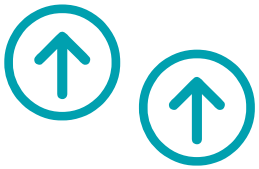
UNDERSTANDING THE NEW 2015 HVAC EFFICIENCY STANDARDS

A GUIDE FOR REAL ESTATE PROFESSIONALS + HOMEOWNERS

2-10 HOME BUYERS WARRANTY®

LONG LIVE HAPPY HOMES®

Table of Contents



New Government Regulations will Increase Costs for HVAC Repairs and Replacements

On January 1, 2015, new government regulations took effect that may significantly increase the cost of heating, ventilating, and air conditioning (HVAC) repairs and replacements. These new rules will also complicate the process of deciding whether to repair or replace a system. You can protect yourself by knowing the new rules and regulations.

Department of Energy Changes in Regulations

The United States Department of Energy (DOE) is heavily invested in increasing energy efficiency standards throughout the country. The DOE's mission is to "ensure America's security and prosperity by addressing its energy, environmental, and nuclear challenges through transformative science and technology solutions."

With the DOE setting that as their mission, it isn't surprising that the DOE regularly implements new rules and regulations that aim to reduce overall energy consumption, even at the residential level. As of January 1, 2015, the DOE increased the minimum SEER rating, heavily affecting contractors, builders, manufacturers, and ultimately, homeowners. The new regulations are intended to enhance energy efficiency and reduce energy costs. However, before any savings can be achieved, homeowners will have to bear the higher costs of repairing and replacing their HVAC equipment.

Also, the DOE has a goal of motivating most states to adopt, at a minimum, the 2009 International Energy Conservation Code (2009 IECC). As states implement the 2009 IECC, they will also be implementing the "matching" requirement for HVAC equipment. When your system can no longer be repaired with "like-kind parts," the code requires verifiable data that any new components are compatible with one another and will achieve the same efficacy rating as a new system. This type of data can only be obtained by implementing the manufacturers' recommendations on system matching. This will result in the need for more expensive, complete system replacements, even of parts that are still functional.

2009 and the Beginning of the IECC in the United States

In 2009, the United States agreed to follow the 2009 IECC, with the goal of implementing increased energy efficiency in the construction industry. The code isn't just relevant to heating and cooling systems— a contractor must meet these codes with more efficient windows, insulation, lighting, water-heating systems, and other energy-saving materials and protocols.

The 2009 IECC has set a baseline for energy efficiency in residential and commercial buildings, and will be implementing stricter standards until 2030. After that, it is unknown what the IECC will implement. As these codes become effective through new regulation, manufacturers and contractors will need to build and install progressively more efficient systems and components.

While there are new regulations every year, the 2015 DOE changes to HVAC efficiency standards attract attention because of their scope and rigidity. It is certain that costs will increase for equipment and labor. As a result of these standards, some sources estimate that the new 2015 codes will save 3.7 quadrillion BTU of energy, or enough to power Georgia for an entire year.

SEER and HSPF Efficiency Standards Have Increased

In April 2014, the DOE officially confirmed changes for HVAC efficiency standards for residential and commercial equipment. On a residential level, these new laws mandate that all HVAC equipment manufactured after January 1, 2015, must meet higher minimum standards for both Seasonal Energy Efficiency Ratios (SEER) and Heating Seasonal Performance Factor (HSPF). The changes will primarily affect air conditioners and heat pumps.

SEER DEFINED

The SEER acronym is used frequently when discussing the efficiency of an air conditioner, but what does it mean?

SEER is the Seasonal Energy Efficiency Ratio. The Air Conditioning, Heating and Refrigeration Institute (AHRI) defines this metric by dividing the unit's cooling output during a normal cooling season with the total electric energy input. Simply put, a higher SEER rating means that an air conditioner is more efficient.

In 2006, the federal government mandated that 13 SEER equipment be the new minimum SEER rating for all new central air conditioners. Now, all new equipment in certain regions of the U.S. will be required to have a SEER rating of at least 14. In some parts of the country, heat pumps will be required to have a SEER rating of at least 14 and a HSPF rating of 8.2 (or 8, for packaged heat pumps.)

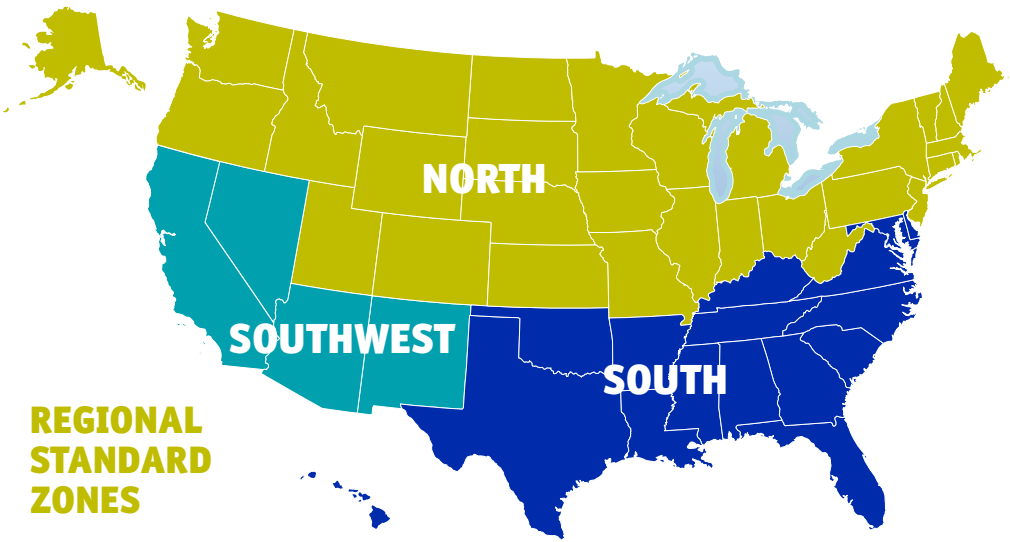
The U.S. Has Been Divided into Three Regions

To implement this new regulation, the DOE has divided the country into three regions, and each region will have unique requirements for air-conditioner and heat pump efficiency levels. This is the first time that efficiency standards for HVAC components will be determined on a regional basis.

The three regions are the North, Southeast, and Southwest. The regions were determined by analyzing each region's heating degree days (HDD) and weighted for population. In the North, air conditioners must be at least 13 SEER and furnaces must now have an efficiency of 80% or more (prior to the new regulations, the national standard was 78% efficiency). While it is acceptable in the North to install 13 SEER units, no 13 SEER units could be manufactured after January 1, 2015. As the SEER 13 inventory runs out, 14 SEER will become the de facto standard nationwide. In the Southeast and Southwest, 14 SEER is the new requirement for air conditioners, and furnaces must be at least 80% efficient.

The DOE has granted a grace period where 13 SEER equipment may be installed anywhere in the country up until June 30, 2016. However, the inventory of 13 SEER equipment may sell out long before that date. This will cause a shortage of equipment available for repair for most current systems that are rated SEER 13 or lower. These equipment shortages will result in more system replacements that in turn will cost more than repairing existing systems.

The reasoning behind the regional differences is that residents of Northern states will use less energy to cool their homes and more energy to heat their homes than residents of states in the Southeast and Southwest.



REGIONAL STANDARD ZONES

NORTH		SOUTH	SOUTHWEST
Alaska	New Hampshire	Alabama	Arizona
Colorado	New Jersey	Arkansas	California
Connecticut	New York	District of Columbia	Nevada
Idaho	North Dakota	Delaware	New Mexico
Illinois	Ohio	Florida	
Indiana	Oregon	Georgia	**DOE's Proposed New Federal Minimims (1/15)**
Iowa	Pennsylvania	Hawaii	
Kansas	Rhode Island	Kentucky	**Air Conditioning** / **Heat Pump**
Maine	South Dakota	Louisiana	
Massachusetts	Utah	Maryland	**13 SEER** / **14 SEER 8.2 HSPF**
Michigan	Vermont	Mississippi	
Minnesota	Washington	North Carolina	
Missouri	West Virginia	Oklahoma	**14 SEER** / **14 SEER 8.2 HSPF**
Montana	Wisconsin	South Carolina	
Nebraska	Wyoming	Tennessee	
		Texas	**14 SEER 12.2/11.7 EER <45K/>45K** / **14 SEER 8.2 HSPF**
		Virginia	

Matching Requirements for States as They Adopt the 2009 IECC

The 2009 IECC requires that all equipment be installed in accordance with the manufacturers' recommendation. For example, when replacing a condenser or air handler, the new replacement unit must function efficiently with, or "match," the older existing equipment. A match means that the same manufacturer produced the replacement part as well as having produced the existing functioning equipment. The manufacturer also provides a letter stating the compatibility, capacity, and efficiency. Since this "matching" equipment may not be available for many older units, a complete system replacement is required.

Alternatively, equipment can be matched through the American Heating and Refrigeration Institute (AHRI) certified ratings. AHRI is involved in the SEER certification process, which is what makes this second option viable. One of these two options must be applied for a service contractor to complete the repair or replacement of any affected component in the HVAC system.

There is no current timetable indicating when individual states will begin adopting the matching requirement. The issue is further complicated by local jurisdictions adopting rules and regulations that may differ within a state. To make it even more complex, enforcement will vary and at times be determined by individual inspectors.

Who Is Affected by the New Regulatory Changes

The new DOE energy regulations for residential and commercial HVAC equipment will have wide-reaching consequences for builders, manufacturers, subcontractors, inspectors, and ultimately homeowners. These regulations will affect anyone who installs or repairs an HVAC system.

What Real Estate Agents Need to Know

Real estate professionals need to stay current on new laws, as changing statutes can directly affect their clients. The new HVAC guidelines for residential equipment will change how a home's heating, cooling, and ventilation systems are repaired and maintained—and homeowners will have to make potentially costly decisions to be in compliance.

Why Real Estate Agents Should Learn About the New HVAC Regulations

A home's HVAC system is complex, with many components, and it can be difficult to fully grasp the implications of these new federal energy regulations. Most real estate professionals are aware of and understand these changing laws, and it's vital that they pass this information along to the homeowner when helping clients buy or sell a home. Also, home buyers should be aware of any regulation that will increase the costs of home ownership.

Home buyers and sellers rely on real estate agents to share their knowledge and help them make important decisions. An HVAC system is an important part of any home, and agents should be able to guide buyers and sellers toward the best decision.

ADD VALUE with Specialized Knowledge

Buying a home is possibly the largest investment a person will make in their lifetime, and buyers turn to their real estate agent for sound advice when making this significant decision. According to the National Association of Realtors®, real estate agents are considered a valuable source of information amongst 98% of buyers who used an agent to help them search for a home. Having a thorough understanding of new guidelines gives an agent instant credibility with their clients. The intricacies of a home's mechanical systems can be overwhelming, and an agent who can explain these regulatory nuances and what they might mean for a home's future is a valuable asset to any buyer.

Protect Clients' Wallets to Enhance Trust and Earn Recurring Business

If a buyer doesn't know that the older furnace or air conditioner in their new home might cause problems in the future, from the matching requirement or because it has a lower SEER rating, they could encounter an expensive surprise when a repair is needed. Alternatively, a home buyer could be relocating from one region to another. Even if they are informed or well-educated about the home's mechanical system, they might not be aware of the differences in regional standards that new equipment and repairs must meet. Being current on regulations that have financial implications is one excellent way to quickly gain client trust and earn repeat customers.

Help Homeowners Understand How Coverage from a Home Warranty Service Agreement Will Change

These new federal energy changes will have an effect on the Home Warranty Service Agreements that real estate agents recommend to protect their clients' home systems and appliances, including HVAC components, when selling or buying a home.

Home Warranty Service Agreement providers want their customers to understand the Service Agreement coverage and how regulatory changes might affect customers' coverage. If a real estate agent regularly protects their clients by including a Home Warranty Service Agreement, it's worth speaking to the Home Warranty Service Agreement provider to stay abreast of any potential changes to Service Agreements.

What Homeowners Need to Know

Currently, experts estimate that costs to repair or replace an HVAC system could rise by more than 60%. In the past, when federal efficiency regulations were increased, "bridge" products (in other words, parts that made one component compatible with the other) were manufactured to help ease the financial burden on the consumer as these "bridge" products facilitated a repair instead of a full system replacement. This option isn't available with these new regulations. Homeowners will need to absorb these significant cost increases when replacing their HVAC systems.

A Home Warranty Service Agreement is a valuable tool that can protect budgets and help you through the maze of new government regulations. Check your coverage carefully. It is your responsibility to read and understand what is covered by your Home Warranty Service Agreement. Many Service Agreements do not provide for changes in government regulations in their base coverage. Some allow you to buy additional coverage to get this protection.

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AVERAGE LIFESPAN OF EQUIPMENT

Major household systems don't last forever. Some homeowners of older homes are fortunate to have furnaces that have lasted for several decades, but that isn't always the case. The average lifespan of different components of a typical HVAC system are listed below.

12

Forced-air heat and heat pumps: 12 years

9

Exhaust and ventilating fans: 9 years

8

Package heating and cooling: 8 years

8

Air Ducts: 8 years

How to Mitigate the Cost of HVAC Repair

When part or all of an HVAC system needs to be replaced or repaired, the cost can be quite substantial. With the new federal regulations, repairing old equipment won't be as easy or as affordable as it once was.

For now, 13 SEER equipment can still be sold and installed. The new federal regulations have allowed a grace period until July 1, 2016, that allows manufacturers to continue selling air conditioning units that were manufactured prior to the beginning of 2015. Since 14 SEER unit costs are substantial (even with the energy savings in mind), homeowners with an aging unit should think carefully about when they might need a replacement. To find their current system's SEER rating, homeowners can look for a yellow tag or sticker on the outside of their air conditioning unit or furnace and search for their model number online to find more information from the manufacturer.

Most Home Warranty Service Agreement providers do not cover the additional costs that a homeowner will incur from increased governmental regulations, so ask questions before you buy.

HVAC Plus – Coverage for Government Regulations

2-10 Home Buyers Warranty® (2-10 HBW®) recently added an HVAC Plus option to their Home Warranty Service Agreement that offers buyer coverage for costs related to changing government regulations and code violations. While a homeowner cannot place a service request exclusively for a code upgrade, the option does provide coverage when a certified HVAC technician:

Perform[s] service related to mismatched systems, components having incompatible capacity ratings on covered systems, or other code violations deemed necessary to affect covered repairs and replacements to heating or air conditioning.

Since government regulations include a matching requirement for equipment, HVAC Plus coverage can save homeowners money for costly repairs.

Typical Costs Associated with Code Changes

Manual J Sizing Calculation:	$200–$300
Duct Testing:	$300–$500
Duct Sealing and Insulation:	$200–$1,000
Controls (Thermostats):	$150–$300

Average Cost of Equipment Replacement

Replacing HVAC equipment isn't cheap, regardless of new regulations. Here is an example of some replacement costs that homeowners should be aware of.

Exhaust Fan – Attic:	$460
Exhaust Fan – Whole House:	$725
Heater – Forced Air (Gas):	$2,670
Air Duct (Per Linear Foot):	$9.50

**The HVAC Plus option is not available in Arizona and Texas.*

Conclusion

The Department of Energy's new federal efficiency requirements for HVAC systems are far-reaching and rigid, and homeowners may need to make proactive decisions to maintain their home. The hope is that these new changes will create impressive energy savings over time; however, regardless of the potential energy savings, many homeowners will have to bear the burden of increased costs when an HVAC repair or replacement is necessary. Adding the extra HVAC Plus protection from 2-10 Home Buyers Warranty onto your Home Warranty Service Agreement, could potentially offset some of these costs.

Learn more about how a Home Warranty Service Agreement from 2-10 Home Buyers Warranty can protect your home—and your wallet.

2-10.com | Real Estate Agents: 800.795.9595 | Homeowners: 800.743.4210

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01. *American Council for an Energy Efficient Economy.*
02. *American Council for an Energy Efficient Economy.*
03. *Highlights From the 2014 Profile of Home Buyers and Sellers. (2014, January 1). National Association of Realtors®.*
04. *2-10 HBW Data.*
05. *Marshall and Swift, 2012.*
06. *2-10 HBW Data.*
07. *Marshall and Swift, 2012.*
08. *In California: 2-10 HBW Warranty of California, Inc.*
09. *In Alabama, New York, Utah and Washington: Home Buyers Resale Warranty Corporation*
10. *In all other states: 2-10 Home Buyers Warranty (2-10 HBW)*

Glossary

Air Conditioning, Heating, and Refrigeration Institute (AHRI):
Trade association representing manufacturers of HVACR and water-heating equipment within the global industry.

Air Handler:
A device used to regulate and circulate air as part of a heating, ventilating, and air-conditioning system.

British Thermal Unit (BTU):
The energy required to heat or cool one pound of water 1 degree Fahrenheit, traditionally used as a measure of power for HVAC systems.

Condenser:
A device or unit used to condense vapor into liquid.

Department of Energy (DOE):
Governmental department whose mission is to advance energy technology and promote related innovation in the United States.
For more information: energy.gov.

Energy Efficiency Ratio (EER):
The EER is the ratio of the cooling capacity (in British thermal units [BTU] per hour) to the power input (in watts). The higher the EER rating, the more efficient the air conditioner.

Heat Pump:
A device that uses a small amount of energy to move heat from one location to another. Not too difficult, right? Heat pumps are typically used to pull heat out of the air or ground to heat a home or office building, but they can be reversed to cool a building.

Heating Degree Days (HDD):
Heating degree days are indicators of household energy consumption for space heating.

Heating Seasonal Performance Factor (HSPF):
Measure the efficiency of air source heat pumps. The higher the HSPF rating of a unit, the more energy efficient it is.

Home Warranty Service Agreement:
A Home Warranty Service Agreement covers breakdowns to a home's major systems and appliances, including the furnace, water heater, air conditioner, plumbing, electrical systems, refrigerator, dishwasher, oven, built-in microwave, and more, due to normal wear and tear.

HVAC:
Short for heating, ventilation, and air conditioning, a system that provides heating and cooling to the home. Refrigeration is sometimes added to the end, changing the abbreviation to HVACR.

HVAC Plus:
Coverage, exclusive to 2-10 Home Buyers Warranty, for costs related to changing government regulations and code violations.
For more information: 2-10.com/hvac-plus

Season Energy Efficiency Ratio (SEER):
Measurements of energy efficiency – input versus output – with tests conducted under designated industry parameters.