

# Start Saving Today:

## *Devens residents guide to no and low cost strategies to reduce your energy usage*



## What's the Best Investment in Energy Efficiency?

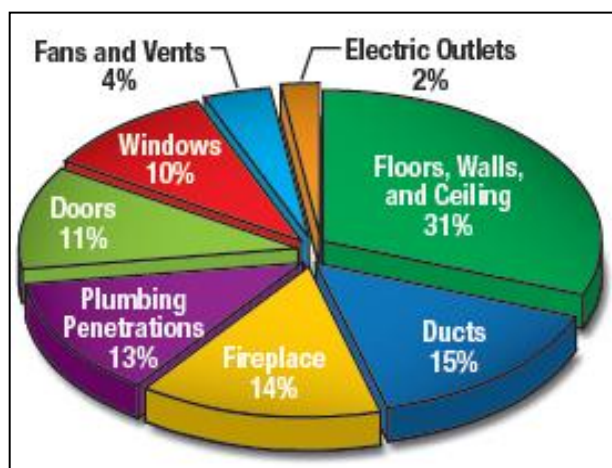
### Caulking, Sealing and Weatherstripping

#### Where do you start?

- ◆ To locate air leaks, all you need is an incense stick or smoke pen and a windy day
- ◆ Hold the stick or pen near locations where there is a possible path to the outside
- ◆ If the smoke streams horizontally – there's a leak

#### Insulate common problem areas:

- ◆ Insert foam gaskets behind electrical outlets and switch plate covers
- ◆ Ensure that the dryer, stove and bathroom vents have an exterior flap that closes tightly when not in use
- ◆ Close the fireplace damper; seal the chimney with an inflatable chimney pillow or foam plug when not in use
- ◆ Weather strip all exterior doors, including attic hatch, bulkhead door, cellar door
- ◆ Caulk and weather strip drafty window frames, seal leaky windows with plastic in winter months
- ◆ Plug and caulk cracks and holes in the foundation and penetrations to siding for wiring and pipes
- ◆ **Weather stripping and caulking can reduce heating and cooling bills by 10%**



#### ***This guide is brought to you by:***

- *The Devens Eco-Efficiency Center*
- *The Devens Enterprise Commission*
- *Devens Utilities Department.*



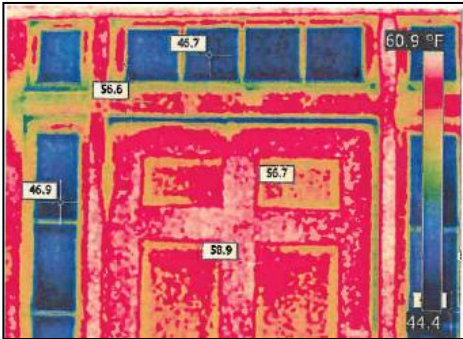
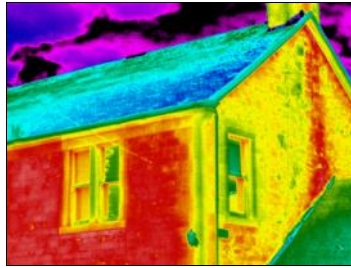
The Devens Eco-Efficiency Center promotes sustainable business practices that provide economic and ecological efficiencies. Visit [www.ecostardevens.com](http://www.ecostardevens.com) to learn more.

## WHAT'S INSIDE:

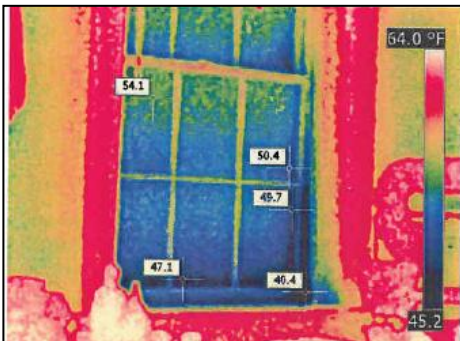
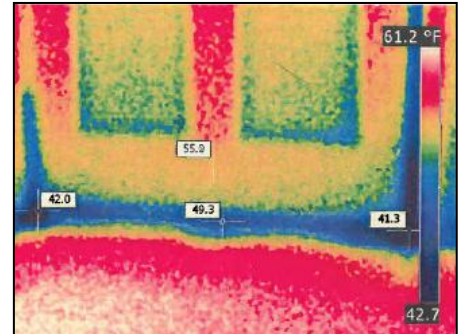
- Findings from energy audits on Devens residences that could apply to your home
- Easy Steps to lower your monthly utility bills
- Reference resources where you can learn more

# Cold Air Infiltration Eats Up Heating Dollars

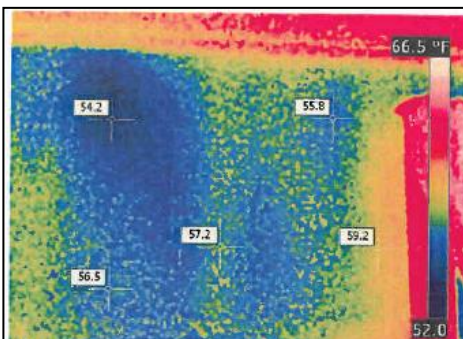
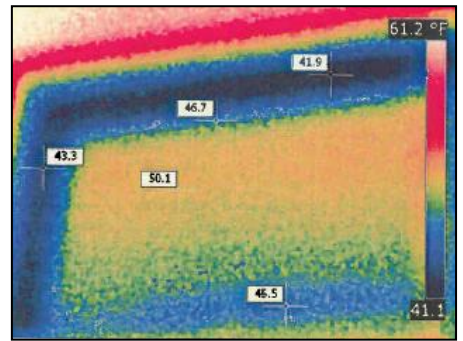
The Devens Utilities Department awarded two comprehensive residential energy audits in a lottery. Infrared scans taken in the colonial and bungalow residences identified areas where outdoor air seeps into the house. Sealing these areas of infiltration will decrease heating needs. The thermal images represent the varying surface temperatures of an area; red areas are warm, blue areas are cold and denote sources of infiltration. Do these problem areas exist in your house?



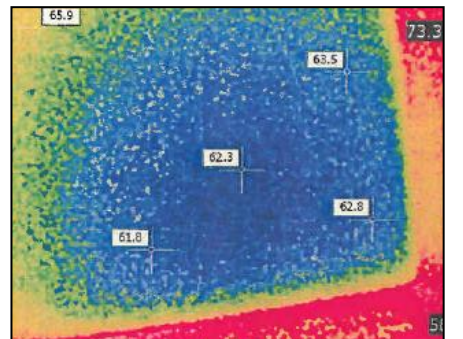
Gaps above (l) and below (r) the front door allow significant drafts into the home.



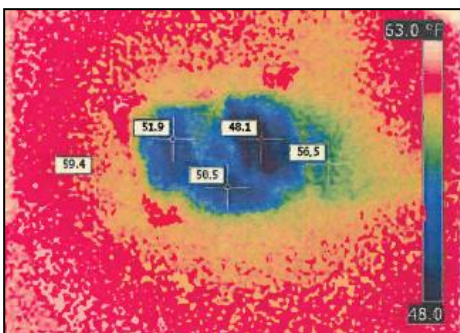
The bottom, sides (l) and top (r) of the window frame are another source of infiltration.



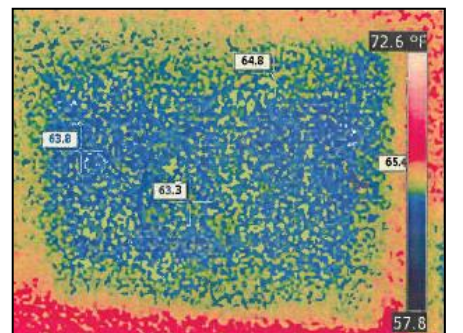
A scan of the space between the windows of the dining room wall (l) indicates that the wall area is not insulated.



The attic hatch (r) is another common source of leakage.



The air conditioning register in the living room ceiling (l) allows cold air inside.



Cold air travels down an unsealed chimney and enters the home from behind the fireplace doors (r).

# Opportunities for Devens Home Owners

The tables below summarize the recommendations of an energy audit conducted in a colonial and bungalow residence and the related savings opportunities. These measures would improve the efficiency of heating and cooling activities by eliminating air infiltration sources identified in the infrared scan (left page) and preventing the loss of conditioned air. The end result is improved indoor comfort and reduced energy costs! Consider the benefits of taking these actions in your home.

Colonial Residence*			
Energy use: heating - 50%, appliances - 43%, hot water - 7%			
Recommendation	Savings	Cost	Payback Years
Window weather stripping	\$395	\$343	.87
Heating pipe insulation	\$199	\$325	1.63
Under-floor insulation	\$109	\$272	2.50
Wall insulation (blown cellulose)	\$1,188	\$5,760	4.85
Attic insulation (8" cellulose)	\$103	\$1,053	10.18

Bungalow Residence*			
Energy use: heating - 54%, appliances - 30%, hot water - 16%			
Recommendation	Savings	Cost	Payback Years
Insulate domestic hot water pipe	\$29	\$4	.14
Attic insulation (10" of cellulose)	\$263	\$1,118	4.26
Attic hatch cover	\$32	\$40	1.24
Wall insulation	\$678	\$3,315	4.89
Replacement windows/doors	\$633	\$5,038	7.96

\*For a copy of the complete report or for more utility information, please contact Jim Moore with Devens Utilities at 978.784.2931 or [jmoore@massdevelopment.com](mailto:jmoore@massdevelopment.com)

## Reference Guides:

Do It Yourself Guide to Sealing and Insulating with Energy Star – [www.energystar.gov/index.cfm?c=diy.diy\\_index](http://www.energystar.gov/index.cfm?c=diy.diy_index)

Energy Savers for Homeowners (US Dept. of Energy) – [www.energysavers.gov/](http://www.energysavers.gov/)

Energy Saver\$ Tips on Saving Energy & Money at Home (U.S. Dept. of Energy) – [www1.eere.energy.gov/consumer/tips/](http://www1.eere.energy.gov/consumer/tips/)

# More Easy Ways to \$ave Energy

## **Kitchen:**

### **Dishwasher**

- Scrape off food, don't rinse
- Only run with a full load
- Let dishes air dry



### **Fridge and Freezer**

- Set fridge to 37-40° and freezer to 5°
- Pack empty freezer area with ice bags to avoid chilling empty space
- Clean the cooling coils twice a year

### **Cooking**

- Match pot or pan with the burner size to avoid unnecessary heat loss
- Don't waste time and energy pre-heating the oven
- Avoid peeking in the oven – it lowers the temperature by 25°-75°
- **Heating food in the microwave uses 80% less energy than using the oven**



## **Phantom Energy Loads:**

- **Phantom energy draw by devices that consume energy even when not in use can account for as much as 10% of the household energy usage.** Culprits include appliances with clocks and devices that can be turned on/off with a remote control
  - Unplug devices that are rarely used
  - Activate the computer's sleep or hibernation mode to decrease its energy draw when not in use
  - Plug devices that are commonly used together (eg, computer and printer, TV and DVD player) into a power bar that can be easily clicked off after use to prevent unnecessary energy consumption

## **Shower:**

- Showers account for more than one-third of the household's hot water usage
- **Install a low-flow or aerated shower head and save up to \$120/year with reduced water consumption and water heating needs**



## **Lighting:**

- Be conscientious of turning off lights when they're not needed
- Replace outdoor lights with a motion-detector equipped bulb or fixture
- Ensure low-use incandescent bulbs are 75 watts or lower
- **Replace high-use incandescent bulbs with compact fluorescent lights – save \$30 over each CFL's lifetime**



## **Washer/Dryer:**

- Only run the wash machine with a full load
- Wash clothes in cold or warm water
- Hang laundry outside to dry when possible
- **Clean the lint trap after each use – improve efficiency and safety and save up to \$25 per year**

## **Water Heater:**

- Set the water heater to 120° (If the hot water becomes too hot to hold your hand under after a few minutes, the thermostat on the hot water heater can be lowered)
- If tank is warm to the touch wrap it in an insulating blanket
- Insulate hot water pipes closest to the tank and raise the temp of running water by 2-4°
- **Insulating the hot water tank and pipes can reduce water heating costs by 7-10%**



## **Heating and Cooling:**

- Use ceiling fans to circulate air and ease heating and cooling needs
- Insulate ducts and pipes in unheated spaces with insulation of R-Value of 6 or better
- Inspect ductwork for air leaks, indicated by dirt streaks, that should be sealed with duct mastic tape
- Clean air conditioner and furnace filters regularly – save up to 15% on heating/cooling costs
- **Turn the thermostat back 10-15% for 8 hours/day and save as much as 10% a year on heating and cooling**

