

If My Home's Heat Pump is Efficient, Why is My Electric Bill Higher This Winter?

If you use an electric heat pump to heat and cool your home, congratulations! You've chosen one of the most energy-efficient methods to heat and cool your home. Heat pumps are a popular choice in North Carolina due to our relatively mild winter climate.

During the summer and mild winters, heat pumps keep your home comfortable at an affordable price. Heat pumps warm your home by extracting heat from the cold air outside and releasing it inside the house. The heat pump is very efficient when the outside temperature is above 40 degrees. But, when the temperature dips below 40 degrees, heat pumps become less efficient and more expensive to operate.

Here's why:

As the outside temperature dips below 40 degrees, the heat pump becomes less efficient and cannot keep your home at a comfortable temperature. However, the versatile heat pump has a fix to heat your home up quickly – auxiliary heat strips. Auxiliary heat strips supplement the heat pump and produce warm air to quickly heat your home. Those heat strips use substantially more energy and will increase your electric bill.

You may wonder why temperatures below 40 degrees cause heat pumps to become less efficient. It is simply that the heat your house is losing is greater than the amount of heat the heat pump alone is able to provide. This is typically when the auxiliary heat starts operating thus the efficiency begins to drop. Even with this limitation, heat pumps are still an excellent option in this part of the country, where average winter temperatures are usually around 40 degrees.

How Can I Tell if the Auxiliary Heat Strips are Running?

If you have an electronic thermostat, you should see a message such as “Auxiliary Heat On.” Standard thermostats will have an indicator light that lights up when auxiliary heat is on. If either thermostat indicates auxiliary heat is on when temperatures are above 40 degrees, this could indicate a problem with the heat pump and a qualified service technician should be called.

How Can I Limit Auxiliary Heat Strip Use?

First, make sure you do not make adjustments greater than 3 degrees to your thermostat at a time. Doing so will cause your auxiliary heat to engage. If you set your thermostat back at night, only do so if you have a programmable thermostat that is designed for heat pumps.

DO NOT use a space heater to supplement your heat pump. Portable space heaters are very energy inefficient and will cause higher electric bills.

For more energy efficiency tips, visit
www.ncpublicpower.com.



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