

# Greywater System For My Home: Is It Really Worth The Cost?

*Frank Scotti, Solarponics, Inc.*

Greywater recycling systems collect the water you've used in your sinks, dishwashers, showers and baths, and plumbs back into your toilet, washing machine or outside tap to be used as irrigation. A system like this can reduce your water usage by about 50%.

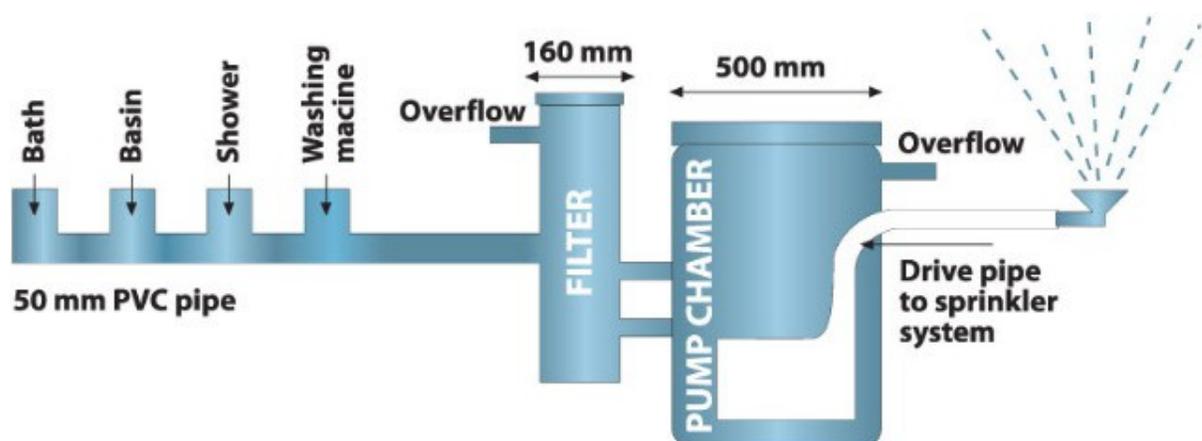
Currently, greywater systems are used quite successfully in the hotel and leisure industry, where businesses which use a lot of water can save significant amounts of money.

We get a lot of questions about greywater systems from people looking to have a system installed in their home. In most cases, a careful look at the advantages and disadvantages, as well as cost, is discouraging to a homeowner looking to install a greywater system.

## How Greywater Systems Work

Unlike a rainwater harvesting system, which relies on rainfall, greywater is in plentiful supply on a daily basis - the more clean water that you use to wash yourself, your food and your dishes, the more greywater you will have to recycle. But while you'll find greywater systems in hotels, public open space, and in some green office buildings, it's rare to find a homeowner utilizing a greywater system.

Why? Because greywater must be handled correctly, and that makes it expensive. The challenge with a greywater system is that you need a way to store contaminated water - water that may have been used for who knows what. That means bacteria will start to breed, and it will start to smell after just three to four days. As a result, you have to treat it like the water companies do, which would normally involve chemical treatment, filtering or using ultraviolet light. All of these options will increase your energy usage; on top of any energy you'll use pumping the water into a storage tank and back out again around the house. Then there's storage. To be a good consumer, you should consider the water and energy it takes to produce the materials that you will need for your greywater system and water storage, and if the net result is water savings or water consumption.



## How Much Do Greywater Systems Cost?

There are a number of different greywater systems and they vary in size and price. Larger whole-house systems cost \$1000 and as much as \$20,000 or more. Because of the cost, any money you save on your water bills would be entirely eaten up by the annual cost of safely maintaining the system. But it's all about the water, not the cost, right? We like to compare greywater adoption to solar electric. Solar panels have been around for more than 50 years, as a source of clean, renewable energy. But it was not until the cost of solar installation was cost-competitive with grid power per kWh that homeowners began to embrace the technology. If greywater adoption is anything like solar electric, cost will absolutely be a deciding factor in adoption.

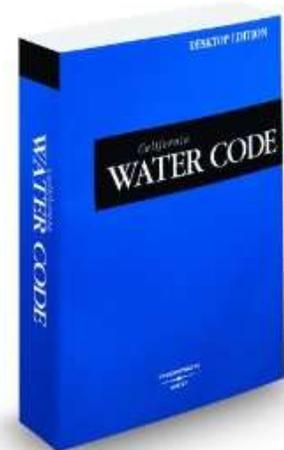
In Paso Robles, CA., municipal water currently costs 0.64¢ per gallon<sup>1</sup>, in line with the US average of 0.6¢ per gallon<sup>2</sup>. The average greywater system installed on a single-family home can save about 2,600 gallons of water per year, and have a lifespan of 10+ years. The cost of greywater would be about 10¢ per gallon, 20x more than municipal water costs. So, while we're in a drought here in California, it doesn't make financial sense to spend so much money on a greywater system when we can buy clean, safe, drinkable water that costs us 0.6¢ per gallon, delivered right to our faucets.

DIY'ers who know their way around the plumbing aisle at Lowe's, can put together a greywater system and have it up and running for a few hundred dollars and a weekend of work. If the water is to be used for irrigation, trees and plants can handle most natural soap products that are highly diluted. But cleaning products heavy with salt, phosphates, and other chemicals can be problematic. With a little research and know-how, a DIY greywater system can recycle water at a cost of about 2¢ per gallon, still more than the municipal rate of 0.64¢ per gallon.



There is still yet another consideration before adding a greywater system, and that has to do with state and local code. California, for example, does not allow kitchen sinks, toilets, or dishwashers to be hooked up to greywater systems<sup>3</sup>. This greatly reduces the potential for greywater savings, allowing a homeowner to really only draw from clothes washing machine, bathtubs, and showers. This cuts the available greywater to about 20%, thus further reducing the cost benefit.

We are huge advocates of water conservation. But we are still figuring out ways to build cost-effective greywater systems that have a net positive environmental and sustainability impact. We suggest that homeowner first look to water reduction techniques and products, and implement all of those opportunities first, before considering a greywater system.



Here are some areas to focus on: low flow toilets and showerheads for water use reduction, and water-recirculation pump for water savings. Solarponics can help you install a water recirculation pump as well as an affordable grey water system.

---

<sup>1</sup> City of El Paso de Robles Published Water Rates, 2015

<sup>2</sup> circleofblue.org, 2015 residential water prices for 30 major US cities

<sup>3</sup> <https://greywateraction.org/wp-content/uploads/2014/12/Chapter-15-CA-Plumbing-Code-2016.pdf>

Call (805) 466-5595 to speak to a resource management specialist or visit [www.solarponics.com/services/residential/water-conservation-products/](http://www.solarponics.com/services/residential/water-conservation-products/)