



# City and Borough of Sitka

## Electric Department

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## **Tankless Electric Water Heaters – The rest of the story.....**

Tankless (aka instantaneous) water heaters are a hot topic these days. The manufacturers of these units are making claims about big savings from energy efficiency, etc. Unfortunately, they neglect to tell you the rest of the story.

Oil prices in Sitka are now on par with electric energy for space heating. Any heat loss from your hot water heater tank will simply go into heating your house. So, in Sitka, there is no net energy savings with a tankless water heater over the familiar tank type water heater. All of the energy used by your tank type electric water heater is used to either heat your water or heat your house.

The other thing they don't tell you about is the extremely high and untimely load a tankless water heater places on your electric system. Family sized models require 240 volts and up to 150 amps capacity to operate (five times as much load as a tank type hot water heater). This level of added load almost always exceeds the capacity of most residential electric services. Most homes will require an expensive upgrade of the home's wiring to handle the very high short-term load. If the Electric Department needs to put in a larger transformer or service wire to the house due to the increase in load, that is also at the homeowner's expense.

Tank type water heaters are simple, and more forgiving. The stored water acts like a buffer, allowing several simultaneous users of hot water. This is how commercial applications, like hotels, can accommodate large groups of guests showering at the same time. The same effect occurs in a home during family visits, holidays and other times of high usage.

Tankless type water heaters are complex with computer chips and an array of sensors and high-powered outputs. They are not do-it-yourself installations and definitely not fix-it yourself products. They typically cost twice as much to install as a conventional hot water tank, and will have a shorter life and provide no energy savings in Sitka over a simple, low maintenance, hot water heater tank.

To improve the energy efficiency of your house, we advise looking first at ways to improve the weather tightness and insulation of your house. A drafty or poorly insulated house consumes more energy than does a tight, well insulated house.

By: Charlie Walls, Utility Director

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