

COOL SOLUTIONS *from* COOL DAVIS



This planning guide is one in a series that offers Cool Solutions for home heating and cooling as well as energy efficiency. The full series of documents will be available on the Cool Davis website. This document is provided as general guidance and is not intended to be legal or technical advice.

Make a Home Heating and Cooling Plan . . . Now

Why should I start planning now?

If your home is 15 or more years old with an original HVAC system or it's been 10 years since you had your system checked, chances are it's operating inefficiently. More critically, since HVAC systems have a typical life-expectancy of 15 to 20 years, your system could be on the verge of failing.

Unfortunately, systems often fail when they're needed the most, such as at the beginning of the heating or cooling season, the day before Thanksgiving or when you're hosting a Fourth of July party and it's 102 degrees outside. Or, worse yet, your system could fail while you're on vacation and an adult child or housesitter might be faced with making decisions in your absence.

If this happens, your options might be limited. You might not have time to fully assess alternatives and interview contractors. You may be faced with an expensive repair or replacement on short notice or in a crisis.

A plan puts you in the driver's seat

Planning ahead allows you to make informed and deliberate home energy efficiency decisions. By making a plan, you can

- Evaluate *all* your options including equipment types and costs
- Seek opinions and costs from multiple contractors
- Thoroughly research and compare financing options, rebates, and incentives
- Save money and reduce wear and tear on a new HVAC unit by "right sizing" (getting the right size unit for your home)
- Identify and invest in other energy efficiency improvements that can make your home more comfortable and reduce the size or how often you need to use your new heating and cooling unit
- Spread improvements over several months or years, allowing you to plan effectively for costs and installation schedules

Start with energy efficiency

Depending on the age of your home, it might make sense to improve its energy efficiency first and replace the HVAC system later. Or, you could do both at the same time to minimize overall disruption in your home. Either way, make sure to take advantage of rebates and tax credits.

Home energy efficiency retrofits include:

- Duct sealing (if not part of HVAC job)
- Attic and wall insulation
- Attic sealing and sealing of wall and ceiling penetrations
- Other building envelope sealing (exterior walls, roof, skylights, and doors)
- Window replacement and/or sealing
- New ceiling fans, attic fans, and a whole house fan
- Technology upgrades like smart thermostats

Energy efficiency improvements may also allow you to better “right size” a new HVAC unit. For example, you might be able to get by with a smaller HVAC system by sealing the attic, replacing windows, and adding or replacing attic insulation.

Basic maintenance helps systems last and reduces costs

Regular maintenance can help your system last longer and run more efficiently. The longer an efficient system lasts, the more money you save and the more you’re able to save up for replacement.

An annual service check-up by a heating and cooling professional will help keep your system running smoothly and lasting as long as possible. Many HVAC contractors offer service plans separately or combined with installation contracts.

Also make sure to check your system filters (usually located at returns) every other month and more frequently if you have allergies, pets, or lots of foot traffic that brings in outdoor debris and dust. Generally, filters should be replaced or cleaned every 2 to 6 months (depending on manufacturer’s instructions). Some houses have more than one HVAC system, and each system will typically have at least one air filter. Some systems have air filters located at the air handler as well as at returns. Make sure to ask your installer or service technician how to deal with filters located at the air handlers. You should check each possible location to make sure you have found all of your air filters.

Filters are sold by dimension (height, width, and depth) which is usually printed on the filter frame. Check your old filter first and then make sure to install the new one according to the air flow indicator arrows on the sides. Air should flow from your indoor spaces into the return, so from the room, through the filter, and into the duct.

Most HVAC filters have a rating: the higher the number, the more efficient the filter in trapping airborne particles. A High Efficiency Particulate Air (HEPA) filter with a 17 to 20 Minimum Efficiency Reporting Value

(MERV) rating might be better for people with asthma or other chronic respiratory diseases because it's designed to filter particles as small as .3 microns at 99% efficiency.

See our Cool Davis *Understanding Home Heating and Cooling* Planning Guide for more information on the different parts of your system, and *Home Heating and Cooling Commonly Used Terms* for definitions.

Think about your family's, needs, values, and objectives

Evaluating your home heating and cooling options is a good time to reflect on your family's needs, values, and objectives. Remember to consider these questions and topics as part of your planning effort.

- What are your annual home heating and cooling operating costs?
- How warm or cool do you want to be?
- How important is state of the art technology?
- Is system reliability essential?
- How energy efficient do you want your home to be?
- Are health and comfort crucial considerations?
- What kind of funds are available or could be saved?

Take your time and plan, but don't delay

Contemplating an upgraded HVAC system (and related energy improvements) is a process. Making a plan now will likely save a lot of stress and possibly expense later, even if you don't implement it right away. Your family's health, wealth, and comfort are too important to put it off until there's a breakdown!

7 Home Energy Efficiency Wins

- Duct sealing
- Attic and wall insulation
- Sealing attic, ceiling and wall penetrations
- Sealing exterior walls, roof, skylights, and doors)
- Window replacement and/or sealing
- New ceiling fans, whole house fan, attic fans
- Smart thermostats

Change filters regularly

Routinely replacing or cleaning air filters can lower an air conditioner's energy consumption by 5 to 15 percent. Energy.gov: Energy Saver web site.

Other Cool Solutions Home Heating and Cooling Planning Guides

- Understanding Home Heating and Cooling
- Make a Home Heating and Cooling Plan ... Now
- Help! My HVAC System Is Down!
- Home Comfort and Health Issues
- Working with Contractors
- Ways to Save, Ways to Pay for Home Energy Improvements
- Home Heating and Cooling Commonly Used Terms

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What is Cool Davis?

Cool Davis is a local non-profit organization dedicated to helping Davis residents and businesses adopt more sustainable practices and reduce their greenhouse emissions. Cool Davis has partnered with the city since 2010 to offer resources, host events, and provide outreach and educational experiences for Davis residents.

To learn more about other Cool Davis projects related to energy, transportation, and consumption of goods and services, visit us at www.cooldavis.org.

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