older central AC with an ENERGY STAR certified heat pump could save you nearly \$600 over the life of the product on cooling costs alone.
- In the southern US, replacing a gas furnace with a heat pump could save you \$250 per year, on average. Savings are even higher when replacing an electric HVAC system, such as an electric furnace - about \$450 per year.
- An ENERGY STAR certified heat pump serves double duty with heating and cooling, providing heating for about 1/3 the cost of traditional electric baseboard heating and about 1/2 the cost of oil heat.
- The average household spends more than \$2,200 a year on energy bills, with nearly half going to heating and cooling. HVAC equipment that earns the ENERGY STAR label is independently certified to save energy, save money and help protect the climate.
- During summer months, a heat pump works as a central air conditioner and is cheaper to run when compared to conventional air conditioners. In winter months, a heat pump costs

less to operate than traditional heating equipment such as furnaces, boilers, or electric resistance heat. This is possible because a heat pump moves heat rather than converting it from a fuel like furnaces and boilers do.

- Heat pump HVAC is part of an ENERGY STAR Home Upgrade – a set of six high-impact, energy efficient improvements designed to work together to deliver significant energy and cost savings in your home.
- ENERGY STAR certified ductless mini-split heat pumps use sophisticated compressors and fans that can adjust speeds to save energy and money. They cool directly from the unit rather than passing through a network of ductwork and losing energy along the way, which can account for more than 30% of a home’s energy use for space conditioning.
- ENERGY STAR certified ductless mini-split heat pumps use sophisticated compressors and fans that can adjust speeds to save energy, cutting cooling costs by 30% compared to conventional room air conditioners. Plus, they provide efficient heat.

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 70 percent less energy than a standard model. It can save a household of 4 approximately \$550 per year on electric bills and more than \$5,600 over its lifetime when compared to a standard electric water heater.
- An ENERGY STAR certified heat pump water heater (also known as an electric water heater) uses about one quarter of the energy of a standard model.
- Your water heater is the second-highest energy user in your home. Switching to an ENERGY STAR certified water heater with heat pump technology can save you \$270 to \$550 a year depending on your family size.
- Not only are today’s heat pump water heaters quieter and more efficient than before – they are backed by decades of research and innovation. Models with the ENERGY STAR label are independently certified to save energy and come with a minimum 6-year manufacturer warranty for your peace of mind.
- Installing a heat pump water heater is one of six energy-saving ENERGY STAR Home Upgrade improvements you can make to prepare your home for the clean energy future.

A Well-Sealed & Insulated Attic

- More than 90% of single-family homes in the U.S. are under-insulated. Making sure your attic is well-sealed and insulated is one of the most important things you can do to lock conditioned air inside and keep your home comfortable while saving up to 10% on your annual energy bills.

Heat Pump Clothes Dryer

- ENERGY STAR certified heat pump dryers are the most energy-efficient type of dryer on the market and use around 70% less energy than conventional clothes dryers. Consumers with high clothes dryer usage and high electricity costs could save loads of energy and money from making the switch.

- Compared to a standard electric model, an ENERGY STAR certified heat pump dryer could save more than \$500 in electricity costs over the life of the product. If all clothes dryers sold in the United States were ENERGY STAR certified, we would prevent more than 22 billion pounds of annual carbon pollution, equivalent to the emissions from 2 million vehicles.

Electric Cooking

General

- ENERGY STAR certified electric cooking products are 18% more efficient, on average, compared to standard electric models – saving you energy and money.
- Electric cooking products are not only more efficient, they're also better for indoor air quality compared to gas ranges because they avoid burning gas or propane, which are a source of air pollutants.
- Because electric cooktops offer a smooth, tempered surface, they're much easier to wipe down and clean compared to gas ranges.

Induction

- Induction stoves are uniquely designed to directly heat your cookware – not the stove surface, itself – minimizing burn risks and fire hazards.
- Induction cooking offers the fastest cooking time out of all cooking technologies and can boil water in as little as 2 minutes.
- Since induction technology directly heats your pot or pan instead of the cooktop surface, these ranges cook more precisely and evenly – which results in less splatter and burning than a standard cooktop.

Expanded Content by Product

Heat Pump for HVAC

Switching to an ENERGY STAR certified heat pump is one of the most significant energy- and cost-saving upgrades you can make in your home. Combine this upgrade with other high impact energy-efficiency improvements like insulation and air sealing to ensure your conditioned air stays inside to keep you comfortable.

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 times 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 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).

Heat Pump Water Heater

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 a 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, rumbles, 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. 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 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 38 F. 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.

Well-Sealed and Insulated Attic

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

Here are some basic steps that can help you:

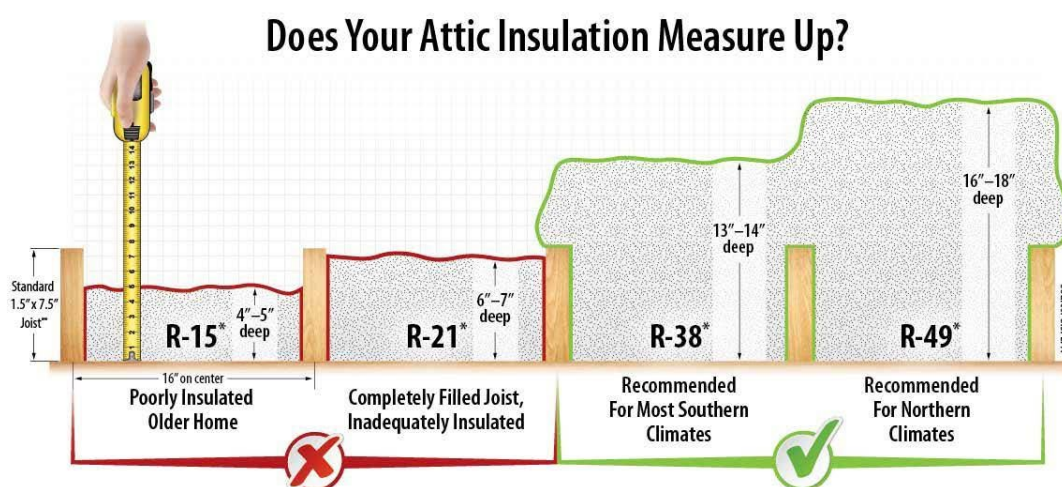
Step 1: Access Your Attic

- 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 in inches from the bottom of the attic floor to the top of the insulation. Record your measurement. Since most 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 has. Just take the depth in inches and multiply it by 3 to get an estimated R-value.



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.

Heat Pump Clothes Dryer

Key Heat Pump Dryer Benefits

- **Performance:** Heat pump dryer technology is continuously advancing, not only in reducing energy use, but also in improving drying performance. The maximum drying cycle time of an ENERGY STAR certified heat pump dryer is comparable to that of a conventional dryer, with typical dry times between 37-70 minutes. Heat pump dryers also dry at lower temperatures than conventional dryers, so they are gentler on your clothes, and they won't turn your laundry room into a sauna.
- **Efficiency:** Unlike conventional dryers that expel hot air outside through a vent, heat pump dryers use a closed loop system that continuously recycles warm air. This process of moving and recycling heat means much less energy is needed to generate heat to dry your clothes. ENERGY STAR certified heat pump dryers use around 70% less energy compared to conventional dryers.
- **Convenience:** Heat pump dryers are easier to install than conventional dryers because they don't need a vent. Since they are ventless, they are an excellent option for small spaces, additions, or apartments without existing vent access. In certain cases, you may need to have a drain nearby for water removal. If you don't have a drain available, many models include water collection chambers that you can empty manually, much like a dehumidifier.
- **Emissions:** Since heat pump dryers reduce energy use, they also help to reduce greenhouse gas (GHG) emissions. In fact, if all new electric dryers sold in the U.S. were ENERGY STAR certified heat pump dryers, they could save \$145 million annually in electricity costs and reduce emission equivalent to taking 152,000 vehicles off the road.

All-In-One Combination Washer/Dryer Models

The latest innovation in laundry combines a heat pump dryer and a clothes washer, so you can do your laundry all in one machine. These all-in-one units allow you to wash and dry a single load of laundry in 1.5–2 hours without needing to transfer the load. On top of its added convenience, a combined unit also means you don't need to worry about the risk of mildew or mold forming in your washer, since the drum dries itself during the drying cycle. Plus, you get the efficiency and savings benefits of both an ENERGY STAR certified clothes washer and heat pump dryer.

Electric Cooking

Benefits of ENERGY STAR Certified Induction and Other Electric Cooktops

- An electric/induction cooktop that has earned the ENERGY STAR label has been independently certified based on testing in an EPA-recognized lab to meet strict energy efficiency standards developed by the EPA.
- An ENERGY STAR certified residential electric/induction cooking product can save about \$70 in electricity costs over the life of the product, while avoiding 1,100 pounds in greenhouse gas emissions.
- ENERGY STAR certified electric/induction cooking products are available in a variety of styles, sizes, and functionalities, so you can find the product that is right for your home.

- Many ENERGY STAR certified cooking products include smart features that allow the cooking top to connect to a mobile app or other devices. Other common features include cookware sensors that generate heat based on the size and location of the cookware, control locks, and indicator lights for active heating and hot surface.
- ENERGY STAR certified electric/induction cooking products are eligible for generous rebates from local utilities in various parts of the country, as well as rebates from state programs that were funded by the Inflation Reduction Act.
- Switching to electric/induction cooking reduces your exposure to indoor air pollutants, which helps to improve the air quality in your home and provides health benefits.
 - Burning fuel (gas, propane) through cooking can release harmful carbon monoxide, nitrogen oxides, formaldehyde, and particulate matter, creating air pollution inside your home.
 - According to the U.S. Environmental Protection Agency, exposure to this indoor air pollution can increase the risk of certain health conditions, such as dizziness, headaches, asthma, and respiratory infections. Replacing your gas cookware with electric/induction cooking appliances can reduce the amount of harmful emissions in the air and reduce your family's exposure to household air pollutants. Further, the American Lung Association found the following:
 - Appliances using combustion to create energy can increase asthma symptoms in children and other vulnerable populations.
 - Studies show consistent associations between higher pollution levels and detrimental respiratory effects in children, including worse lung function for children with asthma.
 - Indoor exposure to emissions from cooking on gas stoves can worsen asthma symptoms, cause wheezing, and result in reduced lung function in children, particularly in the absence of ventilation and for children living with asthma or allergies.

Benefits of ENERGY STAR Certified Induction Cooktops Only

- When using induction, about 85% of heating energy is transferred to what is in the cookware compared to only a third of the heating energy when using gas cooking products.
- Cooking with induction means quicker heat up times and better precision temperature control over cooking with gas, radiant, or coil. For example, boiling water with induction can take nearly half the time compared to gas, radiant, or coil.
- Induction heats up the cookware, so the cooking top surface will not be hot to the touch without a pot or pan in place. More of the heating energy is transferred to cooking and less heat is released into the kitchen, which can help keep kitchen temperatures lower compared to gas or standard electric cooking products.

Buying Guidance:

- **Cookware:** Induction cooktops require that you use compatible cookware but many pots and pans you already have in your kitchen may be compatible, such as cast iron, stainless steel, and enameled cast iron.

- If you are unsure what your cookware is made of, you can check if your cookware is compatible with a refrigerator magnet. If the magnet sticks to the cookware, it will work with induction. If shopping for new cookware, many induction-compatible pots and pans will have an induction logo on the box if it is compatible.
- **Capacity:** If you are purchasing an electric/induction cooking product that includes an oven, you'll want to take note of how much capacity the oven can hold. Most ovens included in electric ranges have a capacity of 5-6 cubic feet.
- **Functionality:** Are you looking to fully replace your cooking range? Or are you only interested in switching to an electric/induction cooktop for your kitchen? You can choose between a slide-in range that will sit flush between your existing countertops, a freestanding range that can occupy a separate space in your kitchen, or a cooktop that fits into your countertop.
 - In addition to standalone electric/induction ranges, some electric/induction cooking products are sold as a cooktop/oven combo set, giving you the option to separate your cooktop from your oven. These choices allow you to select a product based on your aesthetic preferences and the space limitations of your kitchen.
 - Range width and cooking zones:
 - Space is a key factor to determining which product is best for your kitchen. Most cooking tops fall within 30 to 36 inches in width, though some products are outside of that range if you are tight on space or have a lot of room to spare.
 - Cooking tops will typically have four to six burners, depending on size.
 - Concentric cooking zones have the same center point and can be used for different sized cookware.
 - Some have bridging elements that allow two or more heating zones to operate in unison to accommodate uniquely sized cookware such as griddle cookware.
 - Some models offer other specialty zones such as simmering or power heating.