

Shifting Towards Sustainability

Sustainability Workshops
for Lane Cove residents



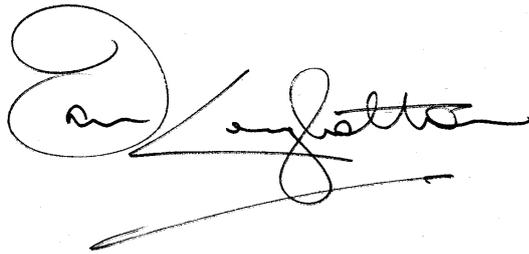
Welcome

Living sustainably is no longer a term used by ardent environmentalists; it's fast becoming an integral part of many people's everyday lifestyle. Topics such as climate change, the scarcity of water and the reliance on resources that cannot be replaced are being discussed at dinner tables right across Australia. The people of Lane Cove are to be congratulated for changing their behaviour to be more sustainable. But there is more to be done on the local level.

The Lane Cove community is very receptive to new ideas about how we can reduce our impact on the planet. Of course there is still much more we can do, with little or no disruption to our lifestyle. Lane Cove Council has devised a series of practical workshops to help residents continue in their efforts to put these 'living sustainably' words into action.

These workshops will hopefully inspire those new to sustainable living and further encourage those who have already embraced the concept to keep spreading the message.

Thank you for attending these workshops and for your efforts to act more sustainably.

A handwritten signature in black ink, appearing to read 'Ian Longbottom'. The signature is fluid and cursive, with a large initial 'I' and a long horizontal stroke at the end.

Cr Ian Longbottom
Mayor Lane Cove

About the Workshops

Lane Cove - Shifting towards Sustainability with the Community

The workshop that you are attending is one of seventeen workshops that comprise the Shifting Towards Sustainability series. Workshops are being held with individuals in the community; with members of resident action groups, with Permaculture North, Lane Cove Branch and the Lane Cove Bushland and Conservation Society; with schools, both students and parents; with existing sustainability champions [the Lane Cove Sustainability Action Group] and with new community sustainability champions.

The workshops are designed to build upon existing community interest in sustainability. They aim to extend sustainable behaviour across the Lane Cove community so that less water and energy are used, less waste is produced, bushlands and gardens are free from weeds, food is grown at home and the ecological footprint of the community is reduced.

Practical. Interactive. Engaging. Informative. Motivating. Each workshop will help you to think about and change your actions (where change is needed!) and share your ideas for creating a more sustainable Lane Cove.

The schools in Lane Cove are already implementing sustainability education and initiatives. Each of these workshops will seek to support these schooling actions by considering the following topics:

- Sustainability at home
- Helping young people to be more sustainable
- Communicating about sustainability at home
- How parents can help integrated, planned, strategic approaches to sustainability in schools.

The community is also practicing sustainable behaviour in some parts of their lives. These workshops will help you to enhance this.

About the behaviours that the workshops are endeavouring to change

Introduction

Each of the workshops and presentations in the Lane Cove Council Community Workshop series will seek to achieve positive change in a limited number of core behaviours – or confirm that these behaviours are already happening – for all participants in the workshops. Extension behaviours, relevant to each core behaviour, will also be encouraged [see the diagram below].

It is of note that most people in the Lane Cove community have already adopted some sustainability behaviours. These are those behaviours for which there is substantial community uptake, i.e. most people in Lane Cove do these things. These are the assumed behaviours and include

- Compliance with kerbside recycling services offered by Council
- Cleaning up dog faeces
- Complying with current level of water restrictions
- Making an effort to reduce water and energy use
- Limited littering and graffiti

About Core and Extension behaviours

Now there are some behaviours which need to be adopted by most people and these are called Core Behaviours. Beyond that there are some behaviours that some people only will be able/willing to do. These are called Extension Behaviours. The workshops will focus on encouraging people to change core behaviours and raise the issue of extension behaviour as appropriate. It is not expected that every person will change every behaviour.

Water

Core behaviour	Extension behaviour
<input type="checkbox"/> I have reduced garden watering to the minimum	<input type="checkbox"/> At my place no one waters the garden for more than 30 minutes per week
I do some other things to save/reuse water at home. For example: <ul style="list-style-type: none"> <input type="checkbox"/> I fix leaky taps <input type="checkbox"/> I save water at the sink for rinsing <input type="checkbox"/> I have shorter showers <input type="checkbox"/> I wash the car less often 	<ul style="list-style-type: none"> <input type="checkbox"/> I have a front loading washing machine <input type="checkbox"/> I have a water tank <input type="checkbox"/> Water from my water tank is used in the laundry/toilet <input type="checkbox"/> I collect cold water from the shower etc for use on the garden <input type="checkbox"/> Every shower is as close to 4 minutes as I can make it <input type="checkbox"/> Everyone in my family has shorter showers too

Energy

Core behaviour	Extension behaviour
<input type="checkbox"/> I turn off electrical equipment at the power point when it is not in use <input type="checkbox"/> I make sure lights and appliances are used efficiently	<input type="checkbox"/> I turn off electrical equipment at the power point when it is not in use every time and my family does the same
<input type="checkbox"/> I use energy saving appliances and light globes where possible	<input type="checkbox"/> All appliances used at home are at least 3 star rated
<input type="checkbox"/> I use efficient cooling/heating around the home <input type="checkbox"/> My home is draft proofed	<input type="checkbox"/> My home is fully insulated <input type="checkbox"/> I use fans for cooling rather than an air conditioner

Waste

Core behaviour	Extension behaviour
<input type="checkbox"/> I take every opportunity to recycle beyond kerbside recycling	<input type="checkbox"/> All my light globes are recycled <input type="checkbox"/> All my e waste is recycled <input type="checkbox"/> I collect old chemicals and use the Council collection days to recycle them
<input type="checkbox"/> I don't waste fresh food – as far as possible I only buy what I need and cook what will be eaten	<input type="checkbox"/> All fresh food scraps are composted or worm farmed

Shopping

Core behaviour	Extension behaviour
<p>I am a critical consumer. I buy less now than I did because I only buy what I need. For example:</p> <input type="checkbox"/> I buy fewer take-away coffees or other drinks <input type="checkbox"/> I carry a water bottle and avoid buying bottled water <input type="checkbox"/> I buy 3 fewer items of clothing each year <input type="checkbox"/> I reduce use of plastic bags <input type="checkbox"/> I buy Australian made	<input type="checkbox"/> I question my purchases 100% of the time. They must pass the test of “do I really need this?” <input type="checkbox"/> I use Lane Cove services where I can

Garden

Core behaviour	Extension behaviour
<input type="checkbox"/> If I live in a single unit dwelling I use my green waste on site as far as is possible <input type="checkbox"/> If I live in a multi unit dwelling I do all that I can to support the re-use of green waste	<input type="checkbox"/> All gardens at my place are mulched <input type="checkbox"/> 100% of the green waste I generate is used <input type="checkbox"/> All clippings and lawn clipping from the mower is reused as mulch <input type="checkbox"/> Green waste is managed so it goes back to the soil
<input type="checkbox"/> I plant natives; Increasing use of native species in my garden	<input type="checkbox"/> My garden attracts birds and other indigenous species <input type="checkbox"/> My garden only contains indigenous species

Transport

Core behaviour	Extension behaviour
<input type="checkbox"/> I have reduced my use of the car and I walk or cycle more	In realising the need to reduce car use I: <ul style="list-style-type: none"> <input type="checkbox"/> use public transport to get to work more often than I used to <input type="checkbox"/> use the car less on the weekend <input type="checkbox"/> plan my travel so I can cut down on trips, share a car if possible, use public transport where available <input type="checkbox"/> I walk or cycle at least three times per week for health and the environment

Social dimension of sustainability

Core behaviour	Extension behaviour
<input type="checkbox"/> I value the Lane Cove community and enjoy being a part of it <input type="checkbox"/> I participate in community events	<input type="checkbox"/> I realise how important it is to have a strong, resilient community. I participate where I can. I help build a strong community <input type="checkbox"/> I am a member of a local community organisation

You: your own changes

In addition to the behaviours outlined above, there will be additional sustainability actions and behaviours that individuals will identify for themselves. Individual lists will be influenced by capacity, context and commitment. The presentations and workshops will focus on the role of individuals in change and the importance of doing whatever one is able to do. Hence other behaviour changes might be expected.

Fact Sheet #1 : Sustainability, climate change & energy

Climate change, resource depletion, ecological footprint: all these things are different but related. They all pose a threat to our continued existence on Planet Earth, and all are related to overuse of the resources that are available.

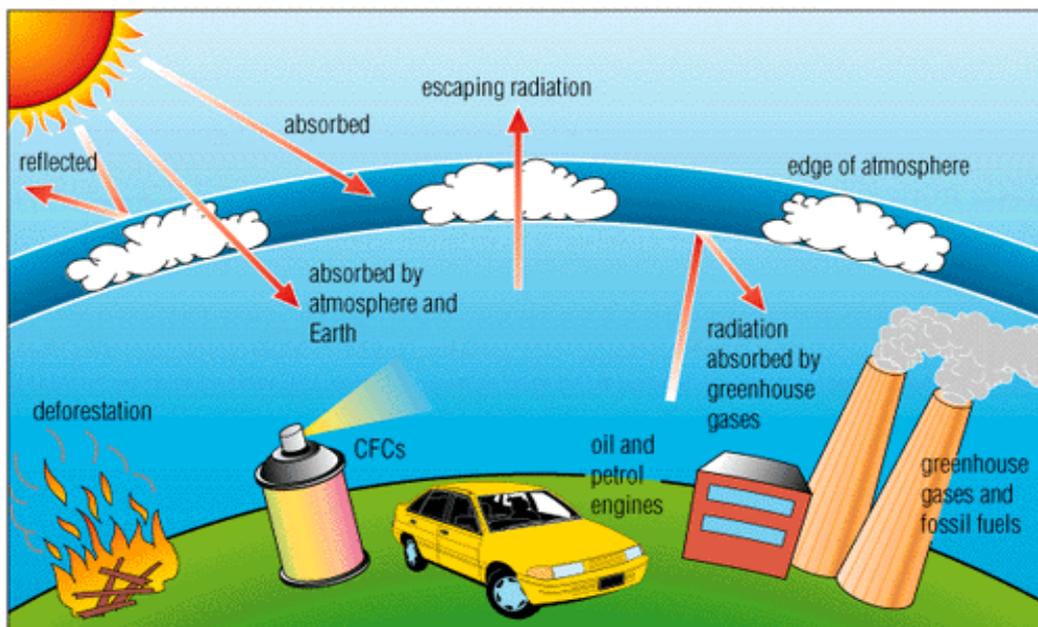
"Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs"
(World Commission on Environment and Development, 1987, p 43).

Australia's Ecological Footprint in the *Living Planet Report 2008* was 7.8 global hectares (gha) per person. This is 2.9 times the average global Footprint (2.7 gha), and well beyond the level of what the planet can actually regenerate on an annual basis - an equivalent of about 2.1 global hectares per person per year.¹

Obviously this is not "sustainable" if things continue as they are.

The Greenhouse Effect

A blanket of water vapour and carbon dioxide envelopes the earth creating a "greenhouse effect". Without this blanket the sun's radiation would be reflected back into space and our planet would be too cold to sustain life.



¹ It's important to remember that as the world's population increases, the sustainable area available to each of us decreases.

However, our contributions of carbon dioxide (from the burning of fossil fuels e.g. oil, gas, coal, especially in the creation of electricity and the running of motor vehicles) and methane (from vast increases in livestock numbers) are causing the concentration of CO₂ in the atmosphere to reach alarming proportions. At the same time, the ability of nature to absorb CO₂ is reduced by removal of woody trees (high absorbers of CO₂) and their replacement with hard surfaces, grasslands for grazing or bio-fuel crops (which absorb less CO₂).

As the blanket of CO₂ surrounding the earth becomes thicker, less of the sun's radiation is able to escape into space thus causing "global warming".

Global surface temperature increased 0.74 ± 0.18 °C during the 100 years ending in 2005. While this may seem insignificant, it has been sufficient to bring about noticeable changes in the pattern of viable agricultural activities around the world, and changes in extreme weather events (bush fires, floods, cyclones, droughts).



Of particular concern is the evidence of melting of ice shelves at both North and South poles. The melting of the Greenland ice shelf could cause sea levels to rise by 7 metres; in the unthinkable event that the Antarctic ice shelf melted, sea levels would rise by about 61 metres.

Even just a one metre rise in sea level will be sufficient to displace 300 million people, people who would then be looking to find new homes often in foreign countries.

These increases in CO₂ concentrations, too, are not sustainable.

It is often claimed that Australia, in net terms, is only a small player in the climate change arena. But in this area we are "punching well above our weight".

Australia has 0.32 per cent of the world's population, yet produces 1.43 per cent of CO₂ emissions. This means that, per person, pollution levels are 4.5 times the global average, beaten only by the United States. On average, each person in Australia and the US now emits more than five tonnes of carbon a year, while in China the figure is only one tonne per year.

Australia's annual gaseous emissions of CO₂ amount to about 590 million tonnes. Our exports of coal are about 250 million tonnes. Almost all of that coal will later be burned and will produce CO₂ with a mass of about 740 million tonnes.

The emissions for which Australia can be held accountable, therefore, are a massive 3.1% of the world's CO₂ emissions, making Australia by far the largest per capita contributor to the climate change emergency.

What can you do...

At home?

Purchasing 100% Accredited Green Electricity (while slightly more expensive) increases demand for power sourced from renewal sources (e.g. wind, solar, etc.).

<http://www.greenelectricitywatch.org.au/>

Companies generate electricity at a range of sites across Australia and supply the electricity to a central power grid. Our homes and businesses are connected to this grid so we can access electricity. Energy suppliers who sell accredited GreenPower products buy electricity generated from accredited renewable energy generators on your behalf and feed it into the National Electricity Grid.

GreenPower provides consumers with a way to influence how their electricity is being sourced beyond the government's mandatory target. As a result of the growing demand for renewable energy, more than 182 new GreenPower accredited generators have been installed in Australia. Growth of the renewable energy industry and the installation of new generators have made a positive contribution to employment and tourism in regional areas.

<http://www.greenpower.gov.au>



Because GreenPower is more expensive, you will also want to reduce your power consumption. There are a number of simple actions you can take.

✓ **Solar hot water.** Up to 25% of a domestic electricity bill can be attributed to water heating. Install a solar hot water heater and get your hot water free (on all but the coldest winter days). Rebates are available from both federal and NSW state governments

<http://www.hotwaterrebate.com.au/>

✓ **Lighting.** Energy saving globes now exist for almost all types of lighting fixtures, including downlights, and can save 80% of electricity used.

✓ **Muscle power.** Before you reach for the electric toothbrush, remember that it is possible to do many things "by hand". Sweep, rake, mop, carve, mix, beat cream. Doing these things by hand will not only save power and money, but also help to increase your fitness. Dry clothes and hair in the sun. (You can even generate "people powered" electricity! Check out the Green MicroGym

http://www.youtube.com/watch?v=Uq_qNsMCxyc)

✓ **Insulation.** Will keep your house cooler in summer and warmer in winter. Seal doors to keep out drafts. Shade windows from the outside with trees or awnings. Wear clothing appropriate to the season.

<http://www.environment.gov.au/energyefficiency/insulation-homeowner.html>

✓ **Standby.** Anything that ticks or flashes is using power. If you're not using it turn it off at the plug! Televisions and other appliances on "standby" can contribute 10% of your electricity bill.



✓ **Solar (photovoltaic) panels.** You can produce your own, or some of your own, electricity by installation of solar panels on your roof. These panels are not cheap, but can greatly reduce the size of your electricity bills. In fact, during

summer, you may even find yourself generating excess power that can be sold back to your supplier.

<http://www.environment.gov.au/settlements/renewable/pv>

✓ **Smart Meters** (that record WHEN as well as HOW MUCH electricity is used) will allow you to minimise your bills even more, with shoulder and off-peaks rates only around 33% and 20% of the peak rate (for example, see

<http://www.energy.com.au/energy/ea.nsf/Content/NSW+TOU+Res+Home>)



✓ **Transport.** Minimise car usage. Walk or cycle for short trips. Use public transport. Car pool. Shop locally, buy locally produced goods. Have large grocery orders home delivered or shop online. Minimise air travel, consider holidaying closer to home. <http://www.bikenorth.org.au/> ,

<http://www.131500.info/> ; <http://www.visitnsw.com/>

✓ **Food.** Eat less meat, especially beef and lamb. Kangaroo is a good alternative as these animals do not produce the same methane² emissions as cows and sheep. However, two or three meat free days each week will reduce your ecological footprint even further.

At work and in the community?

Of course everything that applies in the home, also applies at work: energy efficient lights/appliances, turning things off when they are not in use, especially overnight. Some other things that might apply at work are:

✓ **Air conditioning.** Can the temperature be turned up one degree? Some offices are cooled to the extent that workers need to wear extra clothes to feel comfortable. The CSIRO has developed a replacement for traditional air conditioning. <http://www.csiro.au/solutions/pps6a.html>

✓ **Purchasing departments.** Look at the energy efficiency of products you buy. <http://www.energystar.gov.au/>

✓ **Power suppliers.** A number of Accredited Green Power suppliers provide business accounts. <http://www.greenpower.gov.au/accredited-products.aspx>

✓ **Motion detectors.** If rooms are not in frequent use, motion detectors can control lights/air conditioning.

✓ **Elevators.** Use the stairs whenever possible.

✓ **Meetings.** Try to replace face-to-face meetings that involve car or air travel with meetings using phone or internet.

✓ **Live locally.** Employment, entertainment (musicals, concerts, movies) and other recreational activities can often be found locally and dramatically reduce the need for travel.

✓ **Lane Cove Council.** For more tips about what you can do to save energy and reduce your contribution to global warming, visit Council's website:

<http://www.lanecove.nsw.gov.au>

² Methane has 21 times the Global Warming Potential of carbon dioxide.

Fact Sheet #2 : Water - essential to life

The impacts of a growing population and a variable and changing climate are putting pressure on our water supplies. This means we all have a role to play to ensure a sustainable water future for greater Sydney.

A broad range of initiatives are now in place to reduce demand for water, to increase supply and recycling, and to protect and restore catchment health.

The drinking water for Sydney, Blue Mountains and Wollongong comes from a catchment area of over 16,000 square kilometres where rain collected by the natural landscape runs in to creeks and rivers, and then flows into a network of 11 lakes and dams where the water is stored for use as drinking water. The Sydney Catchment Authority is responsible for maintaining the health of these catchments and the quality of drinking water. <http://sca.nsw.gov.au>



Sydney stores more water per head of population than many other cities in the world. These other cities often draw heavily on other sources of supply not available to Sydney, notably more reliable rainfall, groundwater and snow-melt water. Sydney's current storage system could provide Sydney with four years of supply under zero inflow conditions. Compare this with Tokyo, which has six weeks of zero inflow supply, or London with 10 weeks. Four years of zero inflow, of course, has never occurred.

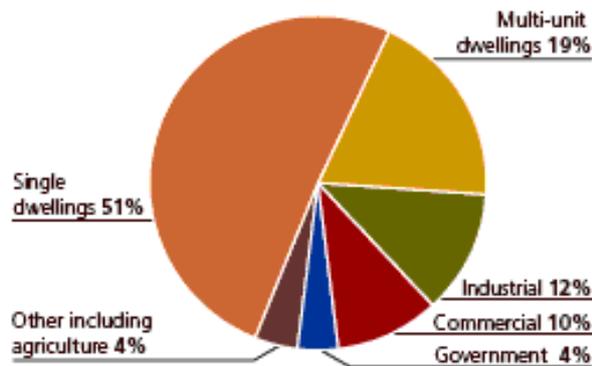
In 2004, *Meeting the challenges - Securing Sydney's water future* was released by the NSW Government. The plan - covering the next 25 years - outlined the Government's actions to secure the future water supply for Sydney. Actions proposed included: accessing water stored deep in dams; transferring water from the Shoalhaven River during high flow periods; large scale recycling programs for new land release areas; and desalination.

Recycling, use of groundwater and desalination have the (theoretical) advantage of being able to be turned on and off as needed (although contracts often mean this option is prohibitively expensive!), but all have a number of disadvantages including being energy intensive and possibly posing threats to our environment.



The controversial desalination plant at Kurnell is expected to open at the end of 2009, producing 500 million litres/day of drinking quality water. The plant will use reverse osmosis filtration membranes to remove salt from seawater and will be powered using 100 percent renewable energy. The renewable energy will be supplied to the national power grid from the Capitol Wind Farm at Bungendore, NSW.

The 4.3 million people in Sydney “use” 1.3 billion litres of drinking quality water a day. The volume of water actually consumed or used in food preparation is about 10%. Approximately 70 per cent of the water piped into Sydney becomes waste water (sewer) which is minimally treated and discharged to the ocean. Only about two per cent is recycled.



The residential sector accounts for the bulk of the drinking water consumed in Sydney (70%). By contrast, the industrial sector uses 12%, the commercial sector 10% and Government 4%. Agricultural use of drinking water is low at about 2%. Other uses comprise 2%.

Dams and reservoirs affect the natural flow of water downstream. The SCA provides water to downstream rivers through environmental flows – water released from the storages to help

restore processes and biodiversity of water dependent ecosystems. These flows represent around two to three percent of the total water we use each day.

Clearly, whether the water we use comes from dams, recycling programs, or desalination, there are associated negative environmental impacts.

As responsible citizens then, we need to continue to do everything we can to reduce our individual water usage and hence lessen demand for these less attractive sources of potable water.

Compared to other parts of Australia, however, Sydney is awash in water. Australia is a dry country with limited water resources. The major water resources are in northern Australia and Tasmania, whereas most of our agriculture and people are in south-eastern mainland Australia.

http://www.austmus.gov.au/factSheets/water_use.htm

The largest consumers of water are meat and wool. To produce a kilo of beef requires 50,000 to 100,000 litres of water, while a kilo of clean wool requires a staggering 170,000 litres. Some of our crops also use a lot of water. For example, a kilo of wheat uses 715 to 750 litres of water; a kilo of maize uses 540 to 630 litres; rice uses 1550 to 2000 litres and soybeans require 1650 to 2200 litres to yield a kilo of dry beans.

Furthermore, many crops are grown in dry areas where up to half the available water evaporates from the soil surface or seeps down too low into the ground for the plant roots to reach it. Irrigation water is often delivered through sprinkler systems which allow evaporation to take place before the water even reaches the soil.



What can you do...

At home?

✓ **Observe all water restrictions!**

<http://www.sydneywater.com.au/Savingwater/WaterRestrictions/>

✓ Sydney Water provide the following water saving programs:

- Toilet Replacement Service – Replace your single flush with a 4-star, water efficient, dual flush toilet. Save about 25,000 litres every year and up to \$200.
- Get a free water saving kit – And save around nine buckets of water a day. Register online for your free kit.
<http://www.sydneywater.com.au/SavingWater/WaterRestrictions/DoItYourselfKit.cfm>
- WaterFix your home – From only \$22 a qualified plumber will visit your home to install water saving devices. Call the WaterFix hotline on 1800 995 886.
- Washing machine rebate – You can get a \$150 rebate from Sydney Water to buy a water efficient washing machine.
<http://www.sydneywater.com.au/Savingwater/InYourHome/WashingMachineRebate/>



✓ Rebates are available from Sydney Water AND from Lane Cove council for installation of rainwater tanks. The amount of the rebates are dependent on tank capacity and whether or not they are connected to toilets and/or laundry.

<http://www.lanecove.nsw.gov.au/rainwatertank>

<http://www.sydneywater.com.au/savingwater/InYourGarden/RainwaterTanks/>

- ✓ Keep a container of drinking water in the fridge so that you don't run water down the plughole waiting for the water to cool.
- ✓ Thaw frozen foods in the fridge or microwave rather than placing them under running water.
- ✓ Wash vegetables and rinsing dishes in a plugged sink or basin – not under a running tap.
- ✓ Microwave, steam or use a pressure cooker to cook vegetables, to retain more flavour and use less water than traditional boiling.
- ✓ Wait for a full load of washing before reaching for the detergent as every load less saves 17 buckets of water.



- ✓ Put a plug in the sink when shaving rather than rinsing your razor under running water.



- ✓ Take shorter showers. Every minute less in the shower saves one bucket of water.
 - ✓ Consider installing a AAA rated water saving showerhead and save on water and energy costs.
 - ✓ Use the half flush and save up to four buckets of water per day.
 - ✓ Check for leaks in your toilet by adding food dye to the cistern. If colour appears in the bowl within half an hour it is time to do some DIY or call a qualified plumber.
- ✓ Before buying plants log onto the plant selector at www.sydneywater.com.au to find out which plants are most compatible with the climate and soil in your area.
 - ✓ Group plants with similar watering needs together as this helps ensure they all receive the correct amount of water.
 - ✓ Use watering cans or trigger nozzles on hoses so that you water only those areas that need it.
 - ✓ Water the base of plants, not the leaves. Check how quickly the soil absorbs the water before it runs off.
 - ✓ Check if your lawn needs to be watered by walking on it. If an impression of your foot remains it needs water.
 - ✓ Applying a layer of mulch at a depth of 7 – 10 cm around plants will reduce water evaporation by up to 70 per cent.
 - ✓ Wash your car on the lawn so that you water and fertilise the grass at the same time. Car shampoos use phosphates that are similar to many fertilisers.
 - ✓ Always use a broom or rake rather than a hose to clear driveways and pathways of debris.
 - ✓ Add water crystals to soil to enhance water retention by up to 40 per cent.
 - ✓ Remove weeds as soon as they spring up – they not only shelter pests and diseases but are notorious water thieves too.

At work and in your community?

- ✓ Sydney Water has a pilot program for small to medium sized businesses using between 20 and 80 kilolitres of water a day. Sydney water will refund half the cost of: retrofitting existing equipment; buying and installing new equipment to replace existing equipment; changing business operations.
<http://www.sydneywater.com.au>

Virtual water

The virtual water content of a product is the volume of water required to produce it. The virtual water content of products increases when additional resources are required for their production such as processing, packaging and transport.

Product	Virtual water content (litres)
1 glass of beer (250 ml)	75
1 glass of milk (200 ml)	200
1 cup of coffee (125 ml)	140
1 cup of tea (250 ml)	35
1 slice of bread (30g)	40
1 slice of bread (30g) with cheese (10 g)	90
1 potato (100 g)	25
1 apple (100 g)	70
1 cotton T-shirt (250 g)	2000
1 sheet of A4 paper (80 gsm)	10
1 glass of wine (125 ml)	120
1 glass of apple juice (200 ml)	190
1 glass of orange juice (200 ml)	170
1 bag of potato crisps (200 g)	185
1 egg (40 g)	135
1 hamburger (150 g)	2400
1 tomato (70 g)	13
1 orange (100 g)	50
1 pair of shoes (bovine leather)	8000
1 microchip (2 g)	32

Global average virtual water content of some selected products, per unit of product (from Hoekstra and Chapagain, 2007). For more information about virtual water see <http://www.connectedwaters.unsw.edu.au>

Fact Sheet #3 : Waste not, want not: consuming less

We chop down trees to produce paper and furniture, dig holes in the ground to look for metals, drill for oil to make plastics and use a huge amount of fossil fuels to manufacture products. **And the truth is that we are running out of all these natural resources.**

Not only is our ecological footprint affected by what we actually use (see Fact Sheet #1), but everything we “throw away” is wasted resources. And that includes the materials in our recycling bins (both containers and paper) and much of our green waste.



Note: the principle of the waste hierarchy is to list, in descending order, a range of actions to deal with waste. Other interpretations of this hierarchy may use different terms to describe the same pathway and may invert the pyramid.

The Waste Hierarchy is the ranking of waste management options in order of sustainability, i.e. based on their relative environmental benefits (avoidance, reduction, re-use, recovery, disposal). While recycling is still better than disposing of things in landfill, we need to remember it does involve considerable energy use both in transport and reprocessing, so minimisation of total waste (avoid, reduce, re-use) is always best. Plus, in times of economic downturn demand for recyclable materials decreases, causing stockpiling.

For many people, the urge to earn and buy more translates into longer work hours and more stress. And that means less time to actually enjoy life with family and friends.

Watch the movie, *The Story of Stuff*, <http://www.storyofstuff.com/>

So **how can you consume less?** Perhaps we need to add “re-think” to the hierarchy. Before you buy ask yourself: Do I need it? Can I use something else? Can I borrow or hire it? Can I buy it second hand?

Can I buy it in bulk and re-use my own containers? If I have to buy it packaged, is there a brand that uses less packaging? Can I unwrap it and leave the packaging at the store (if we all did this manufacturers would eventually be forced to reduce their packaging). Very importantly, is the packaging recyclable?

Ask yourself, Is it made from oil? From lipstick to aspirin and disposable nappies to roller blades, petrochemicals (oil) play a vital part in our daily lives

(<http://www.api.org/classroom/tools/index.cfm>). It is not only **Peak Oil** (the point at which oil production begins to decline as supplies dwindle) that we need to be concerned about (most scientists believe that that point has already been reached). Many strategic mineral resources could be depleted by the year 2050.



Finally, when I've finished with it, what will I do with it? Can it be re-used, by me, someone else? Can it be recycled? <http://recyclingnearyou.com.au/>

What can you do...

At home?

- ✓ Lane Cove throws “away” 19 tonnes of rubbish every day. On average, **40%** of rubbish sent to land fill is food waste! This is all food that you have bought and paid for! Use this resource by composting your food scraps or by using a worm farm. <http://www.lanecove.nsw.gov.au/Council%20Services/Waste%20Management/Compost%20Bins%20and%20Worm%20Farms/CompostBinsandWormFarms.htm>
- ✓ Make sure you are up-to-date with what can and cannot be recycled. <http://www.lanecove.nsw.gov.au/Council%20Services/Waste%20Management/Garbage%20and%20Recycling%20Service/Recycling.htm>
- ✓ Fridges, mobile phones, batteries and light globes all have recycling collection programs in Lane Cove <http://www.lanecove.nsw.gov.au/Council%20Services/Waste%20Management/3%20ways%20to%20Reduce%20Waste/SmartShopping.htm>
- ✓ Council can provide information about how to safely dispose of a large range of other “wastes” (chemicals/paints, building and construction materials). For information contact the Waste Enquiry Hotline on 1300 655 006
- ✓ **NEVER buy bottled water!** Drinking one bottle of water has the same environmental impact as driving a car for a kilometre and can cost more than a litre of petrol. <http://www.bottledwateralliance.com.au>
- ✓ When buying gifts, “re-think”. Check out Lane Cove Council’s “Green Gift Guide” (it’s not just for Christmas!) <http://www.lanecove.nsw.gov.au/Our%20Environment/Latest%20News%20and%20Events/Latest%20News/GreenChristmasTips.htm>

At work and in your community?

- ✓ Support campaigns for Container Deposit Legislation, in order to encourage return of bottles and cans (a recycled aluminium can requires 94% less energy than a can manufactured from virgin resources). <http://www.lgsa.org.au/www/html/258-waste-managementrecycling.asp>
- ✓ Re-use scrap paper, print reports “double-sided”, only print when absolutely necessary, always use recycled paper.
- ✓ Take your lunch to work in re-useable containers. If necessary, take your rubbish home with you so it can be properly recycled/composted.
- ✓ Think twice before providing bottled water at events you may organise. Is there an alternative? E.g. include a sponsored water bottle as part of entry material. Check to see what access to water your venue provides (e.g. taps, bubblers, etc.). Provide water jugs and re-usable glasses at meetings.



Fact Sheet #4 : Outdoor action



In many situations, gardening is the only connection urban based people have with “the earth”.

“Water conservation, reducing greenhouse gases, creating wildlife habitat and reducing nutrient pollution is just the beginning. We can also grow our own food, switch to organics and tackle the spread of environmental weeds.” Josh Byrne, Sustainable Gardening Australia, <http://www.sgaonline.org.au>

On average we use just over one third of our household water on our gardens. Planning your garden and planting groups of appropriate plants in each area can reduce your water needs. Local indigenous plants are suited to the climate and soil of your area. Keep lawn area to a minimum, as it’s the biggest water guzzler in the garden! Good soil structure (through the addition of compost and manures) will hold water better than poor quality soil. Mulch to prevent evaporation. Collect your own water using a water tank or use grey water from the laundry and bathroom. Observe water restrictions

<http://www.sydneywater.com.au/Savingwater/WaterRestrictions/>

A combination of native plant types (producing pollen, seed, fruit and nectar from trees, shrubs and ground covers) provide a range of habitats and food sources which are important in attracting a variety of native animals into our gardens. Plant density is also important and may encourage those scarce, smaller natives birds back into the garden. Retaining natural features in our yards like logs, rocks and leaf litter provide habitat for lizards to bask and hide and for birds to scratch for insects.

Gardening practices have an important influence on the quality of water in our streams, creeks and bays. Australian soils and waterways are generally low in nutrient content, and consequently the organisms living in our waterways have adapted to low nutrient conditions. When it rains a certain amount of water is absorbed into your garden, but a significant amount ends up in our drains and waterways as stormwater runoff. If nutrient levels increase above normal, Australian aquatic plants and animals can be affected in several ways. Sources of nutrients in our waterways related to gardening can come from plant matter (cuttings, leaves, grass clippings), garden fertilisers, or ash from fires.

Growing “your own” fruit and vegetables is one of the most environmentally friendly things you can do, for a number of reasons. Efficient backyard growers can use as little as one fifth of the water compared to commercial growers as well as achieving up to 25% reduction of greenhouse gases (produce is not being machine harvested, transported to sorting sheds, stored in cool rooms, transported to market, then to supermarket, lit up by fluorescent lights, and then transported again to homes to be then stored again in the fridge). Home grown produce also use less herbicides, pesticides and fungicides.



In Lane Cove the most common source of bushland contamination is from garden weeds.

"Garden plants are the biggest source of weeds in this country totalling 70% of Australia's combined agricultural, noxious and natural ecosystem weeds". (CSIRO 2005 Report 'Jumping the Garden Fence'). An environmental weed may be one that we recognise as a common garden weed, such as White Clover (*Trifolium repens*) or Soursob (*Oxalis pescapre*). They can also be ornamental plants introduced from overseas, or even Australian plants originating from outside the 'local area,' such as Bluebell Creeper (*Sollya hetrophylla*) from WA or Sweet Pittosporum (*Pittosporum undulatum*) from East Gippsland. Many popular plants have weed potential because they are so easily propagated, e.g. Agapanthus that spreads by seed, the berries from Cotoneaster spread by birds, and Ivy that can take root from a small piece of stem. <http://www.weeds.org.au/>

Permeable surfaces both in our homes and in public areas allow water to permeate (soak into) the soil. The water filters through the substrate where it is retained in the local hydrological cycle. Plants that may be surrounded by paving and vegetation in the adjacent area can then harvest this water. Many of the pollutants that normally end up in our catchments can be stopped within the confines of the area.



Composting. 40% of the rubbish leaving Lane Cove homes is food waste, and composting has many benefits for the environment such as improving the soil structure, increasing the ability of soil to retain moisture, reducing weed emergence and erosion.

Composting reduces your contribution to greenhouse gases. If the organic material is decomposed in a well-managed, aerated (plenty of air circulating) compost heap or bin, healthy compost will be made and the gas produced will be carbon dioxide. However, if the kitchen and garden waste is sitting in an anaerobic (no oxygen), soggy

compost bin, or buried in a landfill, it will decay to produce methane gas and a smelly sludge is produced.

Both methane and carbon dioxide are greenhouse gases, but methane has a Global Warming Potential of 21 times that of carbon dioxide. The Australian Greenhouse Office states "food or garden waste that breaks down with no fresh air generates three to four times more greenhouse gas than it would if it decayed in the presence of air – aerobically [that is, as compost]."

Half of Lane Cove's residents live in townhouses and units so composting is not always practical. However a **worm farm** is an ideal alternative; these take up less space, are odourless and produce a wonderful fertiliser for plants.

The Bokashi Bucket

A revolutionary fermentation process that turns your kitchen waste into a rich soil conditioner.

The Bokashi bucket is a practical and convenient alternative for transforming kitchen waste into a nutrient rich soil conditioner. This unique composting system uses the revolutionary EM (effective micro-organism) Bokashi to create the ideal conditions for airtight (anaerobic) composting.

Great for houses, the eco-friendly Bokashi bucket and EM Bokashi eliminate the odours and unpleasantness associated with putrefaction and decay.

You can compost almost every kitchen food waste in your Bokashi bucket including fruit and vegetables, prepared foods, cooked and uncooked meats and fish, cheese, eggs, bread coffee grinds, tea bags, wilted flowers and tissues. Bokashi starter kits contain all you need to get started and can be purchased from www.bokashi.com.au



What can you do...

At home?

- ✓ The Lane Cove Council Plant Library is a database of over 200 plants suitable for the Lane Cove LGA. These plants include a wide variety of native plants indigenous to the Lane Cove area, as well as a number of non-invasive exotic plants. http://www.pf-search.com/the_lane Cove_cc.php
- ✓ Want to have your cake and eat it too? Enjoy a native garden and grow your own bush tucker http://www.sgaonline.org.au/info_bushfood.html
- ✓ Before you plant a new plant, check its status as an environmental weed, there might be a safer alternative <http://www.sydneyweeds.org.au/>
- ✓ Provide more unpaved areas around your home to allow garden run-off to be naturally filtered before entering waterways.
- ✓ Install a water tank. Rebates are available: <http://www.savewater.com.au/>
- ✓ Remove only those parts of a tree necessary to ensure safety; hollows may provide habitat for native animals and birds.
- ✓ Permaculture North, Lane Cove Group is a group of people with an amazing array of skills in self-reliance, energy and water conservation, qualified permaculture design and teaching. A good source of information for beginners who want to learn more about healthier, abundant and satisfied living: www.permaculturenorth.org.au

At work and in your community?

- ✓ Many infestations of environmental weeds began life as decorative indoor plants. Make sure unwanted exotic plants are disposed of properly, in the council GreenWasteService bin. <http://www.lanecove.nsw.gov.au/Council%20Services/Waste%20Management/Green%20Waste/GreenWasteService.htm>
- ✓ Report threats to native bushland (illegal clearing or dumping, weed infestations) in the Lane Cove area. lccouncil@lanecove.nsw.gov.au
- ✓ Almost every part of Lane Cove is within 500m of bushland. Join your local Bushcare group to help protect and rehabilitate it. <http://www.lanecove.nsw.gov.au/Living%20in%20the%20Area/Recreation/Bushland/HowtoSupportBushcareinLaneCove.htm>
- ✓ Lane Cove Bushland and Conservation Society acts to preserve biodiversity and ecosystems in the Lane Cove area. A monthly newsletter is distributed to members. More information contact 9427 1125, PO Box 989 Lane Cove 1595.
- ✓ Encourage your workplace to compost or worm farm. Compost bins, worm farms and information on their use them is available from Lane Cove Council. www.lanecove.nsw.gov.au/Council%20Services/Waste%20Management/Compost%20Bins%20and%20Worm%20Farms/CompostBinsandWormFarms.htm
- ✓ Volunteer or visit Lane Cove, Council's Eco Garden, developed with the help of the community as a living example of what is achievable in an urban environment with minimal impact upon the earth's resources. <http://www.lanecove.nsw.gov.au/Our%20Environment/Community%20Nursery%20and%20Eco%20Garden/Eco-garden/EcoGarden.htm>

About the Presenters

Grahame Collier

Director, T Issues Consultancy

From teacher, to trainer, to educator, to manager/director of education programs, and now as an education consultant, Grahame Collier has worked extensively in the planning/delivery/ evaluation of education. He has worked internationally [with the World Health Organization], at the state government level [NSW Health/NSW EPA], in non-government organisations and in private business developing, delivering and evaluating education for public health and the environment/sustainability. A highly experienced facilitator and trainer, Grahame brings energy and enthusiasm to all of his work with people at all levels in the community.

Grahame has a particular interest in education leading to behaviour change and in community education with other adults. He is the immediate past President of the Australian Association for Environmental Education and a former member of the National Environmental Education Council.

Phil Smith

Director, KnowHands

Phil has extensive education planning, implementation and evaluation in schools, the community, TAFE and university. He has conducted train-the-trainer programs and a great deal of training for local government on the use of education in change. With the NSW EPA, he developed and managed a state-wide stormwater education program, and as Manager Education for Resource NSW he designed and oversaw the sustainable schools initiatives. As Director of the Sutherland Shire Environment Centre in the mid-90s, Phil coordinated a number of community campaigns. He has run education training courses overseas and, in 2002, conducted a 5 week evaluation of an international environmental centre in Hungary. In the late 90s, he helped establish a local independents political party. Phil is currently Chair of the SSEC and the National President of the Australian Association for Environmental Education [AAEE] and a member of the National Education for Sustainability Council. He has represented the AAEE on the NSW Council on Environmental Education.

Phil has an interest in the science and art of education as well as strong interests in emergent planning processes and the role of people in change.

Grahame Collier

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