

KUNI Radio Series “Unplugged”
Show #11: Demand Water Heaters

From the Center for Energy & Environmental Education at the University of Northern Iowa, this is Pat Higby with a series of programs on KUNI to help you save energy.

Your home’s water heater is the second largest energy user in your house, and if it is more than ten years old, replacing it can save significant amounts of energy. Conventional storage water heaters lose energy continuously from the water that is kept hot in the storage tank. These standby heat losses can be avoided with a demand water heater that provides hot water only as it is needed. This type of water heater is also known as a tankless or instantaneous water heater.

A demand water heater is usually installed near the shower, washer, or sink where hot water is needed. Cold water is piped into the unit, where it is heated by either a gas burner or electric element. Water is hot instantly; you don’t wait for it to come through the pipes from a distant storage tank. And you won’t run out of hot water, because there is no tank to limit your use.

A typical demand water heater provides 2 to 5 gallons of hot water per minute. A single unit may **not** be enough if you have a large household. If one or more showers, a dishwasher, and washing machine all operate at the same time, you may need to install separate units for the kitchen and laundry room. Or you can install two demand water heaters in parallel to double the flow of hot water when it is needed at several locations.

Gas fired demand water heaters tend to have higher flow rates than electric, but if they have a constantly burning pilot light they are less efficient. Some models replace the pilot light with an intermittent ignition device similar to the spark ignition device on some gas kitchen ranges and ovens.

If your home uses 41 gallons or less of hot water daily, demand water heaters can be 24 to 34 percent more energy efficient than conventional storage tank water heaters. If you use a lot of hot water, say 86 gallons a day, a single demand water heater is only 8 to 14 percent more efficient. If you install a demand water heater at each major hot water outlet the energy savings increase to 27 to 50 percent.

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