

Concord Light's Guide to Saving Energy in Your Home

For Oil Heating Households:

Which Actions Save the Most Money...and the Least?



Priority Actions (Pretty Easy To Do)

Action	\$/yr Saved	Lbs CO ₂ /yr
Turn Off Electric Appliances vs. 24 x 7 Operation		
- Furnace Fan if set ON all year, change to AUTO	\$450 - \$700	2800 - 4300
- Waterbed use quilted pad, turn off bed heater	\$120 - \$200	800 - 1300
- 2nd fridge get rid of / unplug	\$100 - \$300	500 - 2200
- Stand-Alone Freezer get rid of / unplug	\$70 - \$200	400 - 1300
- TV off when not used (vs. 24x7 background noise)	\$70 - \$170	400 - 1100
- Stereo off when not used (vs 24x7)	\$70 - \$140	400 - 900
- Computer off when not used vs. screen saver	\$30 - \$120	200 - 800
- Humidifier unplug – shouldn't be needed in tight home	\$10 - \$30	50 - 160
- Fans off when room is empty in summer (vs 24x7)	\$5 - \$20	20 - 100
Setback Heat 8°F, 8 hrs/day	\$100-\$200	600-1300

Actions for the Motivated (Require Active Decision or Sacrifice)

Action	\$/yr Saved	Lbs CO ₂ /yr		
Lower Heating Thermostat 2°F (24 x 7)	\$100 - \$200	600 - 1200		
Clothesline for ½ of loads	\$30 - \$70	200 - 400		
Fans, drapes, etc. instead of Air Conditioning	\$20 - \$170	100 - 1100		
Power Strip: Computer+	\$10 - \$30	40 - 200		
Power Strip: TV+ digital cable & satellite boxes	\$5 - \$40	30 - 300		
Turn off heat and close off unused rooms	\$0 - \$300	0 - 1600		
	<u>Oil Hot H₂O</u>	<u>Elec Hot H₂O</u>	<u>Oil Hot H₂O</u>	<u>Elec Hot H₂O</u>
Shorter/Fewer Showers reduce by 4 min/day	\$30 - \$50	\$20 - \$30	160 - 320	200 - 400
Laundry in Cold for ½ of hot loads	\$10 - \$50	\$20 - \$70	80 - 320	100 - 450

Low Priority Actions (They Work, but Small Impact)

Action	\$/yr Saved	Lbs CO ₂ /yr
Cook with lids on pots	\$3 - \$13	15 - 80
Use carafe instead of coffeemaker warmer 1 hr/day	\$5	30
Unplug cell phone charger	\$1	5

Actions with Minimal or No Impact¹

Action	\$/yr Saved	Lbs CO ₂ /yr
Close refrigerator door quickly	<\$1	≈ 0
Keep refrigerator full, add water bottles, etc.	<\$1	≈ 0
Change furnace filters monthly vs. annually	\$0 - \$30	0 - 200
Clean refrigerator coils	\$0 - \$10	0 - 50
Use ceiling fan in winter	≈ \$0	≈ 0

¹In the vast majority of cases the savings are trivial or non-existent. However, in some cases an action could yield some energy savings. For example, if your refrigerator coils are really clogged and haven't been cleaned in 15 years then you might save something from cleaning them.

Priority Retrofit Measures

Retrofit Measure	\$/yr Saved	Lbs CO ₂ /yr
Replace old furnace w/ 92% efficient one if high * heat use (> 860 gal oil)	\$600 - \$950	3800 - 5800
Insulate empty attic & seal air leakage paths, 1000ft ²	\$500 - \$800	2900 - 4800
Insulate empty walls with dense pack cellulose, 1000 ft ²	\$300 - \$500	1900 - 3200
Seal air leakage paths (use blower door to identify leaks → 600-2000 CFM50** reduction)	\$100 - \$340	650 - 2100
--- w/ strategic dense pack cellulose in tricky homes	\$130 - \$650	800 - 4000
Insulate attic (some existing insulation) & seal air leakage paths	\$100 - \$200	650 - 1300
Replace old (pre-'93) fridge	\$70 - \$200	400 - 1300
Replace 15 most used bulbs with CFLs or LEDs	\$70 - \$140	400 - 900
Security Lighting: motion detector	\$30 - \$140	200 - 900

*If heat use is average (i.e. < 860 gallons) rather than high, replacing an old furnace becomes a **lower priority** retrofit measure. See table on last page.

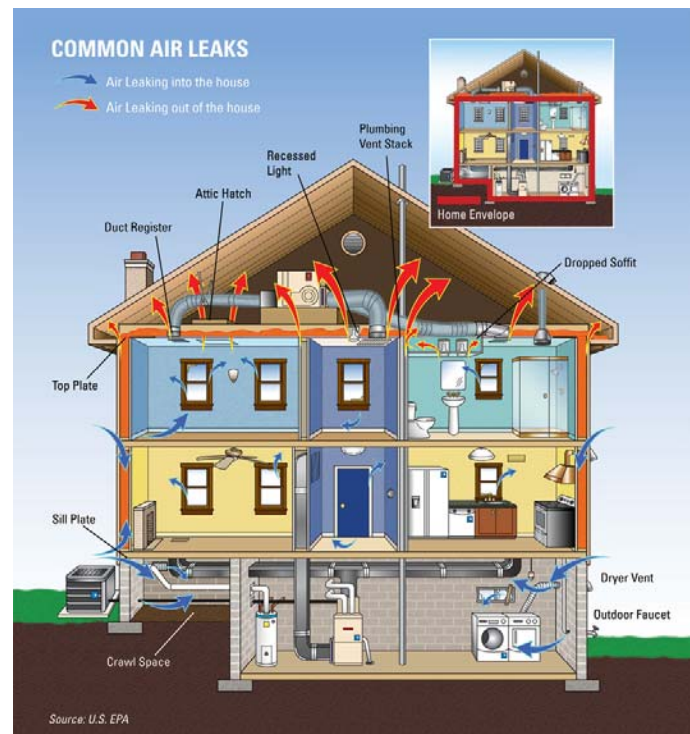
**CFM50: This is the airflow (in Cubic Feet per Minute) needed to create a change in building pressure of 50 Pascals. CFM50 is the most commonly used measure of building airtightness.

Priority Retrofit Measures (Con't)

Retrofit Measure	\$/yr Saved		Lbs CO ₂ /yr	
	Oil Hot H ₂ O	Elec Hot H ₂ O	Oil Hot H ₂ O	Elec Hot H ₂ O
Fix hot water leak	\$70 - \$250	\$100 - \$350	400 - 1600	500 - 2200
Replace old clothes washer 1 load/day (+\$100 due to H ₂ O saved)	\$50 - \$150	\$70 - \$170	320 - 960	400 - 100
Very low flow showerhead (<1.8gpm)	\$10 - \$50	\$20 - \$70	80 - 320	100 - 400

Air Leakage Paths

- Attics & basements usually account for 50 – 75% of air leakage
 - Plumbing stacks
 - Walls without top plates
 - Ceiling height changes
 - Chimneys
 - Soffits
 - Kneewalls
 - Recessed lights
 - Foundation walls
- Windows and doors typically account for just 10 – 15% of air leakage



Lower Priority Retrofit Measures

Retrofit Measure	\$/yr Saved	Lbs CO ₂ /yr
Replace old furnace w/ 92% efficient one if avg. heat use (< 860 gal oil)	\$300 - \$500	1900 - 3200
Replace 15 old windows	\$80 - \$200	500 - 1300
Insulate attic (some existing insulation) WITHOUT sealing air leakage paths (NOTE: Insulating + sealing leaks saves <i>much</i> more!)	\$40 - \$80	250 - 500
Replace old dishwasher	\$25 - \$45	50 - 120
Insulate basement ceiling 1000 ft ²	\$10 - \$130	80 - 800
Caulk/Weatherstrip windows/doors	\$10 - \$50	80 - 300
Seal basement ducts	\$0 - \$100	0 - 650
Tune Up Furnace (annual)	\$0 - \$80	0 - 500
Cool Roof (white roof coating on flat, reduces cooling needs)	\$0 - \$20	0 - 100

The estimated cost savings and CO₂ reductions in this handout are based upon the following assumptions:

- Boston-area weather
- Single family home
- Electric stove
- Heating Oil Price: \$3.65/gal
- Electricity Price: \$0.17/kWh

Questions about saving energy in your home?

Contact Jan Aceti, Concord Light's Energy Conservation Coordinator at 978-318-3151 or jaceti@concordma.gov.



Estimated cost savings and CO₂ reductions are based on energy savings information prepared by M. Blasnik & Associates, under contract to Concord Light. Unless otherwise indicated, the information on air leakage paths was also provided by M. Blasnik & Associates.

November 2011