

Attention: Plumbers & Electricians

# Save Your Customers Money at the Water Heater Tank

*In Kentucky, the price of energy is rising rapidly. Your residential and commercial customers may be looking for ways to save. Mountain Association for Community Economic Development has many tools and tips to help you help your customers save energy.*



## Use Aerators

Install faucet aerators on the sinks in the business.



Aerating mixes air into the water stream so that steady pressure is maintained but less water is actually used. If your sewer charges are based on the gallons of water used, you'll save on your sewer bill and your water bill!

## Help Clients Heat Less Water

Check the water pressure coming into the facility. If the pressure is continuously above 45 pounds per square inch (psi) it's possible to reduce hot water use by installing a pressure-reducing valve. Reducing the pressure to 35 psi. The flow rate of water will be reduced, and your client will conserve both hot and cold water. If sewer charges are based on the gallons of water used, they'll save there, too!

## Prevent Heat Loss in Pipes

Install heat traps on the cold and hot water connections to the water heater. Heat traps are check valves that prevent heat from migrating by natural convection into service pipes when in standby mode. Some look like a simple ball-check valve. A 360-degree loop in the piping can also serve as a heat trap. Many newer water heaters are now sold with heat traps.

## Help Clients Heat Water Less Often and Save on Demand Charges

Install a timer on your customer's electric water heater. If they only use hot water during one or two distinct periods a day, a timer on their electric water heater could help them save money. The timer can be set up to allow the heater to come on prior to those times hot water use is highest. During times of low use, the timer prevents the heating elements from energizing. Electric elements



in an electric water heater should be energized at least 30 minutes before hot water is needed to allow ample time for water to get hot.

If your client incurs a demand charge, consider setting the timer so that water heating does not occur when the business is drawing its peak power. A demand charge is a monthly fee assessed on the maximum electricity drawn, typically averaged over a 15-minute period. It is defined as the largest monthly power draw for the facility. Depending on how much your client is charged per kW of peak demand (vs. kWh of electric energy used), preventing a standard electric water heater from energizing during a peak power usage event can save them as much as \$50 every month. If heavy hot water use coincides with peak demand intervals and cannot be avoided, consider a change of fuel source for water heating.

### Help Clients Maintain Their System

If your customer complains of running out of hot water too quickly, the tank may have a broken dip tube. This is not uncommon and can easily be repaired by disconnecting the cold water supply line, removing the old dip tube, and replacing it with a new one (available at most hardware stores).

Extend water heater tank life by assuring that all connections to tanks are made with a dielectric coupling. Replace the sacrificial anode when it is consumed. If possible, lower the water heater temperature setting to extend the tank life.

### Optimize Hot Water Recirculation

If your customer complains about wasting water down the drain as they wait for it get hot at the faucet, suggest installing a hot water demand pump near the offending faucet location. A hot water demand pump has a push button start that quickly pumps the unwanted, cool water in the hot water lines into the cold water line. Instead of water being wasted, it is conserved and quickly pumped into the cold water line until sufficient hot water has made it to the fixture.

If a recirculation system is already in place, inquire about the client's hot water use. If hot water is used during one or two distinct periods a day, installing a timer on the recirculation pump could help clients save money.

### Help Clients Choose a New System

Consider the capacity of the water heating system. Use manufacturer and plumbing code guidelines for determining water heater capacity based on a client's usage.

*Borrow free monitoring equipment from MACED to assess hot water needs precisely.*

If a client has a relatively new boiler (gas or oil fired), consider water heating indirectly via the boiler.

- A condensing boiler as a heat source will offer significant savings compared to traditional gas and electric tank water heaters.
- Consider a high efficiency air source or ground source heat pump.
- Consider heat recovery from refrigeration waste heat for grocery clients.

Recommend clients use ENERGY STAR® qualified water heating systems including:

- Gas condensing.
- Heat pump.
- High efficiency gas storage.
- Solar.
- Whole home gas tankless.

For more information, contact MACED's Energy Efficient Enterprises project at 859-986-2373.

