BY JANET LIVELY

Special to the Record-Eagle

Home heating bills giving

you chills? Button your sweater and grab the caulk.

Big increases in heating costs this winter — natural gas bills are up \$18 to \$20 a month while propane and heating oil cost 17 percent more — mean that energy conservation measures will yield greater returns than

Simply plugging the leaks around windows, doors, pipes and ductwork can cut heating costs by 10 percent, according to the U.S. Department of Energy. In older, leakier houses, the savings is even greater, says Don White, weatherization coordinator for the Northwest Michigan Human Services Agency, which helps low-income people with heating costs.

"Infiltration is the No.1 problem we encounter, and the first \$100 we spend is devoted to an infiltration program," White said.

About half the total savings realized by many of his clients is a result of this basic weatherization work.

Installing a programmable or setback thermostat is another relatively inexpen-

sive and easy way to save. Because you'll never forget to dial down when you leave for work or go to bed, you can expect to cut bills by 5 to 15 percent, accord-

ing to the DOE. But even if you already have a programmable thermostat and your windows are airtight, you can still find ways to cut your bills, depending on how much time and money you have to

Free

■ Reverse ceiling fans. Moving air towards the ceiling helps warm rooms in

- the winter. ■ Remove window air con**ditioning units.** If they're
- too hard to take out, make sure they're covered and insulated. **■ Close the damper** on
- your fireplace when the fire is out.. If your fireplace has glass doors, keep them closed, too.

Under \$50

■ Seal windows. A continuous bead of caulk applied between the glass and casing provides an excellent barrier — as long as it's a good-quality caulk, White said. He recommends a

that costs around \$5 a tube.

Big and small ways to turn down heat bills

"Shrink-wrapping" windows is another option, said Shawn O'Brien, operations manager at Ace Hardware on Front Street in Traverse City. The plastic sheeting, which costs \$3 to \$4 per window, is applied with a hair dryer. Don't forget to seal attic and basement windows, which are often the oldest and leakiest in a house.

- **Seal doors.** Felt weather stripping costs a few dollars per roll and is easy to apply. New thresholds, which cost around \$15 each, are another cheap and simple fix, O'Brien said.
- Plug the holes.
- Remember that cold air can also leak in around pipes and wires. Most hardware stores sell foam gaskets that fit behind switch plates. Holes around pipes and vents can be sealed with caulk or weather strip-
- Replace furnace filters. You furnace will run better and cheaper if you replace its filter regularly.

Under \$100 ■ Schedule a furnace

tune-up. Heating contractors will make sure your water-based silicon product system is running efficiently and, more importantly, safely.

■ Install a programmable thermostat. The units cost between \$30 to \$100 but will pay for themselves in four years if used efficiently, according to the DOE. Of course, you can achieve the same savings by regularly dialing back a manual thermostat, says White, who cautions that not all programmable thermostats are compatible with all heating systems. Unless you're willing to read directions and specifications carefully, you should probably hire a contractor, he said.

It all depends

- Get your ducts in a row. Uninsulated ductwork in unheated basements is a common energy waster, said Frank Sturm, owner of Sturm Heating & Cooling Services Inc. in Traverse City. Leaky ductwork also wastes heat and can contribute to indoor air pollution. Some sources say homeowners can fix these problems with duct tape and batt insulation, but others recommend having a heating contractor apply a more permanent seal.
- **Check your attic.** More insulation in the attic may

reduce heating costs, but only if there aren't other trouble spots, White said. Drafts between the house and the attic should be sealed, and the attic itself must be ventilated, he said. When a roof makes a lot of ice, the result of having too much hot air in the attic for too long, it's probably a good idea to call a contrac-

Serious money ■ Replace your furnace.

Because of the price from \$2,000 to \$5,000 for natural gas units that are at least 90 percent efficient few people will take this step before they have to. But once you're at that point, it pays to buy the most efficient furnace you can afford, Sturm said. The good news is that your replacement furnace will probably have a smaller capacity, since most older units are oversized. Sturm said. The bad news is that most houses need bigger duct systems. Insufficient airflow, an all-too-frequent problem, will shorten the life span of even the best furnace, he said.

Janet Lively is a local freelance writer.

Dialing down

Choose the correct answer:

- If your house gets too cold, the extra energy required to warm it back up will offset any savings.
- You always save money by dialing down your thermostat.

If you chose "none of the above," you agree with the U.S. Department of Energy.

Dialing down your thermostat only to turn it right back up, doesn't do any good, according to the DOE. That's because the amount of energy saved by lowering the temperature of your house is just about the same as the amount of

energy used to reheat it.

However, you will save energy if you leave your thermostat at a lower temperature for an extended period of time, say between four and eight hours. While the "cooling down" and "heating up" periods offset each other, you will use less energy once the house stabilizes and stays at a lower temperature. The DOE claims you can cut your energy costs by 1 percent for each degree you lower your thermostat, as long as the setback period is eight

— Janet Lively

Toilet makers hope new models will bowl customers over

BY BOBBI IGNELZI

Copley News Service

Toilet talk isn't generally considered socially accept-

But that was before powerful low-flows and luxury loos. Today's high-tech toilets offer everything from super siphoning, able to swallow 14 golf balls in one flush, to pampering features like a cleansing spray and heated seat that transform a personal necessity into a spalike experience.

Newly designed, more efficient toilets spell "relief" for anyone who's been battling the first generation of low-flow toilets introduced when the Energy Policy Act went into

Hardware Store"

effect a decade ago. In an effort to save water and improve municipal wastewater system production, residential toilets were required to be manufactured using only 1.6 gallons of water per flush — just a trickle of what Americans were used to.

But, as many people found out, water-saving doesn't necessarily mean labor-saving. For the last 10 years, there's been a lot of clogging, plunging, scrubbing and double flushing.

"If you ask Americans what they want in a toilet, they tell you they never want to have to deal with it," said Gary Uhl, director of design for New Jersey-

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based American Standard. "They don't want to clean it, they don't want to hear it, and they never, ever want to unclog it."

After listening to customers complain about lowflow performance over the past few years, his company came up with the Champion, a toilet that conserves water and promises no clogs.

The Champion has a reengineered tank and a new flushing technology. The old floating ball and chain system was replaced with a flush tower that's designed to forcefully release 1.6 gallons of water per flush in under a second.

The trapway, or outgoing path from the bowl to the outlet, is also a quarter-inch Standard, which increased larger than conventional toilets, which means no

choke points to trap waste. The Champion also features an extra-large 3-inch flush valve (compared to the industry standard of 2 inches), allowing more water to enter the bowl faster and more powerfully.

Plus, the redesign softened the curves in the Champion's water tunnel to keep the flow as direct as possible.

"The flow, combined with the larger trapway and flush valve, provides enough water to establish a powerful siphon effect," Uhl said, noting that this toilet is the first to offer a lengthy 10year warranty. "The Champion toilet lets you get

rid of the plunger. When you flush the toilet, you can walk away with confidence and not have to look back."

The Champion, which retails for about \$249 (about \$100 more than a traditional flapper toilet).

High Seats

The American Standard Champion is not alone in the high-tech/low-flow marketplace.

This year, Kohler introduced its Cimarron toilet, claiming it's the first "commercial-grade" toilet offered for residential use that can save more than 2,000 gallons of water a year

Unlike American efficiency through redesign, Kohler simply made things bigger and wider in the Cimarron, which retails for about \$240.

The size of the flapper increased from 2 inches to 3 inches, "releasing a large volume of water all at once and creating incredibly strong flushing power," according to Ed Del Grande, Kohler's master plumber.

And, Cimarron's flush valve was expanded to 3 inches — the largest in the industry.

"Plumbers like this toilet because they understand how it works. Some other completely redesigned toilets can scare the average plumber because they don't know how to fix it," Del

Grande said, noting that this model uses only 1.4 gallons of water per flush. "But, when they take off the lid of the Cimarron, everything is similar to what they're used to. It's just bigger."

Despite advanced technology and system redesign, the Champion and Cimarron look just like most other toilets, except for one subtle ergonomic difference. The seats are higher.

To accommodate the elderly and creaky-jointed baby boomers, American Standard raised the bowl height to 16 inches, while Kohler hiked theirs up to 17 inches. That's more than 1 inch to 2 inches taller than traditional toilet bowls.

Hot Seats

However, if you're interested in more than just efficiency and water conservation, try a toilet by Toto and you'll quickly realize you're not in Kansas anymore.

The Japanese toilet maker's high-tech tankless toilet/cleansing system, the Neorest, turns an ordinary accommodation into an extraordinary experience.

The \$5,000 commode senses when a user enters the room and automatically raises the toilet lid and gives the bowl a preparatory flush. If a man stands before it and touches a button on the control panel, the toilet quickly raises the

The Neorest features a heated seat, spray deodorizers and warm jets of water to delicately cleanse the most sensitive spots. There's even a pulsating water massage option for the truly self-indulgent. And, to top it all off, a stream of warm air gently dries you.

"With the drying cycle, there's really no need for toilet paper. You're not only saving water, you're saving trees," said Lenora Campos, spokeswoman for Toto's American sales office in New York

Walk away from the unit and within three seconds it automatically flushes. Within another 60 seconds, the seat closes.

For trigger-happy Americans, it even comes with a remote control.

The Neorest isn't just about style, it also offers engineering substance. Toto toilets don't simply flush, they have a "cyclone flush engine" that produces a carefully calibrated sequence of three flushes.

During the first stage, a nozzle at the back of the bowl fires a high-speed stream of water that scours the rim in a cyclonic motion. The second stage increases the water volume of the rapidly rotating current and scrubs the bowl clean. Finally, there's a second rim scouring and the bowl's surface water is restored.



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