



WWW.ENVIROPAEDIA.COM

BE THE CHANGE YOU WANT TO SEE

SUSTAINABLE LIFESTYLE GUIDE

@home

WATER CONSERVATION

WATER is everywhere, in us and around us, in liquid, solid or gas form. Take a moment and consider how wonderful water truly is! A sparkling lake on a hot summer's day, ice cubes clinking in your glass of cool drink, a hot shower on tired muscles, gentle rain feeding our gardens and refreshing our souls. We rely on water each and every day for our very lives and well being. But, the water we have on Earth is finite and the amount of water that is available for human consumption is actually reducing due to many wasteful or polluting practices.

WWF South Africa has identified that:

- 11 of 19 water management areas in SA have water supply problems
- 12-14 million South Africans do not have access to safe drinking water
- If we continue at our present rate of water consumption, we could run out of drinking water before 2040.

More water facts:

- Water is reusable and not renewable.
- It is possible to drink water that was here in the dinosaur era.
- The average rainfall in South Africa is 500mm, well below the world average of 860mm.
- An average urban home of 4,6 people uses 640l of water/day.
- The human body is comprised of 80% water.
- You can survive about a month without food, but only 5 to 7 days without water.

It is surprisingly easy for households to reduce water consumption by between 30% and 60%. Lets work together to look after our water and this can save you money too.

SAVVY APPLIANCES

Go high-tech: Consider buying a high-efficiency washing machine that will use an average of 30% less water and 40–50% less energy.

Water efficiency: Before buying a washing machine or dishwasher, ask how much water they use in each cycle. Choose carefully as they can differ quite significantly. A front-loading washing machine can use up to 40% less water than a top-loading model.

Be wise: Only use washing machines and dishwashers when there is a full load.

KITCHEN SAVVY

Tap aerators: These inexpensive devices reduce the flow in kitchen taps by around 50–75%, while still providing sufficient water for washing-up purposes.

Save running water: While waiting for cold water to turn hot, use a plug so that you can use this water later or divert the water into a bucket for use elsewhere.

Avoid rinsing vegetables under running water: Use a bowl and then use the water in the garden.

Leave it to the dishwasher: Avoid rinsing your dishes in the sink before loading them into the dishwasher. Modern dishwashers do a thorough job of cleaning. If you feel the need to clean before loading, scrape rather than rinse.

Waterless defrosting: Defrost frozen foods in the microwave or leave out in the morning for use that evening instead of defrosting under running water.

BATHROOM SAVVY

Bathing versus showering: An average bath uses 160 litres. A five-minute shower typically uses 60 litres. Share the water with your partner and let children bath together.

Catch it in the shower: Place a bucket in the shower to collect water, which you can then use to water the garden, wash your car or outside floors or even flush the toilet.

Use a low-flow showerhead: Fitting a low-flow showerhead typically reduces shower water use by 50–75%. Some even have a ‘shower off’ button to conserve water while you lather up.

Save running water: While shaving or brushing teeth, keep the tap turned off.

Reduce the toilet flush volume: Put a displacement container in the cistern (try a 2-litre bottle filled with water and add a little sand as ballast). This can save you 20% of your total water consumption with no reduction in convenience. You can also save water by installing a dual-flush or multi-flush device on your toilet.

Fix that leak: A leaking toilet can waste as much as 300 000 litres per year.

Rethink what you flush: Avoid flushing sanitary wear, cigarette butts and plastic packaging down the toilet. Sanitary wear can take 120 days to decompose and plastics can take hundreds of years to break down. Chemicals and medicines flushed into the sewage system can be dangerous and costly to filter out and any leak anywhere in the piping system will result in these chemicals filtering into and polluting our groundwater.

ENERGY CONSERVATION

The time is upon us and we have to face the facts. We're addicted to energy! We all are! Every day we make decisions that impact the earth and contribute to global warming. From leaving all the lights on in our homes to coveting the latest model SUV, our modern lives revolve around a culture of consumption and a dependence on traditional, non-renewable energy sources that are destroying the environment at an alarming rate.

Why are we doing this to ourselves? Are we in denial and unable to recognize that global warming is one of the greatest threats we face today? In order to break our addiction, we do have to recognise and face the addiction.

Cutting down on the amount of energy you use in your home is probably the easiest and most effective way to accept the facts and begin the fight against global warming.

Lights

- Switch the lighting in your home to CFLs. These lamps will help you to consume about 80% less electricity and, as a bonus, will last up to six to eight times longer than traditional light bulbs.
- Remember that simply switching off lights in unoccupied areas is one of the simplest ways of reducing your monthly electricity costs.
- Install movement sensors on your security lights instead of leaving a light burning all night.
- Use solar powered lights in your garden. They're easy to install, make attractive features and rely completely on energy from the sun.

Appliances

- Check the electricity consumption of any new appliance before you buy it; it will pay future dividends. Check the international energy rating labels and always try to buy an 'energy smart' model.
- Hang your washing on a clothes line instead of putting it into an energy-guzzling dryer.
- Buy a front-loading washing machine instead of a top loader. It uses less water and costs less to operate.
- An automatic washing machine uses the same amount of electricity for a full load as it consumes for a single item. Save dirty clothes until a full load has accumulated.
- If you're going to buy a new tumble dryer, make sure you buy one with Electronic Humidity Control (EHC). It shuts the machine off automatically when clothes are dry, unlike older dryers which rely on timers.
- Turn off appliances such as televisions, videos, stereos, computers, and cordless phones when not being used.
- Don't over fill your kettle - save money and energy by only heating the amount of water that you need.

Hot Water

- Switch your geyser off when you go away on holiday.
- Use hot water sparingly when washing dishes - your geyser will be spared heating up more than is necessary.
- Put an insulating blanket around your geyser - it will save energy and money.
- You can reduce your hot water use even further by installing aerated shower heads.
- Be sure to fix any leaking hot water taps, they are tremendously wasteful, dripping away up to 18l of water a day!

Warmth & Coolth (& other hot tips)

- Reduce your heating & cooling costs by planting deciduous trees (the ones that lose their leaves in winter) or using awnings, blinds or curtains to control how much sunlight you let inside.
- Set the air-conditioning thermostat a little higher than the average room temperature and most people will still be comfortable. Don't forget to turn it off when you leave home.

- Insulate your ceiling. It has been proven to reduce the amount of energy needed to heat or cool rooms. In uninsulated homes, approximately 40% of heat loss takes place through the roof. Insulation slows heat transfer and makes your home up to 10°C cooler in summer and 5°C warmer in winter.

WISE UP ON WASTE

No Littering!

Some people actually believe that by throwing their litter on the ground, they are creating jobs for other people to pick up and collect their litter. This is a very mistaken and harmful idea! The money spent by local authorities in paying for the collection of litter could be used for providing schools, hospitals and other important public services – which all create far better jobs than collecting litter. So the hidden cost of your litter is fewer public services and poorer quality jobs.

In addition, litter affects the quality of your water causing sickness and disease. When it rains in towns and cities, all the litter in the street is washed into stormwater drains. This water also becomes unhygienic and polluted by oil from cars and other chemical liquid-waste products that wash off roads and paved areas into the storm-water drains (see Topic Water – Urban storm-water run-off). Usually, storm water, with all the litter, chemicals and germs in it, flows into our rivers. This river water may be used by people living many kilometres away.

Polluted water creates an unhealthy environment for people and can kill animals, fish and many other living things. Eventually, storm-water drains may also become blocked by litter, and the litter and dirty water will then float back into the streets, causing unpleasant and unhygienic conditions in your area.

THE IMPORTANT ‘THREE Rs’ – REDUCE, REUSE, RECYCLE

Reduce

This critical first step, which has been much overshadowed by the call to recycle, starts with *Rethinking your Reality*, the very first @ction to “*Be the Change*”! By changing our beliefs and value systems we can change our future reality.

- **Simplify your life as much as possible.** Only keep belongings that you use and enjoy on a regular basis. By making the effort to reduce what you own, you will naturally purchase less (see TOPIC Consumerism) and create less waste in the future.
- **Switch from disposable to reusable products**, including food and beverage containers, cups, plates, pens, razors, nappies and shopping bags.
- In general, **think before you buy any product.** Do I really need it? How did the production of this product impact the environment and what further impacts will there be with the disposal of the product (and associated packaging materials)? Apply yourself to eliminate impulse buying.
- **Avoid products that are packaged for single use** – drinks, school lunches, sweets, cat and dog food, salads etc. Instead buy in bulk and transfer the product to your own reusable containers.
- **Avoid creating waste** and rubbish. When ordering food, ask in advance not to be given plastic utensils and condiments, buy ice cream in a cone and buy products with the least amount of packaging. Every bit of waste avoided does make a difference.
- **Save trees:**
 - replace paper towels with a set of cloth towels and napkins that you can wash and reuse
 - buy toilet paper that is made from recycled paper
 - print on both sides of office paper when printing, and use bleach-free, recycled paper with the highest post-consumer waste content available
 - leave messages for family members and roommates on a reusable message board.

Reuse

The media have done a truly wonderful job of selling us all on the attractiveness and benefits of buying 'new', 'improved', 'special' products. However, we already collectively own so much that we could all survive for quite a while on the existing products – if we just reused them a few times.

- Save and reuse all bags (plastic and paper), rubber bands, wire twisties, boxes and packaging material.
- Use containers for keeping food in the fridge instead of plastic wrapping that cannot be reused.
- Choose glass over plastic when buying goods as more local authorities recycle glass than plastic.
- Donate old clothes, furniture and other products to charity.
- Donate old computer equipment to schools and organisations.
- Organise a community swap programme (see the listing for SANE for information on its Community Exchange System (CES) or go to www.ces.org.za).
- Buy products that will last and take care of them.
- Buy second-hand books.
- Do not rely only on The Enviropaedia or any other publication to tell you how to reuse products – get creative! See what new ideas you can invent – perhaps you can find a way to reuse something no one else has ever thought of! Why not run a competition at school to see who can be 'the most creative reuser'?

Recycle

- In general, try to buy as many products that are made from recycled material as possible in order to support the recycled product market. Tell your local retailers that you want them to stock more products made from recycled materials
- When purchasing paper products, look for paper that has been recycled using a minimum of 50% post-consumer waste. Also, purchase from companies that do not use chlorine to bleach their paper products, which creates harmful dioxin waste.
- Purchase rechargeable batteries and a battery charger (some battery chargers will also recharge standard alkaline batteries).
- Learn about and create a fact sheet on recycling centres in your area for yourself and your neighbours. Recycling centres collect, sort and store recyclable materials such as glass, paper, tins and plastics. The centres then sell these materials to factories that can recycle the waste into useful products. Recycling centres also create jobs, thus alleviating poverty.
Find out where you can recycle newspapers, glass, styrofoam, cardboard, plastic, aluminium, paper, tin cans, scrap metal, junk mail, motor oil and alkaline batteries. (see our list of Waste Management & Recycling contacts for help in finding recycling centres near you)
- When replacing any electronic equipment at home, make sure that you are not contributing to the toxic and chemical problems related to e-waste (see Topic e-Waste). Contact the Electronic Waste Association of South Africa to ensure safe disposal and recycling of valuable parts.
- Create designated holding bins for each type of recycled product. This makes it easier for you to remember to use and more convenient for you to handle.
- Search The Enviropaedia Directory for companies and organisations who can help with the mantra: "rethink | reduce | reuse | recycle | repair "

CONTACTS AND RESOURCES

Paper:

Nampak Recycling • 0800 018 818

Sappi Waste • 0800 221 330

Glass:

Glass Recycling Association • 011 827 4311

Cans:

Collect-A-Can • 0800 111 232

Oil:

ROSE Foundation • 021 448 7492;

OILKOL (used motor oil) • 011 762 5506

Plastics:

Plastics Federation of South Africa • 011 314 4021

Recycling:

Cape Town: The Fairest Cape Association • 021 462 2040

Durban: Association of Clean Communities • 031 303 1665

Gauteng: Pikitup • 011 712 5200

Port Elizabeth: working on it . . .

Waste Management:

Pikitup • 011 712 5200

Enviroserv Waste Management • 011 422 2560

e-Waste:

Electronic Waste Association of South Africa • www.e-waste.org.za and info@e-waste.org.za

Information:

Rand Water: Look under their education links for Water Wise Resources

Share-Net: Enviro Facts on Energy and Environment

Share-Net: Enviro Facts on Waste Management.

A 'GREENER' GARDEN

Using Water Effectively

Grey water: By installing a system to pump grey water (in other words, water from the washing machine, basins, shower and bath) to the garden, most households will eliminate the need for additional garden watering. This alone will reduce your consumption by 35%.

When to water: Avoid watering during the heat of the day or in windy conditions as evaporation rates are higher. Watering in the morning decreases the chance of mildew.

Water deeply, but less often: Deep soakings encourage roots to grow deeper and to utilise moisture deep in the ground, which enables them to thrive between watering and in times of drought.

Slow run-off: Hold water around plant roots by making basins around trees and shrubs. On slopes, make terraces or pockets to hold water and slow run-off.

Drip irrigation: High-tech or low-tech drip irrigation gets water to the roots of the plants where it is needed. Drip irrigation uses 25% less water than normal irrigation systems with the same effect and can even be placed under lawns.

Water harvesting: Harvest water from gutters into water tanks. You can buy a ready-made tank or make your own from clean drums, large buckets or even an old bath. Cover the tank to reduce water loss through evaporation.

The swimming pool: The most effective way to conserve your swimming-pool water is to place a cover over it as this prevents water loss through evaporation.

Smart Planting

Plant effectively: Grow *waterwise* plants. While this may be quite obvious, we need to actually start putting this into practice. Generally, the plants best suited are those indigenous to the area as they seldom need additional watering.

Group plants according to their water needs: This avoids wasting water on plants that do not need it.

Plant in the right season: For winter rainfall areas, plant in autumn and early winter so the plants have a chance to develop their root systems before the dry season. In summer rainfall areas, plant in spring and early summer.

Lawns: Lawns guzzle water, so consider reducing your lawn area. Alternatively, use tougher, low-water lawn types such as Buffalo (coastal areas) or Kweek (inland) rather than Kikuyu.

Remove invasive plants: Invasive plants damage the environment because they:

- Reduce available water. It is estimated that these plants use 3.3 billion cubic metres more water than indigenous plants.
- Replace valuable natural vegetation. Aliens compete for water, light, space and nutrients with indigenous plants. This upsets natural ecosystems and leads to some plants dying out and the insect species that are dependent on these plants disappear. This, in turn, will result in the loss of the reptiles, birds and mammals that feed on those insects, thus reducing South Africa's rich biodiversity.

Healthy Soil

Organic matter: The addition of organic matter such as compost and mulch will improve the health of your soil and increase its water holding capacity. Research has shown that a high organic content favours soil microbes which detoxify pesticides after they are used and also furnishes energy needed by the microbes to make high analysis fertilisers available to plants without the fertiliser itself becoming toxic.

Composting: Feed your garden rather than feeding landfill sites. You may be surprised at how much food you can grow in a very small place if you utilise your green waste by composting. Composting with worms is usually even more effective and rewarding. Choose organic fertilisers (e.g. horse manure or material from your own composting bin)

Mulching: One of the most important things you can do to conserve water in your garden is to mulch - covering the soil with a thick layer of bark, compost, straw, grass cuttings, manure, leaves, nut shells or shredded newspaper. Not only does it increase the water holding capacity while keeping the soil cool and damp, but it also reduces the number of weeds that come up which compete with your plants for water. Decaying organic mulch on soil keeps both plants and beneficial soil life species flourishing so they can help each other.

Pesticides: These are highly neurotoxic, and all are designed to kill (killing insects can lead to killing birds that feed on the poisoned insects). Try preventative and natural alternatives instead, but if you really must use a pesticide, choose an organic, bird-, fish- and animal-friendly product.