



Non-potable Water Reuse

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Using Water Wisely: Water Reuse

Water conservation and efficiency has become increasingly important in recent years due to water scarcity, droughts, and water contamination in many areas of the world. As world water consumption rises, water reuse, or water recycling, has become a manageable approach in enhancing water security, sustainability and resilience.

Have you ever thought about how much water you use daily? In the United States alone, the U.S. Environmental Protection Agency (EPA) estimates the average American family uses more than 300 gallons of water per day at home with 70% of this use occurring indoors. In addition, 30% of household water use in the U.S. is used outdoors, but in drier climates this amount can be much higher.

Water reuse is a safe, innovative practice where water from a variety of sources is reclaimed, treated and reused for a different purpose. This method serves an alternative water source to enhance a safe, reliable, locally controlled water supply.

Emerging as a non-conventional water resource, non-potable water reuse systems offer a promising approach to sustainably manage water.

What is non-potable water?

Non-potable water is water that is unsafe for human consumption. Some examples include:

- **Graywater** – water discharged from lavatories, bathtubs, showers, clothes washers, and laundry trays
- **Rainwater** – water from natural precipitation
- **Reclaimed water** – municipal wastewater or industrial wastewater treated to specified level for the designated reuse
- **Captured condensate** – water vapor in the air that encounters a colder surface, the water changes from a gas to a liquid and collects onto the cold surface
- **Stormwater** – natural precipitation, including snowmelt that has contacted a surface at or below grade



Why Use Non-potable Water Reuse Systems?

While non-potable water sources do not undergo the same treatment to drinking water standards and are not meant for human consumption, these water reuse systems are designed to capture water to be used for non-drinking or non-culinary purposes. This includes toilet flushing, clothes washing and irrigation.

Non-potable water reuse can result in significant savings for the consumer. According to the U.S. Water Alliance and The Water Research Foundation, non-potable water reuse systems can save up to 25% of the total potable water use in residential buildings and as much as 75% in commercial buildings. Additionally, recycled water is far less expensive to treat and can be as little as one third the price of potable drinking water. By installing onsite non-potable water reuse systems used for everyday home tasks such as clothes washing and irrigation, we can reduce potable water demands even further by 50% to 90%.

Ways to Recycle

Here are a few ways you can get started with recycling non-potable water:

- Check with your local wastewater treatment purveyor on programs and rules for rainwater harvesting. Where rules allow, the installation of rain barrels to collect rainwater runoff from your roof for outside watering purposes is a terrific way to help conserve the potable water supply.
- Install a graywater collection system. With a little plumbing work, you can minimize your potable water usage by using graywater as an alternative water source for flushing toilets and irrigating lawns and gardens. Be sure to check with your local building department for the most up to date requirements for graywater collection



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system installations and always be sure to use a licensed plumber for the installation to ensure protection from cross contamination of the potable water supply.

- Build a rain garden to capture roof drainage and divert it to your garden or landscaping. Be sure to check your local rules on rainwater harvesting prior to installation.



For More Information



Building codes and standards like the [International Plumbing Code \(IPC\)](#) continue to build upon previously established water efficiency standards by going through a regular update process. In addition, here are some resources to learn more about properly utilizing non-potable water reuse systems and for protecting our world's water supply:

- [Water Reuse and Conservation Requirements by State](#)
- [National Blue Ribbon Commission for Non-potable Water Systems \(Making the Utility Case for Onsite Non-potable Water Systems\)](#)
- [United States Environmental Protection Agency's \(EPA\) How We Use Water](#)
- [World Health Organization \(WHO\)'s Potable Reuse: Guidance for Producing Safe Drinking Water](#)
- [U. S. Environmental Protection Agency's National Water Reuse Action Plan](#)
- [Seametrics 15 Facts About Water Recycling That You Should Know](#)



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For more information about building safety codes and local requirements, contact your local building department.

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