

House power

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LED lights and water-saving, high-efficiency appliances in the kitchen of the net zero home.

Have you noticed how expensive electricity is lately? Wow. If you heat your house with electric resistance heat, this winter must have been extremely expensive. Thank goodness that's over. But wait, next up is cooling season. Just about everyone who has a cooling system in their house uses electricity as a fuel source. There just aren't other options out there.

The best you can do is to reduce your cooling load. Did you know that adding insulation to your house does as much to reduce your cooling load as it does your heating load? All of that hot summer sun beating down on a black asphalt roof and an uninsulated attic means interior attic temperatures well into the 100s. Your AC has to fight that all summer long. Why not dramatically reduce the work your cooling system is doing by protecting your house from all that heat? You can take it one step further with light-colored roof shingles and reflective barriers.

You can also use alternative cooling methods like opening the windows and turning on a fan. Fans use a lot less energy than AC condensers do. This works especially well in the shoulder seasons (spring and fall), when the temperatures are still fairly moderate, or in the summer after sunset. By being aware of the exterior temperature at different times of the day you can work with your house to cool it naturally.

Some people have dates on the calendar that they try to reach before they turn the heat on, like Oct. 1 or Halloween. Try to do the same thing with your AC. Pick a day, maybe Memorial Day? Father's Day? And don't allow the AC to be turned on before then.

Once you greatly reduce your load, including the easy stuff like changing your lightbulbs and using super-efficient appliances, how about adding solar panels? PV panels have their share of naysayers but they have been evolving and are now fairly inexpensive and very efficient. Most of our clients see paybacks in the in eight- to 10-year zone. In the green building world we make houses with such low energy needs that they need very little active heating or cooling. If we put solar panels on the roof, we can make these houses net zero. Net zero means they use less electricity to operate than they make on-site. These houses sell electricity back to the grid. We just completed two houses that are net zero. One is in Litchfield County and the other is a very high-end, 6,000-square-foot home in New Canaan. Their heating and cooling is electric. They have a 20 kW PV array and the owners spend nothing each year to operate their homes. We have a house in Litchfield County that will not even be tied to the electric grid. It will survive on its own merits and a 14 kW PV solar array. These houses are achievable, and you can get your house a lot closer to this than you think!

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