



SOUTHERN AFRICAN FAITH COMMUNITIES' ENVIRONMENT INSTITUTE

# ECO-AUDIT

## User Guide

### For Faith Communities

Turn energy, water and waste  
awareness into action



**EARTH  
KEEPER**

[www.safcei.org](http://www.safcei.org)

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## 1. Introduction

SAFCEI, the Southern African Faith Communities' Environment Institute, a multi-faith environmental organisation, encourages all people to care for creation. We know that our wellbeing is dependent on the health of our planet, but how do we respond?

This self-help eco-audit booklet is a resource to support the journey to learning to live lightly. It sets out key steps to guide congregations in identifying and measuring energy and water use and waste production. By being aware of and managing consumption, congregations can save money and resources and become centres of excellence in their communities.

**Eco-audits create awareness, encourage action and save money and the environment!**

### Why carry out an eco-audit?

Our modern lifestyles place a heavy demand on nature's finite resources. The Earth cannot continue to supply all the resources we want and absorb all our waste. A culture of materialism and consumption, our urban lifestyles and a belief that technology can solve all our problems are distancing us from nature. Climate change, caused by burning fossil fuels (coal, oil and gas) and pollution, is one of the consequences of this broken relationship.

From a socio-economic and a faith-based perspective, the impact of climate change and fair access to resources are moral issues. By speaking and acting for a "just energy" transition and by promoting practical solutions, faith communities can become centres of learning and advocacy. An eco-audit helps to promote renewable energy, as well as the efficient and equitable use of resources - one of the ways to build to a resilient and sustainable future in balance with nature.

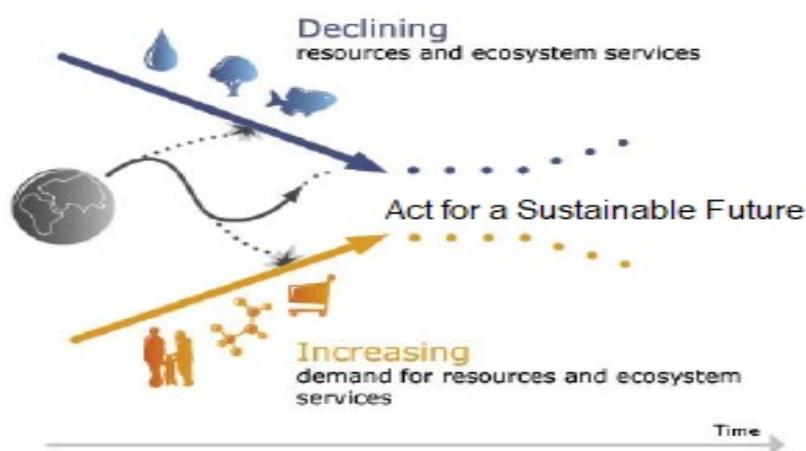


Illustration from: *The Natural Step*.

A slowly narrowing funnel resulting from the increasing demands of a growing human population with growing material wants that converges with nature's depleting resources.

But by changing to efficiency and sustainable options humans have the opportunity to live in

balance with Nature's ability to sustain us and all of creation.

## 2. Step-by-step Eco-audit

Following a step by step process makes doing an eco- audit entirely doable.

- Collect info: energy and water consumption, waste generation and site description
- Identify and understand service costs (electricity, water and waste removal)
- Prioritise and act for efficiency and resilience
- Evaluate the cost savings and benefits to the environment and plan further action.

### 2.1. Choose an audit level

**A detailed audit of all sectors** (water, energy, waste, etc.) with a phased approach to implement priority actions. Recommended for small centres.

OR

**An audit of one area (energy, waste, or water)** with prioritised actions to follow. This is recommended for large centres and is a good start to understanding the process, and efficiency opportunities.

### 2.2. The Audit Team

With appliance checklists as a guide, anyone with an interest in understanding consumption levels and learning about more efficient alternatives and technologies may conduct a successful eco-audit.

When auditing a larger complex, it is important to get support from its leadership and management. Key skills include:

- **a team champion** to keep the process on schedule.
- **knowledge of the building** and maintenance. Working with the building or maintenance manager saves time and includes management.
- **basic accounting ability** to understand the service accounts and to calculate the cost savings of efficiency measures.

### 2.3. Site Description

An audit records the appliances and activities that use electricity and water, and waste outputs in each space. Identify the number of rooms and what happens in outside spaces. It is useful to create a site plan (or map) of the centre with labels describing the use of the rooms and outside spaces.

Locate the electricity and water meters. If there is more than one water and one electricity meter on the property, find out which sectors each meter supplies.

### 2.4. Understanding service fees

To benefit most from the expected savings resulting from reduced consumption of water, electricity and waste, it is helpful to understand the existing service fees (tariffs). Ensure that the centre is on the correct tariff structure. Keep a record of payments made, and ask the local authority for the correct service tariffs for a non-profit community organisation, which applies to most faith-based entities.

## 3. Energy Audit - focus on electricity

### Step 1: Measure to manage

We use energy in many forms:

- Liquid fuel for transport and back-up electricity;
- Gas for cooking and heating, and;
- Electricity for lighting, heating, cooling, cooking and running appliances, etc.

Much of the world's electrical energy comes from burning fossil fuel in coal-fired power stations, gas turbines and diesel generators. It is therefore the responsibility of all of us to use energy efficiently to reduce greenhouse gas (GHG) emissions.

**Record your energy consumption information in a table or on an excel spread sheet**, as this makes the calculations easier. List all the appliances with their wattage and hours of use. Look at the example below

A	B	C	D	E	F	G	H	I
Location	Electrical Appliance	Power in Watts	No. of units	Comments	Ave hours use per day	kWhs per month( kWh x unit / 30)	cost per month = kWhs x unit price	Alternatives / replacements
Electricity consumption based on number of units x hours of use per month x wattage divided by 1000 to get kWhs permonth								
Entrance hall	Halogen downlights	50	10		5	75		5W LED downlight
Bathroom	200ltr electric geyser	3000	1	daily consumption is 8 - 12kWhs		300		solar geyser
Kitchen	electric stove top plate	1500	1		2	90		use a wonderbox

Information that should be recorded includes:

1. **Location:** identify where the appliance is.
2. **Name the appliance:** e.g. geyser, stove, printer, lawn mower. For lighting, it is important to identify the type of light and the watts. This is normally printed on the bulb.
3. **The power in watts:** there should be a sticker on the appliance. Note that the wattage relates to the maximum power, which is often higher than the average power, e.g. a stove plate on high rather than low; a printer on print mode rather than standby. Fridges and geysers also switch on and off in response to thermostats. Refer to the Typical Home Appliance Electricity Consumption resource table (on page 14).
4. **Number of appliances and lights.**
5. **Comments:** for notes on frequency of use or other information like a day / night sensor for lights.
6. **Average hours of daily use.**

7. **Monthly consumption:** see Step 2 (below) to calculate the kWhs from the watts.
8. The **consumption costs** per month will provide a baseline from which to compare efficient alternatives.
9. A column for **alternatives** provides for suggestions to be considered.

#### Tips to record consumption:

The hours of use are not always known before the audit as no one thought about this. It is useful to prepare an appliance or lighting table for each area and record the hours of use for a week. Make sure it is a week that reflects the typical use of the centre. Lighting shops can help identify lights if you have a photo with the bulb inside the fitting.

**Electricity guzzling appliances are typically:** geysers, heaters and air-conditioners, security lights, electric ovens, pool pumps that run for hours, and frequently used kettles and urns.

### Step 2: Calculating consumption

To work out the electricity consumption per appliance, use this simple formula:

*(Watts x hours used per day x no. of appliances) divided by 1000 = daily consumption.* Dividing by 1000 converts the watts to kWhs. (1 kilowatt =1000 watt).

To get your monthly consumption figure, multiply your total daily figure by 30 days and note this amount in your spreadsheet under monthly consumption.

Add up the total kWh usage for all appliances to reach your total electricity consumption.

For energy efficiency practices and appliance alternatives, refer to page 16.

### Step 3: Understanding long-term patterns of consumption



A record of consumption over time from electricity accounts will give a good indication of the patterns of consumption. It will show seasonal variations due to longer hours of lighting and heating in winter. If you have access to past electricity accounts or a record of pre-paid purchases, then list at least a year of the monthly kWhs/electricity units in a table so you can identify patterns of use. It is important to record the electricity units/kWhs. This will provide a baseline against which you can measure the success of new efficiencies, and set targets for reducing consumption. If there are a number of meters serving different sections of the complex, you need to include these separately.

Example of a table recording consumption:

	A	B	C	D
1	<b>Date of purchase or of account</b>	<b>Meter number</b>	<b>kWhs used in month</b>	<b>ave. kWhs used per day</b>
2	11/01/2018	76543	653	21
3	11/02/2018	76543	489	
4	11/03/2018	76543	601	
5				

### Step 4: What is using too many Watts?

Identify high-consuming appliances and colour them a different colour on the consumption table.

Improving efficiency can be behavioural, such as switching off lights, or technical, such as installing occupancy detectors to regulate lighting. Start with high consuming appliances. Often simple, effective and cost-saving actions, like turning off an appliance when not in use, will help you to reduce your consumption.

INCANDESCENT	LED	COMPACT FLOURESCENT	HALOGEN DOWNLIGHT	LED DOWNLIGHT	LED CANDLE
60 / 100 watts	7 / 9 watts	11/ 14 watts	50 watts	3 / 5 watts	5 / 7 watts
					
x	✓	Efficient but has mercury	x	✓	✓

### Step 5: Return on investment calculations

Energy efficient lights and solar water heaters provide some of the fastest savings and financial returns on the money spent on installation. A *Return on Investment* calculation will help to work out the financial benefit of replacing inefficient lights. The table below gives energy and cost savings of replacing inefficient halogen lights with LEDs. While LEDs cost a little more to purchase, they last much longer and the electricity saving is dramatic.

Type of lights	Number of lights	Wattage	Hours of use per day	kWhs per month (no. x Watts x hours x 30days /1000)	Cost per month at R2.60 per kWh (CT commercial low power)
Halogen down lights	20	50 Watts +7 watt transformer	5	171kWhs	<b>R444.60</b>
LED down Lights	20	5 Watts	5	15kWhs	<b>R39.00</b>

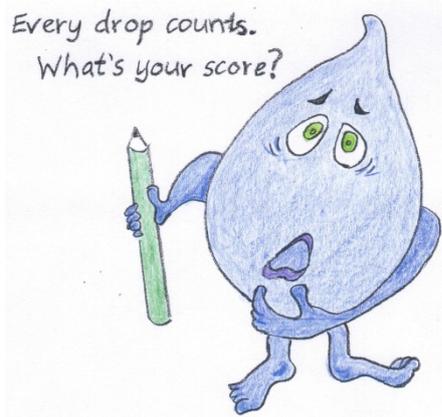
If you plan to replace a water geyser with a solar one or a heat pump, ask that the installer shows you the return on investment calculations.

## 4. Water Audit

Safe drinking water is a limited resource. Whilst access to water is a basic human right, everyone has the responsibility to be water-wise, use water efficiently and treat it as a precious resource.

Every drop counts.

What's your score?



Check for leaks and drips.

**Visible leaks** can be found by examining all the taps and toilets for signs of dripping. Also check that the geyser overflow is not dripping excessively.

**Invisible leaks**, either underground or in the walls, can be traced using the mains water meter. Switch off all taps and appliances and take a water meter reading. After 30 minutes, look to see if the wheel is turning or the dials have advanced.

If the property has rain water tanks, a well point or borehole, identify these water resources and for what they are used (mark these on your plan or map).

Identify all the points of consumption and record both the litres per use and the frequency of use e.g. how many litres per toilet flush and how many flushes.

Many water appliances do not list the litres per use, which means you may have to measure this manually. **For typical appliance water use, refer to the Water Consumption Table on page 17.**

**Tips to measure consumption:** To determine the water used by toilets and sinks, fill the cisterns and sinks with water from a 1 litre bottle or jug, recording the number of litres. For the toilet, lift the cistern lid and close the toilet inlet tap to stop water filling the cistern. Empty the cistern by flushing the toilet. Use a 1 litre bottle or jug to fill the cistern, measuring how many litres are used.

To measure the litres of water used by hoses, taps and showers, fill a 10 litre bucket with water and record how much time it takes to fill - the minutes and seconds per 10 litres. Use this value to determine how much water is consumed in a 2 - 4 minute shower or 30 - 60 minute irrigation cycle. Make sure to use the 10 litres of water collected in the test after you are done- every drop counts.

For toilets, showers and hand basins, try to find the total amount of litres used based on the litres per use multiplied by the number of users, not the number of water appliances. For example, if there are 5 toilets and 10 people on a weekday, but 100 people on a weekend, the frequency of use is more important than the number of basins, toilets and showers. Record data on a table or spreadsheet of appliances and water points like taps, toilets, basins and showers. See the example below:

A	B	C	D	E	F	G	H	I
Location	Appliance	No. of Units	litres per use	uses per day*	Record of variable use per week / month	litres per day	litres per month	Alternatives
* count the number of users when adding up the uses per day								
Kitchen	Kitchen sink	2	18	1		36	960	re-use rinse water
	dishwasher	1	17-45		2 x on weekends		320	wash when full only
Bathroom	hand basins	4	1.5 ?		10 x per day in week & 100 x on weekend	15	1530	
	toilets	6	11 ?		10 x per day in week & 100 x on weekend	110	11220	reduce cistern volume
Grounds	taps	3	600 per hr		2 x per week for 2 hrs per session		57600	use rain water

## Step 2: Calculating consumption

In determining water consumption, it is important to calculate the average amount of litres used each time and then multiply this by the number of uses. Most often the numbers of people using the appliances and the frequency of use per person is more important than the number of appliances such as toilets, showers etc.

An added variable is the different use-patterns on different days of the week. Toilets at a faith centre are likely to be used far more on a worship day. Watering the garden for 2 hours, 2 times per week per tap, would affect daily use patterns. Record these variables as shown column F. Absolute accuracy is less important than identifying activities and appliances that use high amounts of water. Such events will be the focus of efficiency actions.

## Step 3: Understanding long-term patterns of consumption

A past record of water consumption for at least one year from accounts gives a good indication of the patterns of use, including seasonal variation e.g. irrigation. This information provides a baseline against which you can measure the success of new water saving behaviour, and also set targets for future efficiency. If there are a number of meters serving different sections of the

centre, you need to include these in the table. Below is an example of a table recording water consumption:

	A	B	C	D
1	<b>Account date</b>	<b>meter number</b>	<b>kiloliters used in month</b>	<b>average daily consumption in kilolitres</b>
2	2018 01 11	3579	17	0.56
3	2018 02 11	3579	15	0.5
4	2018 03 11	3579	10	0.33
5				

### Step 4: What are the top water consumers?

Think about where the centre uses the most water every day. Colour high consuming appliances and activities in a different colour on the consumption table. Efficiency measures can be behavioural, such as reducing the amount of water used when washing before praying, or technical, such as reducing the volume of the toilet cistern. What behavioural changes can you make? What low costs savings can you implement? Start with the high consuming appliances and activities.

**For water efficiency practices and alternatives refer to page 18.**

## 5. Waste Audit

Nature knows no waste as everything is recycled. Sadly, in human societies, the convenience of modern packaging and an economic model that promotes a consumer culture is creating mountains and oceans full of discarded manufactured items. *"If the current trend continues, there could be more plastic than fish (by weight) in the ocean by 2050."* (Source: the New Plastics Economy)

The first shift to reducing what we throw away is a personal choice and commitment. We need to stop thinking that something is waste or rubbish when it is no longer useful to one person. This thinking allows us to throw things away – in a world where there is no such place as 'away'. All that is discarded from our homes, workplaces and faith centres contains raw materials, and 'embedded' energy and water. None of these natural resources would be wasted in a truly sustainable society.

There are three key steps to moving to a waste-less society:

- **Avoid** packaging and material items that are not recyclable, or even needed;
- **Reuse** packaging and material items as they are, or as 'upcycled' articles;
- **Recycle** packaging and articles so that their raw materials can be converted into new products. Composting is a natural process that recycles the nutrients in organic waste so that they are available to 'feed' plants.

To manage what we throw 'away', we need to understand the different types of waste and to separate them for responsible disposal. At the simplest level these are:

- **organic**, including food left overs, dead flowers and garden clippings;
- **hazardous products** with potentially toxic chemicals. These include batteries, fluorescent and CFL lights (mercury content), some electrical equipment, and chemicals including paints, cleaning agents and pesticides;
- **general waste** normally thrown out from homes and public places. Almost all these discarded items are recyclable in some way.

**Use the Waste Audit Table on page 18 to identify categories and volumes of waste.** This will help record what can and can't be recycled, composted and disposed of responsibly. If your home, business or centre uses a single bin for all waste, you have two options:

- Sort through the bins to identify and weigh the different kinds of discarded items to fill in the audit table, or;
- Set up separate dedicated containers for paper waste, dry waste (bottles, cans, clean plastic etc.), organic kitchen waste, garden clippings and hazardous waste, etc. This makes the audit process far easier and it starts the journey of separating to recycle.

**For hazardous waste:** There are dedicated disposal sites for hazardous products in many urban centres. Find out where these are or which licensed contractor is able to collect them for disposal. If there are no sites for hazardous waste, you need to lobby your local authority and environmental department to provide one.

Faith communities may also wish to take note of **some forms of packaging with a high recycling value.** These are often collected to support organisations. Examples are bread tags for *Wheel Chairs* and bottle tops for the *Smile Foundation*.

## **Step 2: What is being wasted?**

The Waste Audit Table should give a clear idea of what items are currently being discarded to land fill sites, and what can be diverted for composting and recycling. Identify and focus on the easy to recycle items, the items that make up the largest volume of your waste and the hazardous waste that needs special disposal.

There are an increasing number of drop-off recycling centres and recyclers that will collect larger volumes. With 7 kinds of plastic it can be difficult to know what is recyclable, but a local recycler will be able to provide advice. Plastic is usually labelled with polymer numbers from 1 to 7, as in the graphic below. Avoid number 7, a multi-layered plastic, which is difficult to recycle.



For large centres, selling recyclables can provide a small income for the staff who manage the process. Inform the local authority about the need for less days for collection or fewer bins that need to be emptied and save refuse collection costs.

**Reducing waste is essentially about behavioural change.**

The first step is to reduce single use items, especially plastic ones, such as straws, bags, coffee mugs, fast food packaging, water bottles, etc. These items most often end up in our rivers, wetlands and at sea. Encourage the use of personally owned, re-usable cups, containers and water bottles.

Develop a plan to encourage separation of the `waste` categories at source to facilitate successful recycling. This requires dedicated containers with clear signage for each type of material.

**Not wasting is essential to living with gratitude for and appreciation of the abundance of creation.**

## 6. Land Management Audit

Our homes, offices and faith centres as part of the web of life. With this in mind, consider how they can best be managed to support natural systems and cycles.

The table below lists questions to encourage thinking about eco-friendly land management practices. Which answers are potential flags for eco-friendly alternatives on your property?

	<b>Greening spaces: Trees &amp; shrubs clean and cool the air, dampen sound, absorb pollutants and provide habits for other than human creatures.</b>	<b>YES</b>	<b>NO</b>	<b>DON'T KNOW</b>
1	Does the property have areas that are not covered in hard surfaces and are planted with trees and shrubs?			
2	What percentage of the vegetation on the property is indigenous?			
3	Are wild creatures (birds, insects and small reptiles such as lizards and frogs) regularly seen on the property?			
4	Does the property have features, including bird baths that encourage wildlife? (Overly managed properties offer few natural habitats.)			
5	Is leaf litter kept in the planting beds to mulch the soil?			
6	Does the property have a compost heap to recycle nutrients?			

Water use and management		YES	NO	DON'T KNOW
1	Does the property have non-paved areas where rain water can soak back into the ground?			
2	Is rain runoff piped off the property to the street or discharged on site to soak in?			
3	Are most of the plants water wise?			
4	Is rain water harvested (rain tanks)?			
5	Does the property have a borehole or well point and if so is the water used conservatively? Ground water is a shared resource.			
6	Is grey water (shower water, rinse water, handwashing) collected and used(e.g. for washing floors/windows or watering plants)			

Use of chemicals and pesticides.		YES	NO	DON'T KNOW
1	Are harsh cleaning chemicals such as bleach routinely used on the property?			
2	Are chemical herbicides and pesticides (including rat poison) used on the property?			
3	Are waste items and obsolete appliances stored on site?			
4	Does the complex have a policy of using environmentally friendly chemicals?			

## 7. Green Your Events

Greening faith community events is a learning opportunity and sends a clear message about the responsibility of people of faith to care for creation. By greening your events you will grow the circle of care, supporting caterers and suppliers that are committed to efficiency and reducing waste. When hosting an event with the intention of reducing the environmental impact, make a clear statement on the invitation to alert those attending e.g. "In keeping our commitment to care for creation this is a green event".

The table below lists questions to encourage 'greening' the events at your faith complex. Which answers are potential flags for eco-friendly alternatives?

Catering:		YES	NO	DON'T KNOW
1	Does the centre and caterer use washable crockery and cutlery rather than single use plastic utensils?			
2	Does the centre supply bottled water or water in jugs?			
3	Does the centre try to source all animal product ingredients ethically? E.g. free range products or seafood on the sustainable seafood list.			
4	Does the centre offer vegetarian or vegan food at events?			

Water use and management		YES	NO	DON'T KNOW
1	Are the catering and cleaning staff trained to ensure washing of dishes and cleaning after the event is done with efficient use of water?			
2	Is there prominent signage to encourage efficient use of water in the bathrooms?			
3	Where appropriate, does the centre supply hand sanitizers rather than water in the bathrooms?			

Energy Use		YES	NO	DON'T KNOW
1	Are Wonderbags or hot boxes used to keep food hot and cold?			
2	Where appropriate, is hot water heating managed so that urns do not boil long before they are needed and where appropriate flasks are used?			
3	Is natural light used where possible and lighting only used when necessary and not left on all the time?			

Waste		YES	NO	DON'T KNOW
1	Is spoilt food & food scraps composted or taken/ collected by a composting contractor?			
2	Are clearly marked waste bins provided so that waste is separated on site?			
3	Have single use paper handouts been reduced to a minimum.			

## 8. Share Your Story

Share your experiences and learning with others and with SAFCEI so that we can learn from each other and grow our collective impact.

Electronic copies of the eco-audit booklet and of the electricity, water and waste audit templates will be available at [www.safcei.org](http://www.safcei.org).

Kim Kruyshaar, an independent sustainability consultant, compiled this resource for SAFCEI. If you have specific challenges you may contact [kim@greenaudits.co.za](mailto:kim@greenaudits.co.za).

## 9. APPENDICES

### 9.1 ELECTRICITY

#### 9.1.1 Table of Typical Appliances with Average Consumption

Typical appliance electricity consumption			
Appliance	Power usage watts	Average hours usage per day	Watch these high electricity consuming appliances
<b>Hot water heating</b>			
Geyser electric	2 600 – 3000	4.4	X
Geyser solar with electric back-up	2 600	1.7	
<b>Lighting</b>			
Incandescent light bulbs	40/60/100	5	X
Security lights	150 /300	8	X
Compact fluorescent light bulbs	12/18/20	5	
Halogen downlights	50	5	X
LEDs (Light emitting diodes)	3/10	5	
<b>Cooking</b>			
Electric stove	2500 – 3 000	2	X
Hotplate – large	2 400	0.3	X
Hotplate small	1 275	0.2	X
Kettle	1 900	0.3	X
Microwave oven	1 230	0.8	
Toaster	1 210		
Electric frying pan	1250		X
Food processor	166		
Coffee machine	670		
<b>Refrigeration</b>			
Fridge – no freezer	150-250	5	X
Fridge with freezer	158	5	X
Freezer chest	105	4	
Inverter fridge	75-120	5	
<b>Home Maintenance</b>			
Dishwasher	2 500	1.0	X
Vacuum cleaner	1 000		
<b>Laundry</b>			
Washing machine	3 000	0.75 per load	X
Tumble dryer	3 300	0.5 per load	X
Iron	980	0.4	
Steam iron	1 235	0.8	X
<b>Home and office equipment</b>			
Computer	134		
Fax machine	45		
Cordless phone	2		
Standard 72cm TV	148		
Cellphone charger	9		

LCD Flatscreen TV	250		
Personal Laptop	80		
Burglar alarm	10	24	
Hair dryer	647		
Radio	12		
M Net decoder	28		
MOST VALUES IN TABLE FROM THE CITY of CT – SMART LIVING HANDBOOK			

A number of websites give energy calculations for appliances such as [energyusecalculator.com](http://energyusecalculator.com)

### 9.1.2 Standard energy efficiency practices and appliance alternatives

APPLIANCE	INTERVENTION
<b>Geyser</b>	Replace with a solar geyser or a heat pump
	Install a geyser timer to heat water before use
	Reduce water temperature to 55degrees
	Insulate geyser and hot water exit pipe
<b>Lighting</b>	Replace with LED alternatives
	Switch off lights and put reminders on light switches
	Use occupancy detectors to activate lights
	Use day / night sensors for outside lights
<b>Kettle and Urn</b>	Boil what you need
	Use a thermos flask to store boiled water
	Invest in an urn with thermostat and insulation
<b>Hot plate and oven</b>	Choose recipes that do not need to bake or grill
	Use a hot box or Wonderbag to reduce cooking time
<b>Space heating &amp; cooling</b>	Close draughts coming through cracks.
	Install UV screens on west facing windows to reduce heat
	Dress appropriately to reduce need for heating and cooling
	Where air cooling is essential reduce the difference between inside and outside temperatures as much as possible to reduce running time.
	For heating use microwave bean bags / hot water bottles or lap blankets rather than electric heaters.
<b>Office equipment</b>	Switch off when not in use overnight or for long periods.
	Replace with efficient models with automatic standby mode
	Dress appropriately to reduce need for heating and cooling

## 9.2 WATER

### 9.2.1 Table of Average Water Consumption

Typical Water Consumption Volumes		
Activity	Average litres of water per activity (Source City of Cape Town)	Comments recommendations
Wash hands and face	1.5 ltrs	
Bath	80 – 150 ltrs	Not recommended – consumption too high.
5 min shower	50 -80l ltrs	Less than 10lts per minute is prescribed.
Brushing teeth with tap on	4 ltrs	Switch off tap and use a glass
Toilet flush	6 – 11 ltrs	Legal maximum for new is 9ltrs. Old cisterns use more.
Washing dishes (hand)	18 single / 36 double basin	Re-use rinse water to wash floors, windows or in garden.
Dishwasher	17 – 45 ltrs	Only wash with full load.
Washing machine (3kg load)	60 -80 ltrs	Re-use rinse water to wash floors, windows or in garden.
Leaking tap (1 drop/second/day)	30 – 60 ltrs	It is illegal to neglect a leak or dripping tap.
Using garden hose for an hour	600 ltrs	Use rain water
MOST VALUES IN TABLE FROM THE CITY of Cape Town – SMART LIVING HANDBOOK		

## 9.2.2 Standard water efficiency practices and appliance alternatives

APPLIANCE / ACTIVITY	INTERVENTION
<b>Rainwater</b>	Catch rain water in tanks to supplement water supply
	Create soak away areas on property to catch rain to resupply the ground water.
<b>Bath / shower</b>	Short shower 2-3 minutes rather than bathing
	Catch shower / bath water for reuse to flush toilets, wash floors or water garden
<b>Toilets</b>	Public messages encouraging water saving
	Reduce volume of cistern
	Re-plumb toilets to use rain water or ground water
	Flush when necessary and not after each wee pee.
<b>Urinal</b>	Replace continual flush with flush as needed.
	Re-plumb toilets to use rain water or ground water
<b>Hand washing</b>	Use homemade hand sanitizers
	Encourage trickle tap flow to conserve water
<b>Dish washing</b>	Public messages encouraging water saving
	Use dishwasher only with a full load
	Collect dishes and wash once a day
	Never rinse under running water
	Collect rinse water in a basin and use to water garden
<b>Clothes washing</b>	Use clothes washer only with a full load
	If a top loader use rain water or ground water where water quality allows.
<b>Gardening</b>	Plant water wise plants
	Mulch planting beds
	Reduce lawns & replace with water wise ground covers
	Use rainwater / greywater / conservative use of ground water.
<b>Cleaning</b>	Sweep grounds and do not hose down with water
	Wash windows, floors & cars with rainwater / greywater / ground water.

## 9.3 WASTE

### 9.3.1 Waste Audit excel spread sheet template

**Waste Audit Sheet - Location:**

Date	Auditor
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**Solid Waste**

Type	Amount per month	Measuring unit		Tick if currently recycled	Tick if can be recycled	Comments
Electronic / IT		units				
Furniture		units				
Glass		kg				
Metal: general		kg				
Metal: tin cans		kg				
Organic: food		kg				
Organic: garden		kg				
Paper: Cardboard		kg				
Paper: mixed		kg				
Paper: white		kg				
Plastic: PET		kg				
Tetrapack		kg				
Rubble/soil/ash		kg				
Textile		kg				

**Hazardous Waste & Chemicals**

Type of waste	Amount per month	Measuring unit		Tick if disposed responsibly	Tick if put with refuse	Comments
Batteries		kg				
CFLs		units				
Chemicals incl. pesticides & cleaning		litres				
Oils & paints		litres				

**Disposal**

Type of bins	Number	Comments
Compost heap		
Worm farm		
Indoor bins		
Wheelie bins		
Skips		
Other		