

The Untapped Potential of Electric Hot Water Heaters



BY JIM DUFFY

Your average residential electric hot water heater has a pretty basic function—turn on and heat water when the temperature of the water in the tank drops below a specified level. You just want it to sit in a closet, be quiet and do its job. And please, please, PLEASE don't break and cause a huge expensive mess! But did you know that you can turn a water heater into an asset... one that can make you money and contribute to a cleaner, more efficient energy grid?

A Water Heater Can Generate Revenue

Did you know that WHEN you consume energy is just as important as HOW MUCH energy you consume?

The energy grid has to supply enough energy to meet customer demand at all times. This is a constant moving target, and sometimes the grid has a hard time keeping up. As a result, the energy grid will pay you if you can avoid consuming energy when it's most needed. Since a water heater is never fully hot or fully cold, it can offer the grid this flexibility, assuming of course there is enough hot water in the tank to meet the resident's demand.

Changing When a Water Heater Consumes Power Helps the Environment

Did you know that not all power is created equal, from the planet's perspective?

During periods of extreme demand, the grid must access resources that would otherwise lie dormant. Turning on and operating these "peaker plants" is very expensive, both in terms of dollars and CO2

emissions. If we can help shift the consumption of energy by our residential appliances, it can help avoid the use of these peaker plants and make the grid cleaner and more efficient. In fact, it's estimated that one properly controlled water heater can save 1.4 metric tons of CO2 emissions per year!

A Water Heater Tells You When It's Not Working Properly... If You're Listening

Did you know that there can be a problem with a hot water heater long before you get a resident complaint?

Over time, hot water usage follows a predictable pattern since residents use hot water at similar times. As a result, the energy used by the heater to heat the hot water follows a pattern as well. So, if a water heater suddenly starts using much more power over an extended period of time, it indicates that there is a maintenance issue with the water heater, like a burned-out heating element, a valve or thermostat problem or a small leak. The residents might still have enough hot water so they won't say anything, but the utility costs at their unit will unexpectedly shoot up. That cost will fall to either the unhappy resident (if they pay their own energy bill) or the property (if it is master-metered), and eventually, the water heater will fail completely and create an emergency. But if you were monitoring the power consumed by the water heater, all this could have been avoided!

In conclusion, smarter use of your hot water heaters can make you money, help the environment and lower your maintenance costs!



ABOUT THE AUTHOR: Jim Duffy is the Chief Revenue Officer of Mosaic Power, a green energy technology company based in Frederick, MD. Jim has spent his entire 23-year career in technology and is an experienced developer, consultant, project manager and customer success professional. Jim joined Mosaic Power in March of 2022 to help lead its next chapter of innovation and growth.