

Auditing Efficiency

Checklist helps identify common areas where energy can be saved

REMODELER JEFF GELLER, owner of Built Right Renovators, in Amityville, N.Y., uses the checklist below as a customer service tool that helps to distinguish his remodeling business in a competitive market.

The checklist audits the condition of common areas where homes waste energy and water. Geller couples it with a free “Green Home Conversion Kit” — tubes of sealant

and cans of spray foam insulation, among other items, for spot DIY energy-efficiency improvements — brought as a leave-behind on a first visit to a prospect.

“The offer of the free kit helps get me in the door,” Geller says. “I ask if I can conduct the audit when I’m there,” a tactic that often leads to a redefinition or expansion of job scope. It usually reveals

improvements that cost less and have a better return on investment than the cosmetic remodels Geller is called to estimate and, he says, “it positions me as an expert,” creating trust that “goes beyond the price of the job.” Geller prices the items he identifies for improvement depending on existing circumstances. —*Rich Binsacca is a freelance writer in Boise, Idaho.*

Seal Up

Air leaks through the exterior envelope are most obvious at mechanical service penetrations, such as where lines for natural gas, water, and electricity enter the house. In fact, all penetrations into the envelope should be sealed with caulk or expanding foam insulation.

Strip It

“Few doors have perimeter weatherstripping,” says Jeff Geller, that, or it has worn away or shows gaps that render it ineffective. His “Conversion Kit” includes a roll of weatherstripping, but usually not enough to cover the extent of what the audit uncovers.

Low-Cost Option

Owners with old windows often balk at the cost to replace them for energy efficiency, so Geller offers to apply a thin layer of clear plastic over the inside panes that shrinks to the window as a thermal barrier.

BUILT RIGHT RENOVATIONS, INC.

Green Home Conversion Audit

- EXTERIOR AIR LEAKS**
 - Cracks in the siding
 - At windows and doors
 - At kitchen and bath vent fan louvers
 - At dryer vents
 - Holes for mechanical services and equipment
 - Openings along the underside of the lowest course of siding
 - Other unsealed openings
- WEATHERSTRIPPING**
 - All exterior doors and storm doors
 - Door sweeps and thresholds
- INTERIOR AIR LEAKS**
 - At the top of the foundation wall
 - At the wood framing that runs above, around, and through doors, windows, and baseboards
 - At electrical receptacles and switches mounted on exterior walls
 - At fireplace(s)
 - At laundry chutes
 - At attic hatchway doors and pull-down stairs
 - At whole-house fan installations
 - At pipe and wire chases
 - At the HVAC filter
- WINDOWS**
 - Leaks in main floor windows
 - Leaks in 2nd floor windows
 - Leaks in basement windows
 - Leaks in storm windows
 - Unused windows that could be sealed off
 - Potential candidates for plastic energy-saver
- CLEANING AND MAINTENANCE**
 - Refrigerator coils
 - Furnace filter(s)
 - Baseboard heater filaments
 - Ducts
 - Obstructions at A/C condenser
- INTERFACE OF SIDEWALL/PORCH/GARAGE WALL**
 - Leaks in bottom of wall(s) and door(s)
 - Leaks in wall penetrations
 - Missing or inadequate insulation
- ICE DAMS**
 - Evidence of ice dams (visual inspection from the ground)
 - Recessed can lights intruding attic space
 - Skylight or roof window penetrations
 - Vents and exhaust penetrations through the attic
 - Proper roof ventilation
 - Proper attic insulation
- ATTIC SEALING**
 - Holes from conditioned space below for mechanical runs
 - Air spaces around lighting fixtures, electrical junction boxes, and exhaust fans
 - Where partition walls intersect with the attic-floor framing
 - Bulkheads over kitchen and bathroom cabinets
 - At chimneys/flues adjacent to or through attic
- ATTIC INSULATION**
 - Depth of attic insulation
 - Coverage of attic insulation
 - Dormers, bonus rooms, or above an attached garage
 - Around attic door and/or pull-down stairs
- WATER CONSERVATION**
 - Age of water heater (debris to be drained?)
 - Missing or inadequate pipe insulation
 - Missing or inadequate water heater insulation
 - Low-flow showerheads
 - Faucet aerators
 - Sweating or leaks around toilets

Cause for Catastrophe

Common in the Northeast, ice dams form when snowmelt freezes and dams up at un-insulated or unvented eaves. As the ice melts, water can wick under the shingles and down the sidewalls, leading to extensive (and expensive) rot. Soffit to ridge venting and adequate attic insulation help to mitigate the problem.

Heat Loss

Up to 65% of a home's heat loss is through the attic. Sealing and/or insulating penetrations into the attic floor and roof can eliminate most of that thermal transfer and reduce heating energy use in conditioned spaces.

Energy & Water

Insulated hot-water pipes not only mitigate heat loss through the pipes but also help reduce the time it takes hot water to reach a tap or showerhead (“lag time”), which saves water, too.