ROMEO
AIR CONDITIONING, INC.

BENEFITS OF UPGRADING TO A HIGHER EFFICIENCY HVAC SYSTEM

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INTRODUCTION

When the flurries blow in, the first thing you do is leap to the heater. When the summer heat beats down on your window, you instantly reach for the air conditioning unit. Seasons change regularly and indoor temperatures rarely naturally reflect the temperature that is most comfortable for you.

What should you do if you find your HVAC system is nearing the end of its useful life? Upgrades are now available to help replace spoiled devices and providing you with the clean, comfortable air you've been accustomed to.

By focusing on the first letter of the acronym 'H', which refers to heat, there are a few methods for keeping your machine current with the latest advancements. First, simple repairs and routine maintenance are the most effective ways to keep your machine in good condition.

Upgrades, often known as preventative maintenance, resolve all present issues permanently. Repairing heat pumps or changing UV bulbs are two examples. Whether your **HVAC system** is located inside your home or on your roof, you can have a professional handle these quick upgrades in no time.

Ventilation is the next important characteristic that an HVAC system regulates. The most important part of property ownership is the air quality within your home or commercial structure.

If your HVAC system introduces toxic compounds into the air and does not effectively clean it, space becomes a hazard to humans. Why not improve the air ducts and cleaners to get the most out of the machine? Even the tiniest alteration will have you inhaling the fresh air you think most appropriate for your guests.

Finally, your building's air conditioning will be controlled by your normal HVAC system. It is important to have a functioning device, even more so when the scorching sun is just around the corner. One significant upgrade you can make is to replace outdated thermostats with programmable ones.

These thermostats can help you save money and energy by being programmed to operate at lower temperatures when buildings are vacant. Since temperatures fluctuate throughout the day and night, you can handle a range of temperatures while remaining energy efficient. As a result, as the sun sets, your air conditioning will also turn off.

As you have seen, there are many strategies to ensure the highest possible quality in your HVAC system. For extremely old machines, it may even be worthwhile to consider a completely new replacement.

These modifications are available in all-in-one units or as separate systems. You can make significant improvements, minor tweaks or complete replacements. This GUIDE explores numerous benefits of upgrading to a higher efficiency system.

At Romeo Air Conditioning Repair Services, we're dedicated to keeping your home safe and comfortable, so schedule an appointment with our trained technicians here>> http://www.romeoair.com or give us a call at (239) 237- 1518.

CHAPTER 1

Heating And Air Conditioning Efficiency

Heating and air conditioning efficiency are all about reducing the amount of energy used by your heater and air conditioner. This will save your money on utility bills, extend the equipment's life, and reduce maintenance costs, saving you even more money.

Along with financial benefits, heating and air conditioning efficiency benefit the environment. The less you run the heating and cooling system, the less energy you consume. By consuming less energy, less energy must be generated, resulting in reduced carbon emissions.

Carbon emissions deplete the ozone layer and contribute to major problems such as global warming. Now that we've established that reducing your reliance on your heating and air conditioning is a smart idea, it's time to choose how to attain this goal.

The first method for lowering your HVAC system's operating costs is straightforward and free. It's as simple as adjusting your thermostat according to the season. Most energy experts recommend setting your thermostat to 78 degrees Fahrenheit in the summer and 69 degrees Fahrenheit in the winter.

This results in less energy being used by your system because the temperature you set is closer to the outside temperature. This approach is completely free, but you'll often forget to change the setting if you're like most people.

Thus, an economical choice is to purchase a programmable thermostat. You can get one for roughly twenty bucks and easily install it yourself. You may even configure it to operate at a greater level while you are away, which will save you even more money.

The next best way to increase your heating and air conditioning effectiveness is to install or replace insulating materials in your home. It's usually a good idea to upgrade or replace your insulation if it's outdated.

Not only will you save money but you may also qualify for a tax credit for making a move. Also, caulk the windows and doors. Replacing worn caulk or putting fresh caulk is comparable to closing a standard-sized window in your home.

Also, you can apply window film to your windows. Window film blocks out sunlight and helps keep your home cooler in the summer. All these factors added together can cause significant savings and a substantial tax credit.

Another thing you can do to increase your heating and air conditioning system's effectiveness is to have them maintained and "tuned up" regularly. Maintaining your system properly enables it to run more efficiently and with fewer interruptions. Not only does this help you save money on your electricity bill but it also helps you save money by reducing the frequency with which system components need to be replaced.

With a little money and planning, you may significantly cut your heating and cooling costs. It's beneficial to both you and the environment. A federal tax credit of up to $1,500.00 covers 30% of a new energy-efficient unit cost.

This incentive is only available on primary residences; new construction and rentals are not eligible. This program is scheduled to conclude on December 31, 2010. Many utilities also provide rebates for renovations.

If your unit is between three and five years old, you may be better off repairing it than replacing it. If your unit is five years or older, it may be worthwhile to replace it owing to inefficiency.

Today's air conditioners consume 30% to 50% less energy to produce the same amount of cool air as air conditioners manufactured in the mid-1990s. Replacing a ten-year-old unit saves between 20% and 40% on cooling expenditures.

Each unit is labeled with its energy efficiency rating. These ratings are based on the number of SEERs contained within a unit. Seasonal Energy Efficiency Rating (SEER) is an acronym for Seasonal Energy Efficiency Rating. The SEER rating of a unit is shown on the unit's bright yellow label. The greater the SEER value, the more energy-efficient the unit.

The US Department of Energy developed minimum efficiency criteria for air conditioners. Before 2006, the minimum permissible SEER was ten but was increased to thirteen in January 2006. SEERS values of 15-17 are found in the most efficient models.

This improvement is always preferable for greenhouse gas emissions into the environment and is almost certainly preferable for your wallet. It would pay for itself in energy savings over the years in a warm area where the air conditioner is used most of the year. Replacement of the outdoor condensing unit and inside the evaporator is required or you may lose part of the benefits.

Maintenance is important to keep your machine operating at peak performance. Changing the filter and cleaning the coils regularly will help extend the life of your device. Proper operation is also important; keeping windows and doors closed, besides proper insulation, will significantly impact.

Other common issues that could cause a decrease in efficiency are freon leaks or electrical failure. Your certified HVAC expert can evaluate your system and isolate the source of the problem. Also, they may compute the size and other characteristics to assist you in determining the appropriate size unit for your location.

Another factor that could cause a loss of cold air and efficiency is if your ducts have leaks. Older ones do, as they were once sealed together with duct tape.

Nowadays, HVAC technicians use mastic and foil tape to join the duct board, which significantly improves the seal of any potential leaks. Also, time, wear and tear from hairy creatures in your attic may wreak havoc on your ducting.

CHAPTER 2

Optimization Of Energy And HVAC systems

HVAC or heating, ventilation and air conditioning refer to all the systems and networks used to provide filtered air, heat and cool a structure and manage humidity levels. These systems are customized to meet specific requirements and range in complexity. However, energy conservation is an important part of HVAC design.

According to the government's Energy Star website, heating and cooling your home in the winter and cooling it in the summer account for over half of your annual energy expenses. Therefore, it is important to look for strategies to cut your heating and cooling expenses.

You are not required to spend more than $1,000 on a new furnace or geothermal heat pump. You might begin by purchasing a programmable thermostat. This is a low-cost update that can help you save money on your energy expenses. It can assist you in regulating your air conditioning while you are away. It's a good idea to keep it cooler in the winter and warmer in the summer when you're not home.

A programmed thermostat will save you money by preventing you from heating or cooling a home when no one is present to benefit. You may have an HVAC technician come out and perform a tune-up on your heating and cooling system each year before the start of each season to ensure it is operating properly.

Also, you can insulate your heating and cooling ducts with heavy-duty insulation to reduce the amount of energy spent moving hot air from your furnace or cold air from your central air-conditioning system to you.

These adjustments can be made to your home without purchasing a new system. However, if your system is on the fritz and you'd like to take advantage of the government's free money, pay attention.

Energy Conservation Possibilities

Energy conservation opportunities and approaches in HVAC systems depend on their modes of operation, operating standards, design, maintenance and monitoring practices and, of course, the operator's efficiency. Many methods for establishing energy-efficient systems are explored here.

1. Eliminate or restrict usage in unoccupied spaces.

2. Conserve energy by limiting your usage hours and establishing night setback controls, turning off equipment when not in use, regulating the thermostat in response to climatic changes and installing separate controls for different zones are all ways to preserve energy.

3. Use window blinds or shades to change zones with too hot or too cold, light-colored roofs to reflect heat, trees to provide natural shade and cooling and adjusting air duct registers.

4. Reduce exhaust and make-up air loss by sealing and insulating air ducts, keeping doors closed, walls and ceilings, preventing leaks, lowering air volume loss and adding thermal windows.

5. Develop a routine maintenance schedule that includes checking for leaks, cleaning coil surfaces and fans, tuning the system, cleaning or changing air filters, correcting leaks and shutting off hot water pumps when not in use.

6. Implement energy management systems that enable operations to be adjusted and optimized in response to changing requirements, environmental conditions, and so on.

7. Replace inefficient equipment with more energy-efficient equipment or install new energy-efficient equipment. Most states have minimum standards for high-energy-consumption equipment. It is always prudent to purchase equipment or devices that meet higher energy saving criteria than those stipulated in these regulations.

Let's take 30%-40% of your electricity bill as an example. That is the expense to the ordinary homeowner or business property owner of providing adequate heating, ventilation and air conditioning (HVAC).

A well-designed HVAC system is important for maintaining a healthy, comfortable indoor atmosphere. Many owners have contacted me for advice on how to lower their energy and HVAC costs throughout the years.

They do not wish to jeopardize the internal environmental conditions but they do desire a step-by-step approach. The intriguing part is that this often results in significant energy bill savings and increased HVAC system performance. This is a required skill set for any mechanical engineer with interest in energy and HVAC.

This section contains information to assist homeowners, building owners and building operators in making informed decisions regarding existing HVAC systems or planned upgrades.

- Reduced Load
- Control Systems for HVAC Systems
- Operation and Maintenance

Reduced Load

Load reduction is the first step toward energy and HVAC system optimization. This step is typically composed of a long-range strategy outlining the steps to be followed to

maximize return on investment. By reducing the load on your building, you can increase the efficiency of your existing HVAC system.

If a new system or systems are being considered, designing for the reduced load will be more cost-effective than designing for the existing load. Many common load reduction strategies include:

Construct a stronger casing for the structure and provide additional insulation. Because adding insulation to older structures may sometimes not work, greater attention should be paid to the outer shell, particularly the windows and doors.

Adding energy-efficient windows to your home

This is a significant item on some structures that keep single-pane windows. Installing double-glazed windows with a thermal break provides an excellent return on investment. Find out that the windows are ENERGY STAR approved. Even better would be tint or low-E coatings.

Increasing the efficiency of lighting systems

The typical business building has a lighting density of 2-3 watts per square foot, which provides adequate illumination. This is a sizable portion of the HVAC load and practically any effort in this direction will reduce the building's cooling requirement.

Accent lighting (sometimes referred to as architectural lighting) is not necessarily energy-efficient and should be avoided if energy and HVAC costs need to be reduced.

Energy-efficient lighting technologies emit less heat into conditioned areas than incandescent lighting did in the past. If you have a return air plenum rather than a return air plenum,

Consider installing light troffers in the air ducting so that part of the heat generated by the lights is returned to the HVAC system rather than entering the occupied space.

By selecting energy-efficient equipment and electrical gadgets with a power-saving mode, the sensible heat buildup in the area can be reduced. Copy machines, kitchen equipment, computers and refrigerators are all items to consider.

Control ventilation by balancing the outside air. Most building owners have schematics of the HVAC system's first installation. Consult a mechanical expert to ensure your exterior airflow rates comply with the most recent code requirements. Even in the absence of drawings, your mechanical engineer should be able to give recommendations for improvement.

Taking care of these items is the first step toward lowering your energy and HVAC expenditures.

Air Conditioning and Heating Systems

The second step toward optimizing your energy and HVAC systems is to become familiar with them. While your HVAC system is vital to maintaining a comfortable indoor atmosphere, it also accounts for a sizable portion of your electricity costs. While discussing each system is beyond this essay, a few recommendations can be made.

Each component of the HVAC system has improved inefficiency. If your system is over 13 years old, it's time to plan for a system upgrade. Residential systems with proper maintenance have a life expectancy of roughly 15 years but often fail during the worst times. Prepare a backup plan in case your equipment fails.

Commercial systems differ in their lifespan; however, if your building is equipped with packaged or split systems, the same lifespan can be assumed. For bigger commercial and industrial systems, the HVAC system may be more complex, causing a customized examination by a mechanical engineer.

HVAC systems vary considerably and no one-size-fits-all study applies to bigger systems. All these systems have one thing in common: they are often powered by electricity. Electricity is a costly commodity. Therefore, every endeavor toward better efficiency is beneficial.

HVAC System Suggestions

Locate a knowledgeable consultant with whom you have confidence. If you own a house or a small commercial facility, seek a reputable HVAC firm or mechanic to examine and repair your system.

If you own a large business facility, hire a commercial HVAC company to perform routine maintenance and a qualified mechanical engineer to assist with specific projects. I do not recommend using a mechanical engineer hired by the HVAC company; instead, get independent advice from a third-party expert.

Verify the load on your HVAC system. Homeowners should use the ACCA's Manual J calculation method, while others should have a mechanical engineer conduct a load. Commercial buildings have additional requirements for code compliance, minimum ventilation rates, and other unique factors to each building.

Reduced load—Refer to the information above.

Choose equipment that is appropriately sized for your load. NEVER OVEREXPAND! For HVAC systems, the maxim "more is better" does not apply. It will cost more to purchase and run the equipment. Correctly calculate the load and equipment selection for the first time.

Purchase energy-efficient or Energy-Star-certified equipment. Many innovative systems incorporate variable frequency drives for fans and compressors.

This will be repaid many times over during the years of ownership. In terms of initial cost and life cycle costs, compare standard efficiency equipment versus high-efficiency equipment. This information is readily available from any reputable HVAC firm or mechanical engineer.

Consider using some type of energy recovery for any air exhausted from the building and conditioning the entering fresh air. This is conditioned air you have paid for, so recovering some energy before it is exhausted should prioritize.

Consider conditioning the outside air in large business buildings with a specialized outside air unit. In most cases, this will resolve any issues with humidity management. Also, it will improve occupant comfort and allow for further equipment downsizing.

Commercial structures should include equipment economizers. Most contemporary rules mandate economizers on equipment larger than 15 tons. These machines, which are often available at a modest incremental cost, suck in fresh air from the outside when the temperature (and occasionally the humidity) outside is lower than the temperature within.

Programmable thermostats are recommended for homeowners and small business building owners. The owners of commercial buildings should have a Direct Digital Control (DDC) system. In a short period, either of these investments will pay for themselves. Continue reading below.

Control Systems

The final stage toward energy and HVAC system optimization is system control.

Programmable Thermostats-The age of digital controls has simplified conserving energy. A programmable thermostat is one of the best investments a household or small commercial property owner can make.

These are simple to use and contain time management principles. Most manufacturers provide seven-day programs and setback/setup programs that automatically adjust the HVAC system's operation to your schedule and desired indoor temperature. This is an excellent approach to ensure that HVAC systems are only used when essential.

DDC Systems-For the large commercial building, I see this as a must-have system. Installation prices have fallen steadily while performance reliability has grown progressively. They are compatible with any system and can be expanded as needed.

Many of these systems' more popular features include optimum HVAC start/stop, multiple zone control, temperature sensor locations and ventilation control.

The best feature of these systems is their scalability to the most demanding commercial applications. This means you can install a basic system and add more controllers to integrate your entire HVAC system. Again, the return period is brief, and the investment is worth it.

Maintenance and Operation

The fourth and last step toward optimizing energy and HVAC systems is operation and maintenance. Most efficient HVAC systems are well maintained. Follow these guidelines to ensure your HVAC system's durability, efficiency and longevity.

Locate a knowledgeable consultant with whom you have confidence. If you own a house or a small commercial facility, seek a reputable HVAC firm or mechanic to examine and repair your system.

If you are the owner of a large commercial facility, hire a commercial HVAC company to do routine maintenance. Ensure that you record and document all servicing, including dates, times and the servicing person's name.

Seasonal tune-ups are always recommended for homeowners. Your system's functionality will change according to the season.

Replace air filters regularly. Use a MERV 5 filter or higher to ensure that dust and fibers are eliminated. Maintaining clean filters will help you save money on fan energy.

Coil Cleaning-This is a significant thing that residential and commercial building owners often ignore. Because of their outdoor location, condenser coils gather dirt and debris on their surfaces.

This increases the load on the compressor, resulting in a greater refrigerant temperature in your refrigeration system. Dust and fibers are collected on the evaporator and heating coils as they circulate throughout your home or building. They should be cleaned at least once a year.

Energy and HVAC optimization will help you save money on your power bill. Spending some time learning about your system and being familiar with improvement ideas will save you money and extend the life of your equipment.

CHAPTER 3

Is It Time for a Central Air Conditioning Upgrade or Replacement?

When you notice problems with your **HVAC system,** you should immediately recognize that your system either requires maintenance or that you should.

To decide, you must always examine your financial situation, determining if you want to continue spending money on the care of your present HVAC system or invest in a brand new one. While newer systems are more efficient, consider replacement only as a last resort if your present system has failed you multiple times in a short period.

There are many elements to consider when determining whether you should replace or repair your HVAC system. The following are some indicators that the time updates your HVAC system:

The air conditioner or heat pump is more than a decade old if your heating units are over ten years old, to more energy-efficient equipment that will save you money on heating and cooling expenditures.

The boiler or furnace has been in operation for over fifteen years: both boilers and furnaces are significant energy consumers. By installing energy-efficient boilers/furnaces, you can ensure that you save about 15% on your energy expenditures.

Your HVAC system is squandering money on repairs and driving up your energy bills: this merely shows that your heating/cooling equipment has degraded inefficiency and should be replaced.

Uneven heat distribution in your home/workspace: your system may operate improperly due to duct difficulties or insufficient insulation.

Your thermostat is not programmed and you are not home for extended periods: You should have an HVAC service firm install a programmable thermostat to save money and energy even when you are not present to monitor the thermostat.

You have a humid house: if your equipment is inefficient or insufficient, you may encounter humidity inside your home during the hot summer months. Also, if your ducts are leaky, you will suffer oppressive dryness indoors during the winter and high humidity levels during the summer.

You've got many dusts in your house: Excessive dust is caused by leaky ducts. This is because leaking ducts have a tendency to draw particles and air from enclosed locations such as attics, basements and crawl spaces and spread them throughout the rest of the house. You may choose to consider sealing your ducts as an alternative to replacing your HVAC system.

Your cooling/heating system is too loud: this can occur if your duct system is undersized or issues with your cooling equipment's indoor coil.

If your air conditioner is over ten years old, it is probably inefficient and useless and should be replaced with a more energy-efficient model. Typically, older air conditioners result in greater energy expenses.

If your air conditioner requires regular maintenance, it is possible that it is not sized properly for your home. You require an assessment of your current heating, ventilation and air-conditioning (HVAC) system by a heating, ventilation and air-conditioning (HVAC) specialist.

If your cooling expenditures continue to grow, your system may operate inefficiently. Reduced energy expenditures will cover some of the cost of a new air conditioning system.

If some rooms in your home are excessively hot or excessively cold, the cause could be a defective or inefficient air conditioning system resulting from the ductwork or poor insulation.

If you are experiencing humidity difficulties, your air conditioning system may malfunction or be inefficient or you may have leaky ductwork, which a trained HVAC contractor can repair.

If your air conditioning unit is making many noises, there may be an issue with its indoor coil or your duct system may be too narrow. Contact a local HVAC consultant for an assessment and recommendations in any of these instances.

Contact a local HVAC consultant for an assessment and recommendations in any of these instances.

Not always is a larger system preferable.

When selecting a central air conditioning system, the most important element is that it is the correct size. Larger is not always better. If your system is too large, it will be ineffective in dehumidifying, which can increase the temperature in your home. Also, because big systems cycle on and off more often than necessary, they often fail more often, require more maintenance and wear out sooner.

A system that is too small will be cannot appropriately chill your home. It will be overworked, consume an excessive amount of electricity, operate at a high volume and be prone to early failure. On the hottest days, it may even ice over.

Engage a specialist to assess your system's requirements.

Beyond square footage, a professional installer is trained to examine various factors when determining the size of air conditioning equipment for your home. Factors such as the house age, size, number of stories, insulation level, quantity and quality of windows, and local energy rates are crucial.

They should follow industry-standard "Manual J" and "Manual S" sizing calculations but their years of expertise may influence the outcome. They may consider additional aspects, such as the shade effect of trees or placing the house's windows, to bolster their recommendations. As a result, it is prudent to get multiple opinions.

Once you've determined the size of the air conditioning unit for your home, you may compare many models based on their energy efficiency, price, warranty coverage and silent operation, among other factors. Each system is assigned a Seasonal Energy Efficiency Rating or SEER to compare its energy efficiency (look for the yellow Energy Guide tag attached to each appliance).

Consider SEER 13 or above.

To put it simply, a higher SEER rating shows a more energy-efficient system. At the moment, the lowest SEER-rated air conditioner that may be marketed legally is one with a SEER of 10. On January 26, 2006, however, the law will be amended to require a minimum obligatory SEER rating of 13.

Thus, while SEER 10, 11 and 12 air conditioners are still available, it is prudent to purchase at least SEER 13. Apart from its greater energy efficiency (i.e., cheaper cooling bills) and reduced environmental impact, you will avoid the difficulties and additional expense of locating replacement parts for an obsolete system in the future.

Energy Star shows a product is energy efficient.

To guarantee that you are purchasing an energy-efficient system, look for the Energy Star label on the unit. Energy Star is a program developed jointly by the United States of America and Canada.

Environmental Protection Agency and the United States Department of Agriculture Department of Energy promote energy-efficient appliances that have a low impact on the environment.

According to the EPA, an Energy Star-qualified air conditioner that is correctly designed and installed, along with a properly sealed duct system, can save you up to 20% on energy bills compared to other new, conventional systems.

CHAPTER 4

Why You Should Upgrade Now To Energy-Efficient Air Conditioning

Whether or not you believe in global warming, most people agree that replacing inefficient equipment with more energy-efficient ones is a good idea. Perhaps your equipment has reached the end of its useful life and it is time to replace it.

Perhaps you are environmentally conscious and wish to reduce your carbon footprint. Perhaps you're looking for ways to save money on your energy expenses. Perhaps you are concerned about the depletion of natural energy resources.

There are many reasons you should your present inefficient equipment with energy-efficient equipment soon. While installing energy-efficient air conditioning may be costly upfront, the money you save in the long run will more than offset the costs.

The Obama administration has made it exceedingly appealing to upgrade to energy-efficient appliances. You now have a greater motivation than ever to invest in these changes.

Local and federal governments provide grants and tax credits to households who install energy-efficient products such as double or triple pane windows, energy-efficient air conditioners, tankless water heaters, insulated doors and high-efficiency heaters.

The primary reason for this is because the Obama administration has taken a strong position on environmental issues. Again, regardless of your belief in global warming, why not take advantage of the savings while they last?

You may be eligible for a tax credit of up to $300 if you replace an inefficient air conditioner with a more energy-efficient model. Also, the Obama administration may enhance tax deductions for these items. On average, you'll save up to 30% on your energy bills.

Therefore, while the initial cost of your new air conditioner may be more, consider the tax credit you'll receive and the money you'll save each month. Within a year, your new air conditioner may pay for itself!

Another factor to consider is that even if you lack the immediate finances to purchase the most energy-efficient air conditioner required to qualify for the tax credit, you can still save money on your monthly energy bill by purchasing a less expensive Energy Star rated air conditioner.

With gas and electricity prices always rising, it's an easy decision that energy-efficient equipment, particularly an energy-efficient HVAC system, would save you thousands of dollars. Consider adjusting now for the sake of your future.

If you're weary of high gas bills or if you live in an all-electric home in Atlanta and want to save money on your utility bills, a new energy-efficient heat pump may be an enticing alternative.

This one piece of equipment can keep your home warm in the winter and cool in the summer and newer, more advanced, energy-efficient designs can save you up to $500 per year in the correct circumstances.

Along with the savings associated with enhanced energy efficiency, some dealers may give special discounts to their customers on total system replacements, resulting in savings of many hundred dollars.

The US government also offers tax advantages for systems that satisfy energy efficiency standards. However, this often requires the installation of a whole new system. If your

central heating system is over 20 years old, you may discover that replacing it is the wisest course of action. If you purchased a new home, you might find that you need to upgrade even sooner.

Some builder model units placed in new homes are inferior quality and inadequately installed, causing inefficient operation. When dealer incentives and tax savings are combined, replacing your central heating system becomes significantly easier.

By incorporating an energy-efficient heat pump into your home, you are effectively slaying two birds with one stone. You will not only meet your home's winter heating needs but you will also contribute to your comfort and economy throughout the summer months. A modern heat pump system in Atlanta can be expected to last 20 years or more and it can add value to your property and make it easier to sell in the future.

A heat pump allows you the greatest flexibility in terms of equipment placement. Since heat pump systems do not require a flue to vent exhaust gases, you are not restricted to areas that already have flue vent holes. Also, it contributes to energy efficiency and lowers installation costs by removing the need to create holes in the roof of your home and seal them against potential moisture leaks.

All-electric heat pumps are safer because they do not rely on the burning of combustible gas. There is minimal chance of a fire occurring because there is no ignition source and any concern of carbon monoxide buildup is eliminated.

Particularly if your home is equipped with an older gas-fired furnace, you may make it safer by replacing it with a modern model if it is no longer serviceable or by converting it to an all-electric heat pump.

There are additional benefits to upgrading to a central heating system. By routing all of your home's air through a central air handler, you may increase your comfort by adding a system that regulates the humidity level in your indoor air. Also, installing a whole-

house air filtration system will help you breathe easier throughout the spring when the trees and flowers bloom.

Given the many benefits of installing a central heating system, particularly an all-electric heat pump, it's worthwhile to contact your central heating system dealer to learn more about their offerings.

CHAPTER 5

Upgrades That Are Beneficial To Your HVAC System

When consumers consider improving their HVAC system, they often refer to energy-efficiency improvements. They most likely wish to save money on their energy bills, reduce their energy output for environmental reasons or both.

Because of the high cost of these modifications, they are not undertaken as often. However, did you know of other low-cost changes you can make to your existing system that will benefit your family's health?

Americans spend 90% of their time indoors and the quality of our indoor air is deplorable. Indeed, multiple studies have shown that the interior air quality in most households is worse than the outdoor air quality. For system upgrades, don't let energy efficiency be the sole motivator. Other than that, consider your family's wellness as well.

While most HVAC systems incorporate precautions to prevent the trash from entering your home, they do not always operate 100 percent of the time. These precautions are referred to as air filters and they trap contaminants such as mold, mildew, pollen, dust and mites.

They are changed regularly to avoid becoming clogged, which can eventually cause strain on your system and pollute the air that is re-circulated back into your home.

Often, these filters are not replaced when they should be or low-quality filters are substituted. Here are a few inexpensive changes you can make to your system to assist its filters and provide the healthy boost your indoor air quality requires.

1. Air Purifier - Air purifiers can remove allergens such as mold, mildew and pollen. Some air purifiers do not use filters and thus do not require replacement. Within an hour, some cleaners can clean your interior air up to eight times.

2. Humidifiers - When the heat is turned on, we all suffer. We experience a variety of unpleasant feelings, including dry skin and dry sinuses. Humidifiers can help combat the dry heat emitted by your heater, allowing you to feel more comfortable in your living environment while remaining warm.

3. Carbon Monoxide Alarms - If you live in a cooler climate, you are already aware of the dangers that carbon monoxide can cause to your family. While alarms cannot be directly connected to your HVAC system, they can serve as a useful adjunct. Install a carbon monoxide alarm to verify that your HVAC system is operating properly and that levels do not rise dangerously high.

UV Lamps - For your air conditioner to function properly and push out cool air, water is required. While this water should chill the air from the outside, an unintended consequence of this procedure is the growth of mold, germs and mildew. UV lamps can help reduce breeding and provide your family with the clean indoor air they deserve.

CHAPTER 6

The Advantages of HVAC System Upgrades

It's no secret that approximately half of your energy is used to heat and cool your house or business. If you want to save money on your electricity costs, you must make informed choices about your HVAC system.

If your HVAC repair expenses continue to rise and your system is no longer operating well, it may be time for an upgrade. Not only can an HVAC improvement save you money on your electricity bills but it will also improve your comfort level.

We'll look at the five incredible perks of updating your HVAC system in this chapter.

Convenience Control

After upgrading your **HVAC system**, you'll be able to regulate the inside temperature and guarantee that it matches your family's comfort demands. You'll be able to program your system to automatically change the temperature in each room, ensuring that everyone is comfortable.

Carbon Footprint Reduction

As environmental worries continue to grow in severity, turning green is becoming increasingly important for most house and company owners. Upgrading to a new HVAC system will benefit both your budget and the environment in the long run.

Many more efficient systems on the market consume about a third less gasoline than previous types. This results in less waste and greater conservation of natural resources.

Increased Value at Resale

Are you considering selling your home? It's important to keep in mind that when purchasers evaluate a property, they often look at the HVAC system and its quality before deciding whether to make the final investment.

They also analyze the system's operational costs before making a purchase. Therefore, if you want to boost the resale value of your property, it is recommended that you upgrade to a more efficient HVAC system.

Improved Air Quality

Upgrading HVAC systems will significantly improve the air quality inside your home or commercial space, as current HVAC systems feature variable speed motors that enable you to maintain consistent airflow and enough ventilation.

This is beneficial for persons who suffer from asthma or allergies, as breathing low-quality air can exacerbate their health problems. The new filtration system will ensure that contaminants do not enter your home, allowing you to prioritize the health of all occupants.

Cost Savings on Repairs

Installing a new system also entitles you to a guarantee on all components and the equipment for at least a few years. While the initial cost may be higher, you will save money on maintenance and repair expenditures for a lengthy period, especially if you maintain your HVAC system properly.

Improved HVAC system efficiency is a top aim for most house and business owners and reasonably so. If your system is quite old and no longer operates efficiently, it may be time to upgrade to a more modern device.

CHAPTER 7

How to Make Your HVAC System More Efficient?

As energy costs continue to rise, household owners and builders incorporate innovative and advanced technology to avoid the additional expenditures associated with their monthly energy bills.

Now, contractors, builders, and homeowners opt for more cost-effective renewable energy-powered equipment such as solar thermal and photovoltaic (PV). Also, most of them are choosing automated building controls to save energy waste. HVAC controls in the past were more complicated to regulate.

Even if you can get many systems to function together, controlling and troubleshooting them was tough. Now, the entire heating and cooling system have entered a new phase. The latest systems can integrate multiple cooling and heating units to maximize efficiency and comfort.

Integrating the five mechanical devices or fundamental elements into your system can make a world of difference. The six devices are a boiler, radiant heating system, water heater, heat pump, solar thermal system and storage tank. Each of these devices will have its control panel. An automated home system can aid in the efficient operation of the integrated system.

Automated systems in the house are gaining popularity because of their ability to manage lights and other appliances via a web-enabled phone. Similarly, you can operate your temperature control appliances. Homeowners are now attempting to build smart climate control systems that are more efficient and comfortable.

The role of government in boosting the nation's energy efficiency

The government can significantly change the rate of energy efficiency improvement; therefore, they should work diligently to achieve higher efficiency rates that improve year after year. America's government should also implement new policies and regulations to accomplish this goal.

Appliances such as water heaters and air conditioners contribute significantly to the nation's energy consumption rate. To continually remind individuals to invest in energy-efficient units, they must be reminded.

A higher energy bill is an excellent technique to get individuals to switch to more energy-efficient methods. Remind folks they will face the consequences of being cannot pay their energy bills at some point. If the government provides subsidies to households with an energy-efficient home, this will serve as an incentive to upgrade to an energy-efficient home.

The government must be committed to energy conservation and energy-efficient activities, setting an example for its population. They should attempt to cut energy use in offices and other government facilities, resulting in significant energy savings.

This can be accomplished by installing renewable energy sources, such as solar energy. Also, the government should place a higher premium on and support various research and development projects centered on energy efficiency technologies.

CHAPTER 8

How HVAC System Upgrade Can Benefit Your Family's Health

In their lifetime, the average homeowner updates their air conditioning twice. Typically, the thought process is to simply get the cheapest to avoid sweltering in your living room for another day.

However, this thinking prevents many people from taking advantage of the great advancements in AC technology in the last few years. Dozens of additional features available can significantly increase home comfort but many are only available for higher-tier systems.

Many of these changes can cause cost savings on utility bills during the unit's lifetime. To evaluate which features are appropriate for your family, you must first grasp the advancements available.

Humidity Control

In more humid locations, humidity often contributes more to discomfort than the actual outdoor temperature. 80 degrees with a high relative humidity feels far worse than 100 degrees with no relative humidity.

This is because extra moisture makes the air dense, allowing it to absorb more of the radiant heat. This thickness is particularly aggravating for asthmatics. Each breath is already a challenge for asthmatics and limiting the amount of breathable air in space forces asthmatics to work even harder to maintain regular breathing.

High-quality air conditioners can detect excessive interior humidity and automatically reduce it. This is performed by decreasing the fan's airspeed and lengthening the unit's run time, a process referred to as "dehumidification." By constantly churning the air, moisture is dissipated, lowering the thickness and significantly increasing comfort for everyone.

Air Purification

As the weather warms, more allergens such as dust mites and pollen enter the home. When this occurs, it is even more important to maintain the air you breathe as clean as possible, particularly for persons who suffer from severe allergies. While nearly every air conditioning unit includes some filter, most homeowners do not use the great filtration options available.

Filters that are thicker capture more dust, pollen and pet dander. Electronic filters magnetize the dust, aggregating it and making even the tiniest particles large enough to be trapped by the system. Some cleaners are so potent that they can effectively catch huge numbers of dangerous germs such as bacteria and flu viruses.

These filters must be cleansed outside, and it is recommended that you do so while wearing a surgical mask. Apart from capturing dead objects, purification alternatives can effectively eliminate hazardous bacteria in every house corner.

As the air flows through the ductwork, it is charged by ultraviolet light. When it gets into contact with microorganisms in the bathroom, on the kitchen worktops or in the ceiling corners, it assaults and destroys them all. This technique can even eradicate mold and mildew!

When many homeowners consider an HVAC improvement, they typically focus on improving their home's energy efficiency and reducing their monthly heating and cooling bills. While these are all important concerns, you may be unaware that you can also modify your existing HVAC system to improve the air quality in your home.

These modifications are inexpensive, can be completed in a few hours and may even contribute to your family's improved health.

Upgrades to Improve the Indoor Air Quality of Your Home,

While the saying "you are what you eat" holds, the same might be said of the air you and your family breathe. Particles of dust, bacteria and excessively dry air can all contribute to respiratory issues, allergies and possibly more serious ailments.

Most modern HVAC systems incorporate fresh air and use a succession of typical filters to capture many dust particles as air passes via the ductwork and into your home. These filters are replaced or cleaned periodically.

While this setup is often effective, it does not always capture all debris that may move through your ducts. There are modifications available to improve the performance of your HVAC system; examine the following choices for your home:

Air Purifier - An air purifier can eliminate germs, mold, and viruses that a regular HVAC filter missed. Some air purifiers are self-cleaning, eliminating the stress of forgetting to change the filter and not impeding air movement. If clean air is a priority for your family, some models can re-purify your home's indoor air eight times each hour.

Humidifiers - While everyone enjoys a warm home in the winter, not everyone enjoys the dry sinuses that heat may create. While HVAC humidifiers come in a variety of configurations, they all add moisture to the indoor air of your home during the months when heat is needed. Inquire of your HVAC contractor which type is most appropriate for your system.

Carbon Monoxide Alarms - dubbed the silent killer, carbon monoxide is one of every family's greatest nightmares but how do you know if your family is at risk? Carbon monoxide alarms are not connected to your HVAC system, but they monitor your home's indoor air quality and sound an alert if CO levels reach dangerous levels.

UV Lamps - while cool air flowing from your home's vents feels wonderful on a hot summer day, the moisture created by that cool breeze can serve as a breeding ground for bacteria and mold. UV lamps eliminate germs and mold on cooling coils and help maintain your home's healthy indoor air quality.

These are just a few of the alternatives for keeping your family's indoor air clean and healthy. Enquire with your local HVAC contractor about further system enhancements that may be available for your home.

CHAPTER 9

Regular HVAC Upgrades save Energy

Regular mechanical maintenance of HVAC systems is the best way for homeowners to save money on their bills over the long run. While repairs might appear pricey at first, the payoffs later on are considerable.

Today's HVAC professionals have undergone full vocational training at technical institutions or universities involving classwork tailored to refrigeration, heating, cooling and mechanical maintenance vacation.

These vocational schools frequently educate students about cutting-edge HVAC technology, such as complex pumping and cooling system repair and strategies for retrofitting chlorofluorocarbon (CFC) coolant systems with environmentally acceptable materials.

Why is it necessary to do HVAC mechanical repairs on a regular basis?

The majority of homeowners are unaware that their HVAC system is malfunctioning or performing poorly until the system fails to operate. This is an ineffective method of HVAC maintenance. Early faults or weaknesses in the performance of an HVAC system might result in inefficiencies in heating and cooling.

In the end, these inefficiencies result in energy loss and increased gas and electric prices. If you've seen significant increases in your electricity costs, consider when your HVAC system was last serviced before blaming the high bill totals on inflation.

The degradation of an HVAC system's efficiency occurs gradually but is damaging. Frequent maintenance strives to keep small systemic leaks, gaps, cracks, or slowdowns

under control, ensuring that homeowners have the best, most energy-efficient, continuously operating HVAC systems available.

HVAC and mechanical maintenance engineers are taught in trade schools to conduct detailed inspections in a proactive manner. HVAC and mechanical maintenance technicians are also capable of determining when a heating or cooling system should be completely replaced.

At first glance, the cost of updating an HVAC system may appear unrealistically high. However, the more recent a system is, the more likely it will have highly energy-efficient technologies, resulting in significant savings on your heating and cooling expenditures.

Between scheduled maintenance intervals, homeowners can take many actions to ensure their HVAC systems operate efficiently. Here are some pointers:

Avoid running your air conditioner continually on the coldest setting during hot weather. By increasing the air conditioners temperature by a few degrees, you can extend the life of your HVAC system.
Assure that your HVAC system has an appropriate supply of refrigerant before hot weather.

Your coolant levels can be determined by an HVAC technician or a mechanical maintenance engineer. If your system is cooled with chlorofluorocarbons (CFCs), consider replacing the cooling mechanism with a more environmentally friendly technology.

During hot weather, install ceiling and central room fans. These fans will increase your air conditioners efficiency, allowing it to operate more efficiently while conserving electricity.

Clean your heating ducts before the onset of cooler weather and replace your heating filter regularly after that. Clogged or unclean ducts or filters might reduce your HVAC system's effectiveness throughout the winter.

Has your furnace been inspected before the onset of winter?

Ineffective furnaces can cause wasted energy, inefficient system performance, CO_2 leakage, carbon monoxide poisoning and even home fires.

Insulate your home against the cold so that your heater does not have to work as hard. Using plastic wrap or weatherproofing strips to insulate your windows helps. Also, you can insulate your home by caulking crevices around windows and doors.

Reduce the heat, even if you are at home. By lowering the thermostat a few degrees and wearing a sweater, you can significantly reduce your gas or electric expenditure.

Regular HVAC system maintenance and homeowner initiative and a focus on energy conservation result in more environmentally friendly and effective home heating and cooling.

CHAPTER 10

Affordability Of An Energy-Efficient Air Conditioner

If you're in the market for a high-efficiency air conditioner, you need to understand the energy efficiency rating scale to distinguish a smart investment from a bad one. The SEER rating is used to describe the efficiency of air conditioners.

The term SEER refers to the Seasonal Energy Efficiency Ratio, which measures the ratio of cooling produced to the energy consumed. A high SEER rating shows a highly efficient air conditioning machine.

A new air conditioning unit can have a SEER rating of 13 to 23, whereas older ones often have a SEER rating of 10 or less. When you invest in a new air conditioning system, you may expect to save between 10% and 70% on your power bill. So, should you pay for a high-end air conditioner or opt for a less expensive model?

The climate, the size of your home, and the duration of the seasons all significantly affect the air conditioner that is best for you. If you live in Hawaii, where the climate is pleasant all year and trade winds keep homes from becoming stuffy, investing in a top-of-the-line SEER-rated unit may not yield the return on investment you expect.

If you live in the south, where the weather is hot for most of the year, paying a greater upfront price for your AC unit will be well worth it.

The greater the SEER number, the more expensive the air conditioner. The SEER rating is typically shown on a sticker attached to the device. If you're debating whether to splurge initially or save money by purchasing a unit with a lower SEER rating, consider the following. During its lifespan, a high-efficiency air conditioner will pay for itself many times over in utility savings.

How much money can you save by improving your air conditioning system?

Assume you owned an air conditioning system from the 1970s with a SEER rating of 8. If you change to a new, energy-efficient model with a SEER rating of 16, you can expect to see a 50% reduction in your monthly energy bill. Even if you live in a region with brief and moderate summers, updating your outdated air conditioner may be cost-effective.

If you're in the market for a new air conditioner or are tired of giving the utility company a portion of each paycheck, consider investing in an energy-efficient AC unit. By cooling your home more efficiently, you'll wind up saving money each month, keeping you and your pocketbook cool during summer.

CHAPTER 11

Energy Efficiency and SEER Ratings for Air Conditioning

Consumers are highly motivated these days to replace inefficient appliances, heating and cooling systems and lighting systems with more efficient alternatives for various reasons. One cause is the high cost of energy in today's globe, resulting from the ten-year pattern of rising commodity prices.

Many famous commodities investment experts have forecast that this trend will continue for another decade or more. Globally, the green movement is another influence pressuring consumers to practice energy efficiency.

Also, incentives offered by local and national governments and equipment manufacturers provide another reason to upgrade to more efficient appliances, heating and cooling systems and lighting. Indeed, the United States' federal government has been granting a tax credit of up to $1,500 to those who do so.

In terms of air conditioning efficiency, a 2006 regulation in the United States mandated any systems constructed after that year have a SEER rating of at least 13. Seasonal Energy Efficiency Ratio is an acronym for Seasonal Energy Efficiency Ratio and is the rating standard used to describe the efficiency of air conditioning systems.

According to the US Department of Energy, an air conditioner with a SEER rating of 13 will consume between 20% and 40% less energy than a system with a SEER rating of 10. Some devices on the market today have SEER ratings of up to 21.

Naturally, the more efficient the system, the higher the price. To qualify for the $1,500 tax credit stated above, individuals must upgrade their air conditioning system to one with a SEER rating of at least 16.

If you consider upgrading your home's air conditioning or heating system, it is important to work with an experienced and highly qualified contractor and installer. If either system is not designed with the capacity, it will not operate correctly, resulting in hot or cold patches in your home. In that way, having too much capacity might be just as detrimental as not having enough.

Suppose you consider installing an HVAC system in your house or upgrading your existing equipment. In that case, you should know you can save money on your energy bills while also reducing your energy consumption.

By selecting equipment with a higher SEER rating, you may enjoy the peace of mind that comes with conserving the environment and lowering your monthly energy costs. You may even qualify for a loan to assist with the purchase of the equipment.

The US Environmental Protection Agency created the energy star badge to assist consumers in selecting the most energy-efficient equipment and appliances. Given that heating and cooling expenditures account for about half of all energy consumption in the home, you'll want to find every opportunity to save money with energy-efficient equipment.

SEER ratings are calculated by dividing the total cooling output by the total cooling input of the air conditioning system. The greater the SEER rating of your equipment, the more efficient it will be in performance. The government assigns an energy star rating to everything with a SEER rating of 13 or higher. The government intended to raise the minimum rating to 14 in 2015.

Loans for Home Improvement

After deciding on a new system or upgrading a current one for a home performance loan. You can apply for these loans to assist with replacing your heat pump, installing a solar water heater, and upgrading your home to include R-19 insulation in the attic or the replacement of doors and windows.

With a variety of SEER units available, you can select the best-suited one for your specific needs. Professionals will install the unit to ensure that you enjoy the optimum heating and cooling benefits for your home.

Savings Are Abundant

When you opt to repair or upgrade your air conditioning ducts to achieve 10% duct leakage for outside air, you can save up to 7%. There is no reason to waste money when all that is required is to insulate your attic.

With all the loan programs accessible to you, there is no reason you should not upgrade your system to one of the most modern versions available from a reputable specialist.

CHAPTER 12

HVAC Experts Can Assist With Energy Efficiency

HVAC repair and maintenance regularly is the most effective approach to ensure that your house or business does not lose money because of leaking ducts or inefficient HVAC systems.

Energy efficiency is becoming more prevalent as consumers become concerned about rising utility bills and the environmental impact of continuous energy consumption. Along with periodic air conditioning repair at your residence or company, you may wish to update to a more energy-efficient model.

HVAC professionals can install high-efficiency systems that might result in year-round energy savings. More efficient and environmentally friendly models can save up to 40% on heating and cooling costs compared to conventional systems. By supporting you in lowering your monthly energy expenses, this savings alone enables high-efficiency models to quickly pay for themselves.

With heating and cooling accounts for most energy consumption in homes and businesses, energy-efficient versions are an easy decision for any property owner. Not only will you save money each month by installing an energy-efficient system from an HVAC specialist but you'll also contribute less everyday pollution to our planet's atmosphere.

Enquire with your local HVAC technician about their system's seasonal energy efficiency ratios. You should also inquire about general energy efficiency ratios besides seasonal energy efficiency ratios. The higher the energy efficiency ratio, the less money you'll spend on electricity to power your HVAC system each month.

HVAC units with seasonal energy efficiency ratios greater than 12 and overall energy efficiency ratios greater than 11 are permitted. You might expect to save a quarter or more on your annual energy bills by investing in one of these energy-efficient HVAC systems.

Apart from energy-efficient HVAC systems, programmable and timed thermostats can also help you save money. Energy Star programmable thermostats assist you in optimizing the everyday functioning of your HVAC system, potentially saving you a significant amount of money. Additionally, contractors providing air conditioning repair services might integrate energy management systems.

These energy management systems are employed when the complexity of your HVAC system prevents the usage of a programmed time clock or a timed thermostat. An energy management system enables you to regulate the temperature in various regions of a building. This helps reduces excessive HVAC system use and increases your monthly savings.

A fast annual inspection of your HVAC system will assist you in identifying any faults that could cost you money in the long run. Once an air conditioning repair service specialist inspects your system to ensure no leaks or malfunctions, wasted energy is no longer an issue.

Air conditioning is the most expensive energy consumption during the hot summer months. Using your air conditioner regularly can become much more expensive when duct leaks go undiscovered.

At Romeo Air Conditioning Repair Services, we're dedicated to keeping your home safe and comfortable, so schedule an appointment with our trained technicians here>> http://www.romeoair.com or give us a call at (239) 237- 1518.

CHAPTER 13

Repair Or Replace Your Furnace With A High-Efficiency Furnace

When you awake on a cold morning and turn up the thermostat on your furnace and nothing happens, when you contact a professional for heating repairs, you discover the bill will be quite high since the problem is not as straightforward as you previously believed. Do you go with the repairs or do you simply buy a new one?

This is often a significant question, especially when the repair cost is nearly equal to the cost of new equipment. If you find yourself in this scenario, follow these steps to decide:

1. Consider your home security.

Your home's security should be a top priority. If the problem with the furnace becomes a safety hazard, you should not hesitate to replace it. You don't want to jeopardize your health or safety if you're facing issues such as carbon monoxide gas leakage. You would put your life at risk if you did not make systemic changes.

2. Consider the system longevity

Consider the system's longevity. With regular maintenance, these systems often operate efficiently for up to 20 years. However, some can run considerably longer. Consult the manufacturer's website to determine the average lifespan of the model you've placed in your home. You can use these figures to determine whether to replace or repair the old system.

3. Contrast the cost of repair with the cost of replacement.

How much does it cost to purchase and install a new furnace?

Remember the cost of transportation and installation as well. Many individuals overlook the additional charges and discover that, while the new system is less expensive than repairing the old one, the whole cost, including installation, maybe more.

If you cannot replace the system, it is preferable to get it repaired. Regular maintenance and cleaning are necessary to keep it working efficiently.

4. Effectiveness

The efficiency of the system is important in ensuring that it does not cost you excessively to operate. If your system is inefficient, you will incur greater energy expenditures.

Older systems are less efficient; for example, a system that is 20 years old will have an efficiency of approximately 70%, whereas a new system will have an efficiency of up to 95%. This will cause a 25% reduction in your monthly bills. Thus, replacing your system rather than repairing it will save you money in the long term.

It is certainly worth considering the various aspects that contribute to the cost of upgrading and repairing heating systems. Take your time and evaluate all the variables.

CHAPTER 14

New Energy Efficiency Standards Encourage Air Conditioner and Furnace Upgrades

Perhaps you are unaware but something changed in 2006 that will affect the goods accessible to you when the time comes to replace your Heating, Ventilating and Air Conditioning (HVAC) equipment. Do not be alarmed; this effect on the equipment available to you is beneficial.

The United States government has mandated that any HVAC systems installed after January 23, 2006 must fulfill specific minimum energy efficiency standards. The Seasonal Energy Efficiency Ratio (SEER) and Annual Fuel Utilization Efficiency are used as benchmarks (AFUE).

Before enacting this regulation, many air conditioners had a SEER of 10 and furnaces had AFUE rates as low as 50%. New air conditioners must now have a SEER rating of at least 13, while furnaces must attain an AFUE rating of at least 80%. This is a 30% gain in efficiency over 10 SEER air conditioners and a 38% increase over a furnace with a 50% AFUE.

The government will not require you to replace your existing system to comply with the new requirement; this only applies to new HVAC installations. If you own one of these older, inefficient systems, you may use it indefinitely but why would you want to?

Many of the systems available today are significantly more efficient than those prescribed by the government, allowing you to save significantly on power expenses.

Reduced utility expenditures alone may save an average household roughly $600 per year. However, there is more—the IRS is offering tax credits to homeowners who

improve their home's energy efficiency to meet the government's program requirements. This requires fulfilling higher energy efficiency standards, yet these are easily achievable with today's equipment.

There is another point to consider. Service on your older air conditioner will become more expensive. It is almost certainly using a CFC or HCFC refrigerant, both of which have been effectively prohibited.

Indeed, they will be severely restricted after 2010, with your HVAC service provider able to purchase them only at a premium. Using these to service your outdated air conditioner will be prohibitively expensive.

Replacement refrigerants are available. However, they are incompatible with older systems and may only be used in newer systems specifically intended for them. You don't want to be stuck in a sweltering Atlanta summer with an inefficient, broken-down air conditioner that can't be serviced.

Given the savings in utility costs and tax incentives and serviceability, there are many reasons to upgrade to a more ecologically friendly system. However, it is also a moral thing to do.

Heating and cooling account for around 50% of a home's energy consumption; therefore, by reducing this portion of your energy consumption, you are reducing the size of your footprint on a highly trampled earth.

CHAPTER 15

Facts About Your HVAC System You Need to Know

Here are a few basic facts about your HVAC system that will help you get the most out of it.

What Type of HVAC System Do You Have?

HVAC stands for heating, ventilation and air conditioning. It refers to the components of your household or business H-heating, V-ventilation and AC-air conditioning systems. Technically, this includes central heating and cooling for the entire structure and window-mounted air conditioning units and space heaters for individual rooms.

This chapter will focus on whole-structure systems because they are the most popular, efficient and cost-effective. Typically, these systems include an outdoor unit, an indoor unit, a filter and a web of ductwork.

Not All Heating, Ventilation and Air Conditioning Systems Are Created Equal

HVAC systems come in various configurations, including heat pumps, AC/furnace combinations and gas furnace hybrids. It's important to understand that HVAC quality and efficiency can vary significantly, even though they're all required to meet regulatory performance standards.

Whether you're purchasing a new HVAC system or upgrading an older one, it's important to engage with a reputable HVAC service provider that can recommend the most reliable and efficient units available.

The ideal HVAC professional will be ready to explore alternative means of heating and cooling, such as hybrid solar systems.

What Is A MERV Filter?

The MERV (Minimum Efficiency Reporting Value) is a mechanism for rating the efficiency of filters on a scale of 1 to 16. The lower efficiency ratings (1-4) remove up to 80% of pollutants. This rating is usual for fiberglass, disposable or washable filters. Electronic filters remove the highest pollutants (up to 98 percent) at the higher classifications (13-16).

A Higher MERV Rating Does Not Always Mean a Better Product

While higher MERV filters are more effective at removing pollutants, they can increase your HVAC operating costs. They restrict airflow and may cause your system to perform more difficultly.

While lower MERV filters are more energy-efficient, they are unlikely to filter out pollutants that aggravate allergies or other respiratory diseases. It is important to have the optimal combination of accessible airflow, appropriate air filtering and energy efficiency. Consult an HVAC professional.

What Is The Optimal Air Conditioning Temperature Setting?

While the desire to save money on energy and utility costs is subjective, saving money on energy and utility bills is universal! Most people consider 72 degrees to be cool enough when the HVAC system is appropriately humidified.

Increasing your savings potential is as simple as increasing the temperature in the indoor thermostat setting. Each degree is quantifiable in terms of cash and sense.

HVAC Maintenance Is Economical

Do not overlook the value of frequent, scheduled maintenance for your HVAC system—proper maintenance results in lower repair costs and increased savings on heating and utility expenditures.

AC maintenance is best performed in the spring and early summer; heating maintenance is best performed in the fall. Prepare to operate at top efficiency before a situation requiring it.

The Benefits Of Dual-Fuel Heat Pumps

The heat pump's efficiency HVAC systems continue to gain popularity because they perform many functions: they provide cooling in the warmer months and cost-effective heating in the cooler months.

Configure your dual heat pump system to function following the ambient temperature. Determine an upper range in which the electric heat pump should be activated and a lower range in which the alternate fuel pump should be activated.

CHAPTER 16

Proper Air Conditioning and Heating System Maintenance

One of the primary benefits of routine air conditioning and heating system maintenance is increased equipment reliability. Maintaining an HVAC system is vital to guarantee that it operates properly and efficiently at all times. If the air conditioning and heating systems are not cleaned, tuned and maintained regularly, the equipment operating poorly increases.

Not only would a neglected HVAC system function poorly compared to a well-maintained system, but it will also significantly reduce the system's life. Repairing air conditioning and heating system problems as soon as possible saves money and extends the life of the appliances.

Also, it contributes significantly to cost savings associated with energy squandered by an inefficient appliance. Your HVAC system should be inspected thoroughly at least once a year by a professional.

Depending on the purpose of the facility, it may require inspections multiple times a year. For instance, in a high dust environment, such as a manufacturing facility, air filters should be replaced more often than usual. Great care should be given to prevent damage to HVAC equipment.

The easiest method to begin routine maintenance with an air-conditioning service technician is to review maintenance records from past examinations of the HVAC system. Inadequate maintenance and failing to schedule inspections by industrial air conditioning service experts regularly are immediately visible.

If the HVAC maintenance records reveal that system problems may have been avoided with frequent system checks, it's time to invest in establishing a consistent system maintenance schedule.

Often, building managers are unaware that without routine maintenance, air conditioning and heating systems can fail and require replacement sooner than well-maintained appliances.

Inspections and tune-ups should always be prioritized in budgets as a preventative strategy. Often, contacting an air conditioning service business when an appliance develops a problem can be avoided by just maintaining the device.

Having an industrial air conditioning service firm maintain an HVAC system properly benefits more than just the people who have invested in the building's appliances. The building's primary occupants will also benefit from clean, healthy indoor air at a pleasant temperature.

Complaints from building tenants will be significantly greater in a structure that does not prioritize HVAC inspection. Regardless of whether the HVAC appliances are installed in an office building, commercial space or apartment complex, it is always in the owner's best interest to keep the residents happy and comfortable.

When interviewing industrial air conditioning repair companies about maintenance of your HVAC system, inquire about maintenance procedures and corporate policies.

Do they guarantee they will identify frequent problems before they grow into larger, more expensive problems?

What do they examine?

Is the checkup inclusive of system cleaning?

Are their staffs compensated for upgrades or replacements you may not require?

A reputable business should always be willing to provide detailed responses to these queries. At Romeo Air Conditioning Repair Services, we're dedicated to keeping your home safe and comfortable, so schedule an appointment with our trained technicians here>> http://www.romeoair.com or give us a call at (239) 237- 1518.

CHAPTER 17

Justifications for Upgrading Your HVAC System

You may wonder why it is necessary to upgrade your HVAC framework. We understand; heating and air conditioning systems are not inexpensive. Apart from energy efficiency and flawless gadget coordination, many reasons are investing in a new HVAC system makes sense.

Here are five reasons you should your HVAC system.

Wires That Have Been Aged Are Fire Hazards

According to the National Fire Protection Association, over 47,000 home fires and 16,700 non-home fires occurred in 2011 because of old, damaged or faulty wiring and the wiring inside your HVAC framework is no exception.

If your HVAC system is outdated, you could be just one spark away from causing damage to your residential or commercial property. Far more heinous, a fire at your home or place of business could cause significant losses for you, your family, your associates or your customers.

Regularly have your HVAC system inspected by a professional. They will inspect the HVAC system's wiring and internal components to ensure they are functioning properly. This way, you can save a significant amount of money in the event of an accident.

Wallet Salvation

Changing to a more modern climate control system may cause greater energy savings than previously. Current frameworks consume less energy while producing very similar results, if not worse, than a ten-year-old forced-air system.

A few components, however, will affect how well the climate control system works in your home. These factors include the type of protection your home receives, its concealment, the size of the HVAC framework and the indoor regulator settings.

The climate control system is possibly the most energy-intensive component of any home. Upgrading to a more modern, energy-efficient climate control system can help you save significant amounts of money. According to research, today's HVAC frames are 20% to 40% more efficient than ones manufactured ten years ago.

Greener and Healthier Air

The new cooling units include variable-speed engines that improve air development throughout the residence. This can help create a more consistent temperature throughout your home—no more viral hotspots or problem areas.

Since newer HVAC frameworks incorporate superior air filtration, they may improve air quality by removing residue, halting or preventing mold development and evaporating excessive moisture. On the off chance that you or anyone in your home has dust hypersensitivity, you may notice a significant improvement with a new framework.

Silence

Are you hearing many noises coming from your HVAC system? You can now quiet it with a more recent upgrade. New HVAC units are renowned for creating very little noise.

CHAPTER 18

Upgrading To A Solar-Powered Heating And Air Conditioning System

Solar energy is limitless and one of the cleanest energy sources known. Many homeowners are aware of the significant benefits solar panels may have on their property's value. However, there are other ways to live a greener lifestyle in your house.

Considered a major appliance, your heating and cooling system maintains a comfortable indoor climate throughout the year.

Did you know that?

Solar-powered HVAC systems operate similarly to conventional HVAC systems in that they keep you cool in the summer and warm in the winter. These systems are extremely silent, have no moving parts, and are extremely simple to maintain.

Although the expense of installing a solar system deters many, you may qualify for a tax credit of up to 30%. (please check with your tax professional). State and even some local governments are offering incentives to homeowners who elect to convert to solar energy.

You will save money by converting if you keep your system for an extended period (or stay in your current home). For solar energy, electric companies are an odd source of untapped savings.

Many electric companies offer cash rebates when your solar energy is converted to grid power. Electric utilities are seeking to stay abreast of developing technologies and keep customers by offering green alternatives. Also, this method enables them to offer fossil fuel options for generating power and emergency backup systems.

Converting one of your home's most expensive appliances to solar energy will lower utility expenses, raise the value of your house and benefit the environment by creating clean energy.

CONCLUSION

In contrast to a conventional air conditioner, an HVAC unit heats, ventilates and cools your entire home with a unit. This increases the quantity of energy consumed by your home, hence increasing your energy cost. In most places, heating and cooling account for approximately 44% of the power expenditure.

It would be perfect if everyone lived in a climate that never fluctuated over a pleasant seventy degrees throughout the year. Regrettably, this is not true for anyone.

Because of the rising severity of weather patterns, which result in hotter summers and colder winters, an HVAC unit needs a person's health and comfort and sanity. Fortunately, there are many low-cost solutions to keep your house pleasant without spending more than required.

To begin, determine the SEER efficiency rating of your HVAC system. Typically, ratings vary from 13 to 23, with the higher values representing the most energy-efficient products. If you discover that your system has a poor efficiency rating, just switching to a higher-rated system will cause significant savings.

There are simpler, less expensive ways to conserve money and energy.

Weatherproofing

Simply by caulking all of your windows and doors, you can save 15% on your energy bills. Find out that all of your windows and doors are firmly sealed. Adhesive closed-cell foam can seal the seams of your windows, ensuring that they are airtight and preventing air from entering or leaving your property.

This weather-stripping material is readily available at most neighborhood home improvement stores and is economical to keep prices down. Also, try adding a simple door sweep to keep out even the fiercest of drafts.

Window tinting may make a significant impact on the temperature of your home, even in the hottest summer months. Fortunately, installation is so simple that even your grandma can handle it. You can choose a variety of tint hues but remember the darker the tint you pick, the darker your home will look.

Though the tint is easily removed, you don't want to be removing and reinstalling tint on your windows every day, so consider whether you're comfortable with your only light source being your indoor lights - especially if you have plants inside that require direct sunlight from your windows - before opting for tinting rather than simply purchasing heavy drapes.

One final thing you can do to maximize the efficiency of your HVAC unit without blowing your entire salary is to inspect your home's insulation. Many individuals discover their attic transforms into an oven throughout the summer and that all of that heat has nowhere to go but down into their home.

In the winter, all the hot air escapes in the same manner that it entered just months earlier. Assemble adequate insulation to keep hot air out in the summer and warm air in the winter. All these do-it-yourself money-saving tips can be got at most neighborhood hardware stores.

At Romeo Air Conditioning Repair Services, we're dedicated to keeping your home safe and comfortable, so schedule an appointment with our trained technicians here>> http://www.romeoair.com or give us a call at (239) 237- 1518.