



Water conservation plays a key role in helping communities meet growing demand and reduce the need to invest in expensive water development projects. Many utilities have implemented cost-effective programs that have resulted in significant water savings. Understanding the components of a successful program, and the costs involved, make for better-informed decisions. There are many examples of successful, and unsuccessful, water conservation programs. This and other factsheets present some of the most well-researched efforts, including water savings, costs, pros and cons, and other things to consider when developing a program.

Why are they effective?

Well-designed and properly enforced water conservation codes or ordinances can impact 100% of a utility's customer base, focusing on existing users, new construction, or a specific water using sector. As such, they play a unique role in establishing water conservation guidelines and fostering good conservation behavior. Ordinances are also relatively easy and inexpensive for a municipality to adopt.

What are the program components?

Water conservation ordinances are generally incorporated into the development or building sections of a community's code, with the types of codes adopted varying by the community's water management objectives. Some common water conservation codes and ordinances include:

- Low water use landscaping, including required use of plants from a "low water use" plant list
- Prohibition on water waste and tampering
- Plumbing Code requirements more restrictive than the 1990 Uniform Plumbing Code, such as additional requirements for commercial/public sectors to use self-closing faucets and waterless urinals
- Limitations on water features and extent of water-intensive landscaping
- Time of Day and Day of Week landscape watering restrictions
- Greywater and rainwater harvesting requirements or guidelines
- Standards for new development



A Tucson median landscaped with plants from the city-adopted low water use plant list.



A WaterSense Labeled New Home by KB Home in Central California.

The Environmental Protection Agency (EPA) has created WaterSense New Home Specification guidelines that establish criteria for water-efficient new homes. In 2013, the Town of Sierra Vista in Southeastern Arizona was the first community to adopt these specifications into its Development Code (§151.16).



What are the water savings and costs? - Case Studies

Water savings and costs of adopting and implementing codes and ordinances vary depending on the community, type of ordinance, and the amount of staff time and public/political support needed for adoption. In some cases, an extensive public process may be necessary, while others may be generally acceptable and easy to adopt quite rapidly. For example, the Tucson City Council convened a stakeholder group that included builders, developers, environmental groups, and others to work out a Commercial Rainwater Harvesting Ordinance that would be acceptable to the community.

Community	Target Sector	Code/Ordinance	Savings	Costs/Acre-Foot
Tucson, AZ	New Commercial	Rainwater Harvesting	50% of landscape water demand	Low
Sierra Vista, Bisbee, Tombstone, and Cochise County SVS*, AZ	New Residential	WaterSense New Home Specifications	20% compared to a typical new home	Low
Denver, CO	Commercial Car Washes	Certification Program Requiring Industry Best Management Practices	30% reduction over non-recycling facilities	Low

* Sierra Vista Subwatershed

Things to Consider

Codes and ordinances that require high-efficiency conservation features in new buildings are attractive to communities (and current residents) because costs are borne by new residents, not existing customers. Building conservation features into new development is also more efficient and cheaper than retrofitting existing buildings, and results in substantially lower water use, allowing a community to stretch its water supplies even as population increases.

Retrofit-on-resale ordinances are in place in some California communities. They require that either the seller or the buyer replace inefficient plumbing fixtures with efficient models at the time of real estate sale. Most of them require only that replacement fixtures comply with current federal water-efficiency standards. However, these ordinances have been strongly opposed by real-estate organizations wherever they have been proposed.

80%

Percent water use of a WaterSense labeled new home compared to an average new home

\$600

Amount of annual utility bill savings of a WaterSense-labeled new home compared to a typical home

50,000 gallons

Amount of water saved annually by a WaterSense labeled new home compared to a typical home

References:

- City of Denver Operating Rules Chapter 14. Water Conservation; available at <http://www.denverwater.org/OperatingRules/OperRules14/>
- EPA WaterSense Version 1.1 WaterSense New Home Specifications, Effective January 1, 2013; available at http://www.epa.gov/WaterSense/docs/home_finalspec508.pdf
- Sierra Vista Development Code Article 151.16; available at http://www.sierravistaaz.gov/egov/documents/1362605681_994476.pdf
- City of Tucson Code Article VIII; available at http://www.tucsonaz.gov/files/ocsd/CMS1_035088.pdf

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