

# Concord Light's Guide to Saving Energy for Gas Heating Households:



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

### Priority Actions (Pretty Easy To Do)

Action	\$/yr Saved	Lbs CO <sub>2</sub> /yr
<b>Turn Off Electric Appliances vs. 24 x 7 Operation</b>		
- 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
<b>Setback Heat 8°F, 8 hrs/day</b>	<b>\$60-\$130</b>	<b>500-1000</b>

## Actions for the Motivated (Require Active Decision or Sacrifice)

Action	\$/yr Saved	Lbs CO <sub>2</sub> /yr
Lower Heating Thermostat 2°F (24 x 7)	\$60 - \$120	400 - 900
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 - \$170	0 - 1200
	<u>Gas Hot H<sub>2</sub>O</u> <u>Elec Hot H<sub>2</sub>O</u> <u>Gas Hot H<sub>2</sub>O</u> <u>Elec Hot H<sub>2</sub>O</u>	
Shorter/Fewer Showers reduce by 4 min/day	\$20 - \$30    \$20 - \$30	100 - 250    200 - 400
Laundry in Cold for ½ of hot loads	\$10 - \$30    \$20 - \$70	60 - 250    100 - 450
	<u>Gas Dryer</u> <u>Elec Dryer</u> <u>Gas Dryer</u> <u>Elec Dryer</u>	
Clothesline for ½ of loads	\$10 - \$30    \$30 - \$70	100 - 250    200 - 400

## Low Priority Actions (They Work, but Small Impact)

Action	\$/yr Saved	Lbs CO <sub>2</sub> /yr
Cook with lids on pots	\$2 - \$10	10 - 60
Use carafe instead of coffeemaker warmer 1 hr/day	\$5	30
Unplug cell phone charger	\$1	5

## Actions with Minimal to No Impact<sup>1</sup>

Action	\$/yr Saved	Lbs CO <sub>2</sub> /yr
Close refrigerator door quickly	<\$1	≈ 0
Keep refrigerator full, add water bottles, etc.	<\$1	≈ 0
Change furnace filters monthly vs. annually	\$0 - \$25	0 - 170
Clean refrigerator coils	\$0 - \$10	0 - 50
Use ceiling fan in winter	≈ \$0	≈ 0

<sup>1</sup>In 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 <sub>2</sub> /yr
Replace old furnace w/ 92% efficient one if <b>high</b> * heat use (>1200 therms)	\$400 - \$600	2900 - 4300
Insulate empty attic & seal air leakage paths, 1000ft <sup>2</sup>	\$300 - \$500	2200 - 3600
Insulate empty walls with dense pack cellulose, 1000 ft <sup>2</sup>	\$200 - \$350	1500 - 2400
Seal air leakage paths (use blower door to identify leaks → 600-2000 CFM50** reduction)	\$70 - \$200	500 - 1600
--- w/ strategic dense pack cellulose in tricky homes	\$80 - \$400	600 - 3000
Replace old (pre-'93) fridge	\$70 - \$200	400 - 1300
Replace 15 most used bulbs with CFLs or LEDs	\$70 - \$140	400 - 900
Insulate attic (some existing insulation) & seal air leakage paths	\$70 - \$130	500 - 1000
Security Lighting: motion detector	\$30 - \$140	200 - 900

\*If heat use is average (i.e. < 1,200 therms) rather than high, replacing an old furnace becomes a **lower priority** retrofit measure. See table on last page.

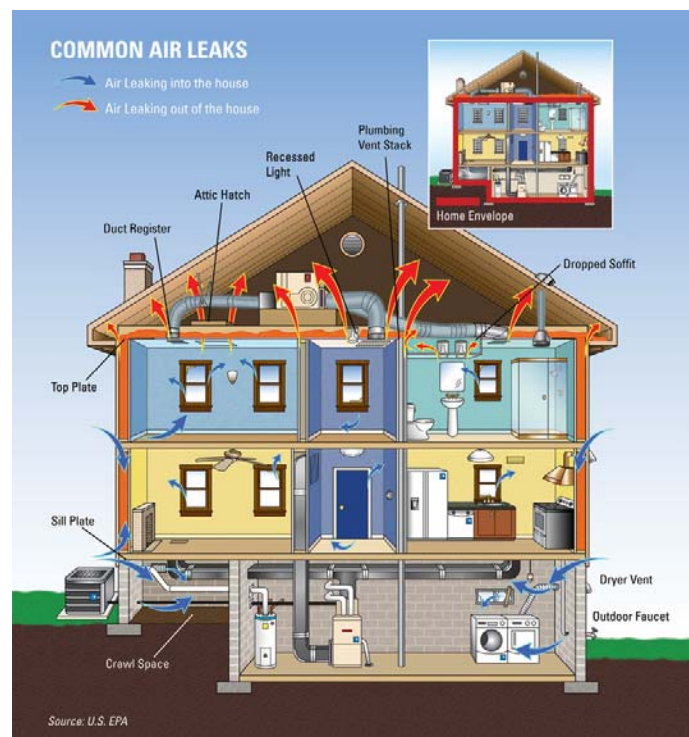
\*\*CFM50: This is the airflow (in Cubic Feet per Minute) needed to create a change in building pressure of 50 Pascals. CFM50 is the most commonly used measure of building airtightness.

## Priority Retrofit Measures (Con't)

Retrofit Measure	\$/yr Saved		Lbs CO <sub>2</sub> /yr	
	Gas Hot H <sub>2</sub> O	Elec Hot H <sub>2</sub> O	Gas Hot H <sub>2</sub> O	Elec Hot H <sub>2</sub> O
Fix hot water leak	\$40 - \$170	\$100 - \$350	300 - 1200	500 - 2200
Replace old clothes washer 1 load/day (+\$100 due to H <sub>2</sub> O saved)	\$30 - \$100	\$70 - \$170	240 - 720	400 - 100
Very low flow showerhead (<1.8gpm)	\$10 - \$30	\$20 - \$70	60 - 240	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 <sub>2</sub> /yr
Replace old furnace w/ 92% efficient one if <b>avg.</b> heat use (< 1200 therms)	\$200 - \$330	1400 - 2400
Install tankless gas water heater	\$70 - \$140	500 - 1000
Replace 15 old windows	\$50 - \$130	400 - 1000
Insulate attic (some existing insulation) <b>WITHOUT</b> sealing air leakage paths <b>(NOTE: Insulating + sealing leaks saves <i>much</i> more!)</b>	\$25 - \$50	200 - 400
Replace old dishwasher	\$25 - \$35	50 - 120
Insulate basement ceiling 1000 ft <sup>2</sup>	\$10 - \$80	60 - 600
Caulk/Weatherstrip windows/doors	\$10 - \$30	60 - 240
Seal basement ducts	\$0 - \$70	0 - 500
Tune Up Furnace (annual)	\$0 - \$50	0 - 360
Cool Roof (white roof coating on flat, reduces cooling needs)	\$0 - \$20	0 - 100

The estimated cost savings and CO<sub>2</sub> reductions in this handout are based upon the following assumptions:

- Boston-area weather
- Single family home
- Natural Gas Price: \$1.65/therm
- 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](mailto:jaceti@concordma.gov).



Estimated cost savings and CO<sub>2</sub> 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.

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