

## Greywater systems

In this fact sheet:

- Installing a greywater system
- Looking after a greywater system
- Maintenance

‘Greywater’ is the wastewater from the shower, bath, washing machine and taps (not including the kitchen). Just over half of the water used in your home ends up as greywater. In homes without greywater systems, this water ends up in the sewer. Your greywater system will collect this wastewater for use in the toilet or for underground garden irrigation. Mains supply is still used for drinking, bathing, cooking and other potable uses. (Potable water is water sufficiently high quality that it can be consumed or used without risk of immediate or long term harm)

### Installing a greywater system

If you are thinking of installing a greywater system, check with your local council first. If you are on town sewerage, then some councils won’t allow you to install a greywater system. Regardless you will need a building consent.

There are two main types of systems – those that use greywater for toilet flushing (e.g. EcoPlus) and those which use greywater for garden irrigation (e.g. Watersmart). Because the water must be used within 24 hours (or it starts to smell), you will need to have a bypass system which enables you to send the greywater to the council sewer.



In general, a garden greywater system will divert water from your washing machine, shower, bath or basin so that solids such as lint and fats are filtered out. Care needs to be taken when cleaning and maintaining systems (e.g. avoiding contact with solids that can be composted or disposed of). After filtering, the water then flows to a storage tank or directly through an irrigation system to your garden. Whatever type of system you use, the greywater should be discharged below ground, not directly onto the surface of the soil, to avoid the risk of people being exposed to bacteria in the greywater. There’s also a risk of the greywater pooling on the ground.

## Looking after a greywater system

If you install a greywater system:

- Make sure faecal matter - for example, from children's baths or from washing nappies - is diverted to the sewer or on-site sewage system
- Use appropriate soaps and detergents - avoid washing powders that whiten or have enzymes, and avoid detergents or cleaners containing boron
- Don't use too much greywater on your garden - if water ponds, harmful microbes can multiply, creating a potential health hazard
- You may want to divert the first flush of water from your washing machine into the sewer to reduce the amount of chemicals you are putting on your garden
- Take advice about planting - some plants do not thrive in alkaline conditions and greywater tends to be alkaline. You may need to change plants or avoid watering such plants with greywater.

## Maintenance

Greywater systems require a regular schedule of weekly, six monthly, and annual maintenance. Check your instruction manual carefully and keep up the maintenance.

### **A greywater example**

The New Zealand Housing Foundation's HomeSmart Home included a greywater system which supplied water for the two toilets.

Although greywater systems need regular maintenance, the family didn't find this onerous – they kept the treatment tablets by their wheelie bins to remind them to treat the system every week.

On average, the system saved 23 litres of water per person per day and 42 m<sup>3</sup> of water annually. As a result, household usage of reticulated water was reduced by 20%, from 255 m<sup>3</sup> to 213 m<sup>3</sup> per annum. The greywater system also reduced the wastewater stream from the household by the same volume, removing 115 litres of wastewater per day from the waste stream. These are significant cost savings for the low income family, given Auckland's water and wastewater charges.

The greywater system used 68 kW of electricity over a one year period – at 25 cents/kWh, approximately \$17.

Overall, the greywater system reused about 30% of the total greywater produced by the household on an annual basis. It could have contributed more if it had also been plumbed to the laundry.

For more information:

- See Fact sheets on
  - Using less water
  - Rainwater systems
- Visit [www.waitakere.govt.nz/CnlSer/wtr/wstewater.asp#alternative](http://www.waitakere.govt.nz/CnlSer/wtr/wstewater.asp#alternative) and [www.waitakere.govt.nz/AbtCit/ec/bldsus/pdf/water/wastewtr.pdf](http://www.waitakere.govt.nz/AbtCit/ec/bldsus/pdf/water/wastewtr.pdf) (has a useful list at the end)
- Read more at [www.smarterhomes.org.nz/water/on-site-sewage-systems/](http://www.smarterhomes.org.nz/water/on-site-sewage-systems/)