

Base Load: A building block to saving

As autumn nears and the temperature begins to drop, so do our electric bills. The reason for the lower costs is that we are using less energy due to cooler outdoor temperatures. The term base load refers to the energy needed to operate everything in the home, except the heating ventilation and air conditioning, HVAC, system(s).

Shoulder months occur during the fall and spring when the outside air is more moderate and the need for HVAC is reduced. If you look at a yearly energy-use chart you see peaks and valleys. The valley is the shoulder month (October/April) and the peaks are summer and winter. By studying the base load during the shoulder months, we not only gain understanding of energy users in the home, but also how much it costs to heat and cool the home.

Base Load

The base load is more apparent during a shoulder month because the need to condition our living space decreases due to the moderate weather. What makes up the base load? Since base load is everything except HVAC, we need to look at those things first.

A large home with two water heaters, a pool pump that runs all year, or a hot tub will have higher base loads. Also, a home that has a lot of refrigeration and freezers will have a higher baseload. However, the average base load of a residence is about 40 kwh daily.

The largest base load item is typically the water heater. The average home's electric water heater uses about \$40 a month. We recommend turning off the water heater breaker when leaving for extended periods of time. Also, a water heater timer provides a great opportunity to reduce this base load.

Other users are refrigeration, clothes drying, and all other electrical appliances. Anything that is plugged in contributes to the base load.

Shoulder months are a great time to manipulate base load items in the home to determine the daily cost. By signing up for daily use notifications, you can monitor daily electric use. This tool allows you to turn off certain appliances and determine the energy use change that is produced. The run time of the HVAC unit should be reduced greatly since the units do not have to work hard to achieve thermostat set point temperatures. Make sure the HVAC unit fans are set to "auto", not "on", since the on setting will allow the unit fan to run continuously.

Meter Detective

If you suspect something is using more energy than usual, you can shut it off to see the impact. Meter detective is a great tool to use when isolating energy use on a circuit. By locating the breaker, you can see how turning off the breaker affects the meter speed. Go to sremc.com/videos to view the "meter detective" video for more information. Understanding how you



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use power is the first step toward making changes and saving money.

Monitoring use will help you get familiar with the daily usage and base load. When the time arrives for heating and cooling, HVAC use can be monitored more closely to see if there are issues with those systems. Increased HVAC use could be due to poor insulation or air infiltration from outside air penetrations into the living space. If a large daily jump is seen during a shoulder month, a hot water leak could be the culprit.

Remember that when you first switch to heating on your heat pump, make sure the outside fan is working to confirm that the reversal valve operates correctly. If the fan is not working, the unit can only heat with strip heat. This can get expensive and will require professional attention. If you choose to monitor the usage and have questions or concerns, feel free to contact the AdviseGuys@sremc.com.

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