



## Salt Reduction Resources and Examples

Reducing salt use in water softeners or other systems can save your facility money and time while protecting water quality. There are many options available to facilities to reduce their salt use, from simple water softener setting adjustments to re-plumbing systems to reduce the need for soft water. While the District does not endorse or recommend a particular product or technology, this page provides resources to help you evaluate various salt reduction projects and how they might be applied at your facility.

If you are interested in pursuing a chloride reduction project, there may be funding available to help fund the project. Visit our [website for current incentive opportunities](#).

### Ways to reduce facility salt use

There are many possible ways that facilities can reduce their salt use while maintaining high-quality water in facility processes. Below are some different actions and technologies that facilities can take to improve their softeners or otherwise reduce the need for softener salt, in some cases eliminating salt use altogether.

#### Improve your existing water softener

- **Optimization.** In some cases, simply having a water softener professional adjust the settings on a water softener can reduce its salt use. For example, sometimes softeners are set based on very high water hardness levels, when the actual hardness may be lower (meaning the softener is regenerating more often than necessary).
- **Brine reclaim.** In this process, a still-usable portion of salt brine is collected during regeneration to be reused, which can reduce the softener's salt use by 25% or more.
- **Hardness sensors.** These devices can be added to an existing softener system to measure the hardness of the water leaving the softener and only trigger regeneration when hard water is about to pass through, preventing the softener from regenerating prematurely.

#### Replace your softener with a more efficient system

- **Softener replacement.** Water softeners have a lifespan of about 15-20 years, as parts and resin wear down and lose efficiency over time. If your softener is more than 15 years old, replace it with a new system with a softening efficiency of at least 4,000 grains per pound.

- New softeners should be sized and configured according to the District's [water softening best practices guidelines](#).
- **Salt-free systems.** Several devices exist that are designed to remove hardness and prevent scale buildup in systems like cooling towers without using salt. Installing a physical water conditioner where a water softener had existed previously would eliminate your salt use in that system. These devices are relatively rare in the Madison area, so the District is interested in research into the function of these technologies in this area. Pilot tests of salt-free technologies may be funded through the District chloride reduction incentive program

### **Reduce soft water use**

- **Re-plumbing.** Water systems that don't need soft water, such as domestic cold water, can be re-plumbed to bypass the softener and reduce the softening need. Check your outdoor irrigation water to make sure that it is not connected to the softener.
- **Process changes.** In industrial settings, changes to heating or cooling systems or water-using processes can reduce soft water use and associated salt use. For example, increasing cycles of concentration in cooling towers can reduce the amount of soft makeup water needed. One District chloride rebate recipient eliminated salt use in one component of the system by switching from a soft water-cooled pump to an air-cooled pump.

Different options may vary significantly in cost and potential salt reductions, so not all these options would work for all facilities. However, this list is a starting point for facilities considering various approaches to reducing their salt use. Work with a water treatment professional to determine what options would work for your facilities.