



Water Savings

Measuring potable (drinking quality) water savings from your project (e.g. installing water-efficient appliances, more efficient irrigation equipment, or by substituting with another source such as rainwater, greywater or stormwater) can be relatively easy.

To calculate how much water your project is saving you need to know how much water you used before commencing your project and compare this to how much you use afterwards. It is important to note that water use can vary considerably between seasons, especially for practices such as irrigation. Where possible it is advisable to use a few years of data when calculating changes in water use. Where long-term data is not available there are some other methods that can be used. The following outlines some methods for estimating your water savings.

Water efficient appliances

An easy way to calculate the water saved from installing water efficient appliances is to use water calculators. Water calculators can be used to estimate how much water you use and how much can be saved by using water conservation appliances and practices. Most calculators are designed for estimating water consumption for individual households so check the assumptions when using them.

Water consumption software

House Water Expert is a software package developed by CSIRO to help users calculate their water consumption and water savings. The tool is available at <http://awd.highett.cmit.csiro.au/hwe/>

Web-based calculators

Some web-based calculators are listed below:

- http://www.ourwaterfuture.com.au/waterwise/content_waterwise_calculator.asp
- <http://www.choice.com.au/viewArticle.aspx?id=100228&catId=100520&tid=100008&p=11>
- http://www.thinkwater.act.gov.au/calculators/water_calculators.shtml
- <http://www.melbourne.vic.gov.au/rsrc/PDFs/Water/CalculatorWaterMark.pdf>

Equations

You can also estimate your water savings by using the following equations.

The volume of water saved per use = Volume water used by existing appliance – volume used by new appliance

The volume of water saved per year = Volume saved per use X how many appliances installed X how many times they are used per day X 365 days

**Table 1. Some estimates of average water use for various appliances.**

Appliance	Water use	Appliance	Water use
20 mm Garden Hose	3460 litres per hour	Bath	120 litres
15 mm Garden Hose	1090 litres per hour	Washing machine (Medium Size)	150 litres per load
Garden Sprinkler	1000 litres per hour	Dishwasher	50 litres per cycle
Shower	10 to 30 litres per minute	Toilet Flush	11 litres

Source: ACTEWAGL <http://www.actewagl.com.au/education/water/data.cfm#top>

Additional estimates of average water use for a wide range of activities can be found at: http://www.sewl.com.au/forms/watersewage_readyreckoner.asp?area=edu

Irrigation water use

Measuring water used for watering the garden may not be as easy as for water appliances, although some of the water calculators can help. Alternatively, you can use Table 1 or the flow rate method below. You will need to know how long you've been watering the garden for these methods to be effective. Keep in mind any changes you make to irrigation practices between different seasons.

Measuring flow rates

You need a bucket, a watch that shows seconds, and a measuring jug.

1. Turn on the tap to full flow.
2. Collect the water in the bucket for ten seconds.
3. Use the measuring jug to measure the amount of water you've collected.

Multiply this amount by six, and you have the approximate flow rate in litres per minute.

Water Meters

You can keep track of the water you are using around your house, garden, school or business by reading your water meter. Your water meter should be located in your front garden or near where the water enters your property. Because your water use may vary between seasons, this method is most accurate when you have long-term water use figures.

1. Calculate your average weekly water use before implementing your project. You can do this by:
 - a. Asking if your water authority can provide data on your water consumption for the past few years, preferably quarterly. You may notice how different your summer and winter water use is!
 - b. Checking your water account for figures of your average daily use and calculate a weekly figure.
 - c. Reading your meter at the start and end of the week and work out how much water you used that week. You should do this for a few weeks to get an average figure that you can use to work out your water use during the period you will be installing your project.
2. Read your meter and calculate your average weekly use after you have implemented your project.
3. Compare the historical use and the new use to work out see if you have saved water.

Note: you may be able to purchase water sub-meters that tell you how much water is being used at a particular point (e.g. for a water reuse system).