

A Surprisingly Common Cause for High Energy Bills

Posted by Allison Bailes on Fri, Sep 27, 2013



She lives in a small, simple house in southern Mississippi. It's only 1,700 square feet. Why then, she wondered, were her summer electricity bills running more than \$600? She didn't have anything that could be a big energy hog, like a swimming pool, and she didn't do stupid things like leave all the doors and windows open while she ran the air conditioner. What could it be?

She called her electric company, one of the co-ops in Mississippi, and they sent someone out to investigate. Utility companies get calls like this all the time and they've learned from experience what most of the main causes of high bills are.

When the utility investigator arrived at the house, he asked her to tell him anything she knew that might help him. She said, "The air conditioner runs all the time but the house won't even cool down to 80 degrees."

"Ah, that helps to narrow it down a bit." He went to work, and it didn't take him long to find the problem. He measured the temperature drop across the air conditioner coil and found that the air on the 'cool' side wasn't much lower than the air on the warm side. And both were much warmer than they should be.



Disconnected Duct



Heat Strip

That could be a disconnected duct in the attic like the one from a different house that you see above. A look in the attic, however, showed that wasn't the case here. Besides, a disconnected duct would increase the bill, but it almost certainly wouldn't quadruple it.

His next step was to turn off the breaker to the [electric resistance heat](#) (better known as strip heat) in the HVAC system. This is basically a giant toaster inside the air handler. Heat pumps use it for

supplemental heat. In some homes, it's used as the primary heat source. It's not cheap, though, especially considering that the same electricity going into a heat pump will yield two or three times more heat.

Anyway, the utility investigator turned off the breaker and watched what happened to the meter. In the summer time, turning off the strip heat should have no effect at all on how fast the meter spins because it shouldn't be running. Strip heat is for cold weather.

In this case, the meter went from spinning fast enough to saw wood to moving as slow as a beetle going for a walk in the woods.

"Well, we found your problem, ma'am," he told her. "Your heating and cooling system was doing both at the same time, making you spend a lot of money to stay uncomfortable."

This problem often results from a thermostat wired incorrectly so that the system kicks on the strip heat when it shouldn't. Since anyone can go down to the home improvement store and buy a thermostat, a good number of these problems result from DIY jobs.

It seems crazy to think that someone wouldn't notice that the heat is running in their home in summer, but they don't feel heat coming out of the vents. That heat gets mixed with the cool air from the air conditioner. They cancel each other out, both using even more energy because they're fighting each other.

Got high electricity bills in summer that you don't understand? Check your strip heat.