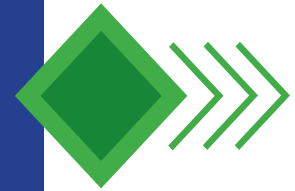




ENERGY-EFFICIENT HEATING AND COOLING SYSTEMS: STAYING COMFORTABLE AND SAVING MONEY

There are a handful of moments in life when you have an opportunity to select a new heating and cooling system. It can be an exciting and planned occasion, when building a new home or addition, for example, but usually it is an abrupt need to replace an existing unit. In either scenario, being knowledgeable about energy-efficient options can help you select a unit or system that provides long-term comfort and affordability.



An air conditioner produces only cool air.



A heat pump heats and cools a home.

BENEFITS

- ▶ ENERGY STAR® certified heating and cooling systems meet stringent quality standards that yield long-term durability and exceptional performance. These products can often be worth the extra investment in our humid climate, especially if you have a lot of space conditioning in your home.

CONSIDERATIONS

- ▶ Central air conditioners and heat pumps are rated according to the Seasonal Energy Efficiency Ratio (SEER2)¹ and Energy Efficiency Ratio (EER2)². Room air conditioners are rated according to the Combined Energy Efficiency Ratio (CEER). The higher the SEER2, EER2 or CEER, the more efficient the air conditioner. Said another way, the higher the SEER2, the more cooling you get for the same dollar.

SEER2

SEASONAL ENERGY EFFICIENCY RATIO

14.3 SEER2

ENERGY STAR Certified 15.2 SEER2 and above

26 SEER2

EER2

ENERGY EFFICIENCY RATIO

8.7 EER2

ENERGY STAR Certified 10.6 EER2 and above

45 EER2

CEER

COMBINED ENERGY EFFICIENCY RATIO

8.7 CEER

ENERGY STAR Certified 9.9 CEER and above

21.1 CEER

LESS EFFICIENT

MOST EFFICIENT

ENERGY-EFFICIENT HEATING AND COOLING SYSTEMS

An **ENERGY STAR certified heat pump** may cost more than a non-certified model; however, energy savings from an ENERGY STAR model will more than pay for the additional upfront cost!

TYPES OF SYSTEMS

	MARKET RANGE AVAILABLE	MINIMUM ENERGY STAR EFFICIENCY	LIFESPAN
 Central Air Conditioner	14.2-23 SEER2	15.2 SEER2	12-15 YEARS
 Heat Pump <i>Ducted Air Source</i>	14.2-26+ SEER2	15.2 SEER2	12-15 YEARS
 Heat Pump <i>Ductless Air Source</i>	14.2-26+ SEER2	15.2 SEER2	12-15 YEARS
 Heat Pump <i>Ground Source</i>	8.7-45 EER2	14.1-21.1 EER2	20-25 YEARS
 Room Air Conditioner	8.7-12.1+CEER	9.9-12.1 CEER	10-15 YEARS

ENERGY-EFFICIENT HEATING AND COOLING SYSTEMS



SELECTING A CONTRACTOR

It is important that equipment be installed properly to perform at its rated efficiency. Find contractors that employ technicians with North American Technician Excellence (NATE) training.



1. Listings are found at <https://natex.org>. Ask for pricing from three mechanical contractors to weigh your options and contact several of the contractors' references to make sure that customers were satisfied.
2. Energy modeling software must be used by the contractor to determine proper sizing before making a recommendation. Remember that bigger isn't always better because an oversized system may not adequately dehumidify your home. For example, just because you have an existing 3-ton unit does not mean that 3 tons is the correct replacement size. Always have the contractor confirm the HVAC size with modeling software.
3. Have the contractor check all ducts before installing a new system. Ducts must be correctly sealed, insulated and sized with supply and return systems balanced.
4. Inquire about a variable-speed air handler, which will improve comfort and efficiency and allow continuous air filtering at minimum energy cost.
5. Ensure that your new HVAC system performs at its rated efficiency by replacing the outdoor unit and the indoor air handler at the same time. If you purchase a new energy-efficient air conditioner but connect it to an older furnace and blower motor, your system will not perform to its rated efficiency.



MEASURING SAVINGS

Use the button to the right to determine what you could save by investing in a more efficient central air conditioner.



CENTRAL AIR CONDITIONER
CALCULATOR*

ENERGY-EFFICIENT HEATING AND COOLING SYSTEMS



ENERGY-SAVING TIPS

To get the best performance and highest efficiency possible from your air conditioner or heat pump, consider the following:



- ▶ Install and set a programmable or smart thermostat.
- ▶ Keep the heating and cooling system fan set to "Auto" rather than "On" so it only runs when necessary.
- ▶ Change or clean the air filter every month, including room air conditioners.
- ▶ Ensure a long equipment lifespan by having the system serviced annually.
- ▶ Use a room fan but remember that they cool people – they don't actually reduce room temperature – so turn it off when you leave the room. When purchasing fans, look for ENERGY STAR certified models.
- ▶ Use a bathroom exhaust fan when bathing and a vented range hood when cooking to remove heat and moisture from your home.
- ▶ Replace or remove old, inefficient or extra appliances that generate excess heat, such as refrigerators or freezers. Avoid using heat-generating appliances, such as the dryer or oven, on hot days.
- ▶ Hire a home performance contractor to assess your home and improve its energy use and comfort. If you don't already have recommendations from friends, neighbors or your electric cooperative, home energy professionals can be found through the Building Performance Institute (BPI) at www.bpi.org.



FOR MORE INFORMATION

[Cooling Systems for a Smarter House: www.smarterhouse.org/cooling-systems](http://www.smarterhouse.org/cooling-systems)

[ENERGY STAR Product Resources: www.energystar.gov/products](http://www.energystar.gov/products)

[Energy Saver Program: www.energy.gov/energysaver](http://www.energy.gov/energysaver)



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