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ASK THE ADVISOR

QUESTIONS FROM OUR MEMBERS, ANSWERED BY OUR ENERGY ADVISOR

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Energy Advisor

Parke County REMC

Everyday Parke County REMC employees are faced with questions concerning energy efficiency and consumption. We know if one member has the question, other members do as well. Every month we will be allowing you, our member, to submit questions for us to answer directly to all members! Questions can be submitted anonymously, if desired. To submit a question, please check out our Facebook Page—@ParkeCountyREMC or email Madison Cooper at mcooper@pcremc.com

If you have a question but need a response right away, we are here for you! If any answer needs further explanation, feel free to reach out to us. Please contact our office at 765-569-3133 or 800-537-3913.

Q: How can I make my home more energy efficient?

A: Parke County REMC provides guidance and incentives for its members as they make changes to their home to reduce cost and increase efficiency. Members that combine a high efficiency structure with high efficiency heating and cooling has proven to be an effective combination for low cost living in rural areas. Yet the question remains— what project should be done first?

Let's consider what can be achieved when you combine a properly sized mid-to-high efficiency heating and cooling system with a properly sealed and insulated home:

- Moisture control
- Comfort Control
- Improved Air Quality
- Low Energy Costs

Just this morning I explained to a member that the higher the Seasonal Energy Efficiency Ratio (SEER) and Heating Season Performance Factor (HSPF) ratings of a piece of equipment, the cheaper it is per hour of runtime. That's right, higher SEER and HSPF rating = lower electric bill!

For example, if we evaluate two similarly sized air conditioners, one 14 SEER and the other 18 SEER, and install them in the same home, they would run the same amount of hours. The primary difference would be the cost per hour; A 14 SEER unit may cost $0.54 cents per hour of runtime whereas the 18 SEER may cost you $0.34 cents per hour of runtime—but this still leaves questions. If your home has a cooling load requiring 400 hours of runtime per season, then your cost is approximately $216.00 with the 14 SEER and $136.00 with the 18 SEER unit. So, we are saving $80.00 per cooling season. However, the runtime of a home is a variable dependent on may factors that have little to do with the efficiency of the conditioning equipment itself. Let's look at the home's structure—and what can be done to improve it!

When you go outside on a cold and snowy day, you most likely put on warm boots and a warm hat. Well think about your home, does it have warm boots and a warm hat in place? Warm boots would be a sealed and insulated crawlspace. Many of us still have a vented crawlspace to help control moisture, but there is a much better way. A sealed and insulated crawlspace changes the temperature and moisture levels in the entire home.

A sealed crawlspace increases the performance of your ductwork and increases the temperature of your floor. When the ductwork is kept warm from a well-insulated environment, the air being delivered into your home remains warm— decreasing the runtime of your heating unit. What if we can decrease the system runtime by 15% by completing this task?

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How about your attic—your homes hat? How much insulation do you have in your attic? I recommend a R-60 level, which is 20 inches of blown cellulose insulation in your home, and air sealing the attic floor. These tasks combined greatly reduce the thermal loss and the air loss to the attic space.

Do you have ductwork in the attic? If you have a return grill or supply registers in your ceiling, you do. Many of the extremely high energy cost homes I have worked with in the past have had ductwork in a poorly insulted attic. By air sealing and covering all attic ductwork with 10 inches (R-30) of insulation, air sealing the attic floor, and bringing the attic floor insulation levels up to 20 inches (R-60) of insulation, you can greatly reduce the runtime of your system. By doing these tasks, runtime could decrease by 20%.

Consider the attic and crawlspace together in this example. We can reduce runtime by 30-35%. Instead of the unit running 400 hours, it will now run 260-280 hours. Reducing the cooling cost of our old 14 SEER from $216.00 to $140.00 and the 18 SEER from $136.00 to $88.40.

When we step back and look at the structure and the HVAC together, we can see combining the high efficiency HVAC system with a well-insulated, air sealed structure is the most effective. If you want to prioritize, get your home warm boots and hat first. Good insulation and a sealed crawlspace are still very effective, even with a high efficiency HVAC system.

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