



# Energy Efficiency: Update Your Furnace

(General)

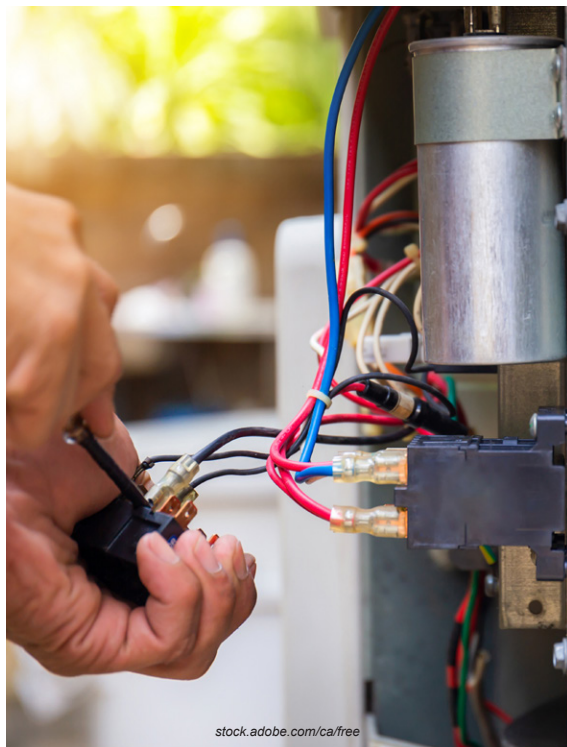
## Benefits of a New Oil Furnace

A new oil furnace will increase the efficiency of your home's heating system. This means you should see a reduction in monthly heating costs and you will reduce your home's environmental footprint.

## During Installation

A few things to keep in mind when your new furnace is being installed:

- Furnace installation typically takes no longer than one day, somewhere between 4-10 hours.
- Before work is started, the old furnace will be removed.
- High efficiency furnaces draw air directly from outside. Assuming the old furnace draws air from the basement or main floor, a new air intake line will need to be installed. This means a small pipe will be installed from the interior of your home to the exterior.
- Small modifications to ductwork may be made to ensure that your new furnace fits the space.
- Certain power breakers will need to be disconnected but it should not affect your day to day routines.



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## Keep Things Running

### Each Year

Before each heating seasons, be sure to:

- Inspect oil burner.
- Clean heat exchanger.
- Inspect and replace oil nozzle.
- Replace oil filter.
- Inspect flame sensor.
- Clean burner fan.
- Check vacuum readings.
- Oil motor if applicable.
- Check fuel lines for leaks.

### During Heating Season

There are 5 things you should do regularly to ensure that your oil furnace is running properly.

1. Check for signs of black soot on the exterior of the furnace.
  - If soot is present, your furnace might be burning more than furnace oil.
  - This can also be indicated from black smoke coming from the chimney. This is caused by incomplete combustion. Contact a repairman.
2. Check for any unusual rattling or vibrating sounds coming from the blower. If you hear anything out of the ordinary, contact a repairman.
3. Change your air filter at least every 6 months, more often if you have shedding pets. A clogged filter will make the blower work harder than it needs to, resulting in less heat in your home and more wear and tear.
4. Monitor oil reserve levels and order a top up with adequate lead time to ensure your home doesn't go cold.
5. Clean the Heat Recovery Ventilator (HRV) Core and Filters using warm soapy water once a month.



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## Energy Savings

Space heating accounts for the largest portion of your home energy consumption. Technological advances of furnaces means that a high-efficiency furnace can not only save significantly on energy costs, but also reduce pollution.

By replacing an older low-efficiency oil furnace (<75% AFUE) with an 83% AFUE, you can expect to **save up to \$600/year** and reduce your greenhouse gas emissions by up to 1,500 kilograms of carbon dioxide equivalent per year.

## What Is Annual Fuel Utilization Efficiency (AFUE)?

AFUE or Annual Fuel Utilization Efficiency is a rating indicating what percentage of fuel a furnace ends up using to heat the home. Losses occur in the chimney, in the combustion process and inadequate insulation. The higher the AFUE rating, the more efficient the unit is.

- An older home likely has an AFUE of less than 75%.
- Minimum standard for furnaces is now 78% AFUE
- High efficiency is considered 83% AFUE and above

Assuming that you are replacing an older furnace, you should be saving money while reducing your environmental footprint. This can be further improved by adding a wood stove to your home, that will work to offset heating costs and uses carbon neutral fuel.



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## Tips to Reduce Your Heating Bill

### Improve Energy Efficiency

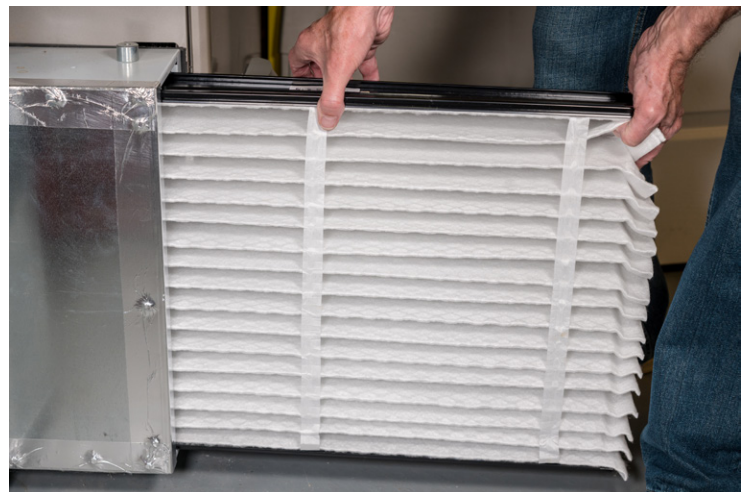
- Improve air sealing such as weatherstripping
- Add insulation where possible (attic, walls, foundation, crawlspace, ductwork)
- Use a Smart or Programmable thermostat
- Use insulating blinds or curtains



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## Change What You Do and SAVE!

- Open blinds on sun facing windows during winter days.
- Lower thermostat temperature if you're away for a few days.
- Replace your HRV filter every month.
- Replace your furnace's air filter every 6 months.



## Useful Links

Residential Furnaces - Government of Canada

<https://www.nrcan.gc.ca/energy-efficiency/energy-efficiency-products/product-information/heating-equipment-residential-us/residential-furnaces/15774>

Oil Furnace Maintenance Tips - How Stuff Works

<https://home.howstuffworks.com/home-improvement/heating-and-cooling/how-to-repair-oil-furnaces.htm#pt1>

Keeping the Heat In - Government of Canada

<https://www.nrcan.gc.ca/energy-efficiency/energy-efficiency-homes/how-can-i-make-my-home-more-ener/keeping-heat/15768>

Keeping the Heat In - Government of Canada (PDF Copy)

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