

Northeast Oklahoma REC's
Do It Yourself
Home Energy Audit
Silver Level

Start today and start saving!

First project (circle and initial when completed) _____

Hot Water
Tank
Blanket



Objective: Install a blanket around your hot water tank.

Incentive: The heat from stored water is lost as it radiates through the walls of the storage tank forcing the heater to kick on more often. By adding an insulating blanket the heat escapes at a much slower rate and better energy efficiency is achieved which will save you energy dollars.

What to do:

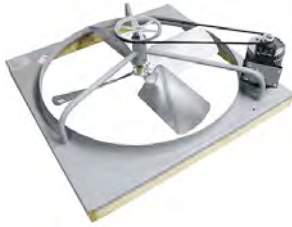
- Determine if you have an electric or gas water heater; purchase the appropriate blanket; install the blanket according to the manufacturer's instructions.
- Also install lengths of foam pipe insulation on the water pipe inlet and outlet attached to the tank. This will add to the energy efficiency for only a couple of bucks more.

Tips: Most water heaters have tanks with only 1" to 1.5" of fiberglass insulation. The latest technology is the Marathon brand from Rheem featuring 2.75" of open-cell foam insulation with a rust-proof tank, and a lifetime warranty.

If you have an electric water heater sitting on a concrete pad, you can increase the energy efficiency of the tank even more by installing an insulation disc under the tank. You can cut a round disc from a sheet of Rigid Fiber Board Insulation. Electric tanks sitting directly on concrete lose large amounts of heat through the floor.

Second project (circle and initial when completed) _____

Whole House Attic Fan



Objective: Making sure the attic fan is insulated and sealed when it is not being used.

Incentive: An attic fan allows air infiltration to and from the conditioned home through the gaps in the louvers. Also, they provide no R-value in the ceiling where you should have R-38. By insulating and sealing the attic fan when it is not in use will add greatly to your energy efficiency.

- What to do:**
- Look on the ceiling to see if you have an attic fan. They are usually located in a hallway.
 - Turn the power off to the fan and install thick batts of insulation over the fan on the attic side.
 - Seal off the gaps by taping a thick sheet of plastic over the louvers from the inside of the home.

Tips: If you plan on installing an attic fan, consider placing it in the ceiling of an attached garage using a screen door between the house and the garage. The problems of air infiltration and lack of insulation won't matter in an unconditioned space like the garage.

If you find you do not use the attic fan any longer, consider: having it removed.

Use a search engine to find special sheets that are available on the internet to seal off the gaps to an attic fan.

Third project (circle and initial when completed) _____

Attic Entrances Inside the Home



Door Entry



Pull-down Stair Entry



Panel Hatch Entry

Objective: Making sure the attic entrance is sealed and insulated.

Incentive: If the attic entrance is not sealed or insulated properly air infiltration and heat gain/loss will occur through the attic. This will greatly affect your energy efficiency.

- What to do:**
- Determine if you have attic entrances inside your home. This could be a panel on the ceiling of a closet, a pull-down stair in your hall way or a walk-through door on an upper level.
 - If you have a walk-through door to your attic, make sure there is weather stripping in place including a threshold seal. To test the weather stripping, observe the edges of the door from the darkened attic to see any light shining through. Visible light means air can get through and the weather stripping needs to be adjusted or replaced. Also consider insulating the attic side of the door with a sheet of foil-faced foam insulation cut to fit.
 - If you have a panel entrance, weather strip the edges where the panel rests and insulate the attic side of the panel with a thick batt of insulation.
 - If you have a pull-down attic stair, consider using a new product to seal and insulate. Use a search engine to find ***Energy Guardian Attic Insulation Covers*** or other similar products on the internet.

Fourth project (circle and initial when completed) _____

Gaps & Cracks Around Windows and Doors



Objective: Seal all the gaps and cracks around windows and doors.

Incentive: Air infiltration can rob your home of energy efficiency. Harsh outside air (heat or cold) can enter your home through gaps and make you uncomfortable. Conditioned inside air can escape your home and leave your air conditioner or heater running non-stop.

- What to do:**
- Walk around the exterior of your home to look for gaps & cracks around the windows & doors.
 - Use caulk to fill small cracks and gaps. If you have large voids you might want to use spray foam insulation to fill them.
 - If you already have caulk around your windows, check for cracks in the caulking and reapply by pushing new caulk into the small crevices with your finger.

Tips: A little prevention goes a long way. A 1/32" crack around a standard window can amount to a 6 square inch hole in the side of your home and that is just one window.

In some cases there are gaps along the inside trim of a window or door. On a windy day, Turn off all fans and the air conditioner or heating unit. Tape thin strips of tissue paper where you suspect there might be a draft. If the paper moves this is an area of air infiltration. Use caulk to seal the gaps taking care to not seal the door or window shut.

Fifth project (circle and initial when completed) _____

Seal Outlet & Switch Plates



Objective: Install electrical outlet and switch plate insulator gaskets to drastically slow down the flow of air infiltration.

Incentive: Harsh outside air infiltrates the walls of the home and enters your house through the openings of the electrical outlets and switches. This will affect the home's interior temperature in a negative way causing the climate control unit to operate more often than necessary, costing you more energy dollars.

- What to do:**
- Purchase UL approved electrical outlet/switch box insulating gaskets.
 - Turn off the appropriate breakers at the panel box so the electric will not be flowing to the outlets and switch boxes you will be working on.
 - Remove the outlet and switch plates.
 - Press the appropriate gasket in to place.
 - Re-install the plate back in place.

Tip: For new construction, use spray foam insulation to insulate the space between the back of the electrical outlet/switch box and the drywall/plywood behind it (before batts of insulation are installed or before wall insulation is blown into the stud cavity).

Sixth project (circle and initial when completed) _____

Changing Air & Heat Filters



Objective: Change or clean your filter(s) every 30 days.

Incentive: Dirty air can cause a build-up of sludge on your climate control system and rob it of its energy efficiency.

- What to do:
- Consult the handbook or guide that came with the climate control system.
 - Remove the filter according to the manufacturer's instructions.
 - If the system has a permanent filter, clean and replace it according to the manufacturer's instructions. If it does not have a permanent filter, replace it with a clean, cheap filter, available at most hardware stores.

Tip: Use a cheap filter and change it every 30 days. An expensive filter is normally tighter and restricts the amount of air that can flow through it. This can place a burden on the climate control system's fan. The system is configured to operate with a certain amount of air intake. Without the proper flow, the system will not operate at the peak efficiency at which it was intended. Also, if the system cannot draw enough air flow through the filter, it will seek other sources of air and can produce enough pressure to cause tears/gaps in the ductwork. If the ductwork is in the attic, this will introduce harsh air into your home and drastically reduce your energy efficiency.

Seventh project (circle and initial when completed) _____

Cracks and Gaps in Exterior Walls



Objective: Check for cracks and gaps in the exterior walls.

Incentive: Air infiltration can enter the home through any gap or crack in an exterior wall. The harsh air can travel through any wall to any room and make it difficult for your heating/air conditioning system to keep up. Wind can make this problem even worse. Conditioned air from the inside can escape to the outside through the same gaps or cracks.

- What to do:**
- Apply caulk to gaps around electrical conduit and pipes coming through the wall.
 - Apply masonry caulk to fill gaps in the mortar joints of brick or stone facades.
 - Apply caulk to gaps around the dryer vent exhaust assembly and pipe exiting through the exterior wall.
 - Apply caulk to gaps in the wall around light fixtures, wall hydrants, cable entries, and telephone wires.
 - Apply caulk under exterior sills of brick or stone beneath windows.
 - Apply caulk in gaps under door thresholds.

Tips: Acrylic Latex caulking is long lasting and can be painted.

Use spray foam insulation to partially fill larger holes. Let it dry and then finish filling in the gap with caulk. This will give you a more professional look.

Eighth project (circle and initial when completed) _____

Extra Refrigerators & Freezers



Objective: Unplugging extra refrigerators and freezers.

Incentive: Unplugging seldom-used fridges and freezers equals instant savings and immediately improves the energy efficiency of your home.

- What to do:**
- Inventory the items inside your extra refrigerator(s) and consider if you really need it.
 - Consider if keeping that bottle of beer cold in the garage is worth \$90 per year. An older chest-type freezer costs about \$65 per year to run.
 - Disable the latches of all refrigerators and freezers you no longer use for the safety of children. Consider removing the doors all together. Check with your state's public safety agency for tips on the best way to disable and store all unused appliances.

Tips: Check your freezer for ice that has collected passed the seal. This could be a sign the seal needs to be replaced.

Brush off the coils of your refrigerators and freezers to improve their energy efficiency.

Refrigerators and freezers sitting on porches or in garages use more energy since they are exposed to outdoor temperatures

Ninth project (circle and initial when completed) _____

Canned/ Recessed Lighting



Objective: Check the canned/recessed lighting for air infiltration.

Incentive: Making sure the recessed lights in your home or business are not vented. A canned light with vented housing allows conditioned air to escape into the attic which reduces your energy efficiency and costs you energy dollars.

- What to do:**
- Turn on all the recessed lights. Climb into the attic. Turn off the attic lights and look for light coming from the attic floor. If there is light, the fixtures are probably vented and you are losing conditioned air into the attic. (Note: the light you see could be coming from bathroom vents.) If the fixtures are covered with insulation, you will not be able to see any light. This could be a safety concern. Consider changing to cfl bulbs to reduce the heat.
 - Have a licensed electrician install non-vented recessed fixtures to replace the vented ones.
 - Or, there are two ways to improve them. (1) Construct a 5-sided box from drywall and place it over the fixture on the attic side. (2) You can also place a length of stove pipe over the fixture on the attic side and cap the top of the pipe with a panel of drywall.

Tip: Certain recessed lights require that insulation and all combustible materials (in the attic) be pulled away several inches from the fixture's housing. This is due to safety concerns caused by the heat generated by an incandescent or halogen bulb. If you use a CFL light bulb, heat is not a problem.

Congratulations!

You have completed the Northeast Oklahoma Electric Cooperative's
Silver Level Home Energy Audit.