

# All fired up over corn, coal

*Rising oil and natural gas prices kindle interest in alternative fuel*

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On chilly nights, after he tucks 3-year-old Grace into bed, Mark Flory turns up the heat the old-fashioned way. He checks the flame in the downstairs stove, lifts the lid and pours in a big bucket of dried corn.

It could be a scene from a century-old farmhouse on the prairie. But Flory, his wife and their little girl live far from the American heartland in a congested suburb inside the Capital Beltway.

Nevertheless, like a small but growing number of homeowners nationwide, the Florys are keeping their Takoma Park house cozy this winter by burning dried, shelled corn. They belong to a Takoma Park corn-buying cooperative that's quickly attracting new members: It boasts 33 families and a storage silo in town.

Fed up with high heating bills, some homeowners are shutting off their furnaces and switching to stoves that burn fuels earlier generations used: coal, wood, feed corn, even cherry pits.

"It's a lot cheaper than natural gas," says Flory, 48, a state and local liaison for the Environmental Protection Agency, who heated his two-story brick house last winter with nothing more than \$360 worth of corn.

The year might have gotten off to a balmy start, but stove dealers were doing a brisk business even before sudden snow squalls blew through the region yesterday and a significant storm began blanketing Western Maryland. As much as 10 inches of snow was forecast by early today for some ridgetop areas.

It's not just environmentally minded folks who are turning to organic fuels. Last fall, as natural gas and oil prices soared in the aftermath of Hurricanes Katrina and Rita, scores of worried homeowners around the country rushed to buy modern versions of the cast-iron stoves that first became popular during the 1970's energy crisis.

In Boyertown, Pa., near Philadelphia, Groff's Stove Shop doubled its sales of coal stoves, selling out all 40 by Christmas. In Council Bluffs, Iowa, Jerry and Betty Jackson's corn-stove dealership shipped 100 stoves to customers across the country; they're taking orders for next year. And in Western Maryland, Ed Bodmer sold off his floor models of stoves that burn wood pellets - uniformly sized chunks of compressed wood that burn far more efficiently than logs.

"They can't build them fast enough this year," says Bodmer, who had to return a few down payments when stoves took too long to arrive, something he hadn't done since he opened in

1978. Bodmer expects to get his first shipment of pellet stoves in a month but already has a waiting list.

Manufacturers are busy ramping up production of the pellet, coal and corn stoves, which cost \$1,800 to \$4,000. In Maryland, as in many areas, wood pellets are hard to find.

"Before we could get them, everyone else did," says Bob Shaffer, a computer technician in Cresaptown, who searched for weeks before finding pellets, typically made from waste wood such as sawdust or saplings cut by road crews.

He wound up paying \$180 a ton, \$30 more than in the past. But that hasn't dampened Shaffer's enthusiasm for the pellet stove he installed when he threw out his oil furnace eight years ago.

"I've always loved a fireplace," he says. "Here, you've got the look of a fire, but the fuel is convenient. You just dump it in. You can start [the stove] in a couple of minutes and adjust it from blazing to almost nothing."

Once rarely found except in cabins and farmhouses, stoves that burn old-time fuels have been redesigned in recent years to be more efficient - and sleek enough to fit in upscale homes.

Despite their growing popularity, such stoves make up only a tiny fraction of the home heating market.

In Maryland, for example, nearly half the 2.2 million households use natural gas, according to a 2003 census survey. Electricity heats 681,330 homes, the survey found, followed by oil in 296,061 homes. By contrast, wood was used by 27,307 of those surveyed and coal by 6,240.

That's because alternative fuels aren't always as practical or cheap as they might seem, says Dennis Buffington, a professor and expert on corn stoves at Pennsylvania State University's agricultural college.

Coal is often considered dirty, he said, though today's tightly sealed stoves let virtually no dust escape. And corn can attract mice, birds and squirrels if it's not properly stored.

"It's not for everybody," says Buffington, who has created a model comparing the cost of burning corn with conventional fuels. "Corn can be cheaper and it's a renewable resource. But it depends on where you live."

For a farmer, a \$3,000 corn stove can quickly pay for itself in saved heating expenses. But for a suburbanite, Buffington said, it might be less cost-effective and a hassle.

The corn that's burned is the type usually used to feed livestock and is a tougher variety than the sweet corn that people eat. It sells for about \$2 a bushel in the countryside but can cost \$6 at a feed store.

It takes about a bushel a day to heat a home, so corn burners usually stockpile 25 bushels or more at a time, a lot to keep dry and rodent-free.

Given the spike in fuel costs this year, though, corn is a good buy. (To compare alternative and conventional fuel costs, see Buffington's cost model, the energy selector at [burncorn.cas.psu.edu](http://burncorn.cas.psu.edu).) Corn has been running about half the price of natural gas; coal is even less. Wood pellets, while scarce, are still cheaper than conventional fuels.

If projections by the U.S. Energy Information Administration prove true, consumers will spend 24 percent more for heating oil than last year - and 38 percent more for natural gas.

Such predictions have prompted homeowners such as Jim Muzyka, 40, a retail manager, to consider organic fuels a common-sense choice.

In October, Muzyka invested in a \$4,000 pellet stove and loaded up bags of pellets in his basement. It's paying off: The stove comfortably heats his four-bedroom home in Bel Air.

"I haven't run the furnace since I got it," he says happily. "No matter what the oil prices are, now we have an alternative heat source."

Stove-making began as a backyard business during the 1970s oil embargo. Since then, it has matured into a national, EPA-regulated industry that sells brand-name appliances.

But it's still simple household economics that drives sales, says Don Johnson, a statistician at the Hearth, Patio, Barbecue Association, a national trade group.

"If you're a consumer and want to heat your home more efficiently when traditional fuels are high, then these types of products come to the forefront," he says. "It's cyclical, and right now, we're in a positive upswing."

Johnson has the numbers to support that. Sales of alternative fuel appliances climbed 16 percent in the first three quarters of 2005. Pellet stove sales doubled during that time, to 66,000. And corn stove sales, according to American Energy, the largest supplier, jumped from 65,000 in 2004 to 150,000 last year.

In Maryland, an increasingly suburbanized state that is steadily losing farmland, corn burners have not caught on as fast as pellet stoves. Coal is even rarer here, though it is often the cheapest fuel. It burns hotter than wood or corn and costs \$160 a ton. Corn is second in efficiency; wood pellets come in third and cost about \$180 to \$200 a ton now but often have gone for less.

For some, it's not about the savings. Dennis Walters, 60, retired to Frederick County, built his own home and installed a coal bin under the deck. It was his dream, he says, so he "decided to get a coal stove, do some farming and have some horses."

Early last fall, after oil refineries shut down in the hurricane-battered Gulf Coast, two men on opposite ends of Maryland had similar epiphanies.

In the rolling countryside outside Cumberland, Dan Twigg, a cattle farmer and father of five, spent \$700 to fill his oil tank. "All our extra money was getting tied up with heating costs," he said.

Meanwhile, in the crowded Washington suburb of Hyattsville, Jim Groves, an employee of the National Education Association and father of two, worried about heating his poorly insulated brick home.

As he stared across the cornfield, Twigg knew what to do - and let the last of his crop dry on the stalk.

And as Groves drove past the Takoma Park silo, built by the co-op when it started in 2001, he figured the time was right to sign up.

Today, after equally long searches and repeated calls to stove suppliers, both men have corn burners. Twigg's stove is in the basement, next to his girls' bedrooms. Groves' stove is tucked in the living room fireplace.

Both men like to fiddle with the stoves and watch the corn drop steadily into the flame. Both can't wait for the weather to get colder; Groves even wants to have a party to show off his corn stove.

"I expect to pay myself back," says Groves. "If costs go much as they say and it does get cold, it could pay for itself in five years."

Twigg, of course, is even more fortunate. He has to clean out ash every day, more than he expected because his corn isn't quite dry enough. But the stove is "pretty slick," he says. It's odorless and quickly heats his ranch-style home.

Best of all, the fuel is almost free.