



Building a Better Relationship with our World



"The age of nations is past
the task before us
if we would not all perish
is to build the earth."

Teilhard de Chardin

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Released: October 2018

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Foreword

The heavens are telling the glory of God and the firmament proclaims his handiwork. Psalm 19

Is there a human being who has not at some time been inspired and humbled by the majesty of creation? I think not.

Is there a human being who is unaware of our total dependence upon the created order for our very existence, let alone survival? Surely not.

Is there anyone who is unaware that the life-giving generosity of God's created order is struggling under the burdens that we human beings place upon it? Sadly it appears that most of us are still unaware of the problem, or if we are aware, we prefer to ignore it.

This excellent handbook is written for communities of faith. It assumes we understand that life is lived in relationship, many

relationships. Our primary relationship, as children of God, is to live in harmony with the Creator and his creation. We live in relationship with one another in a global community where the gifts of creation provide for all and should be the property of none. We live in relationship with the fundamental building blocks of life itself, especially, but not exclusively – water.

For those of us who at times feel powerless in the face of the magnitude of the problem, this handbook presents some clear and easily implemented strategies. We should feel concerned, for unless we do we will not correct our behaviour: however we should not be without hope. On the contrary, our task is to proclaim in action the good news of God in Jesus, where the redeeming love of God is made clear not just for ourselves but for the whole created order.

The health and sustainability of the whole environment is the challenge of our time; a challenge in which we must all be part of the solution.

The handbook is an invitation to respond to the generosity of God in creation and to safeguard its integrity; to respond to the tragedy that environmental degradation is causing the poor of the world; and to lay foundations of sustainability for the world's children.

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Introduction

You are worthy, our Lord and God: to receive glory and honour and power. For you have created all things: and by your will they have their being. To the one who sits on the throne and to the Lamb be blessing and honour and glory and might, for ever and ever. Amen

Revelation 4:11; 5:10

The Five Marks of Mission of the Worldwide Anglican Communion are:

1. To proclaim the Good News of the Kingdom.
2. To teach, baptise and nurture new believers.
3. To respond to human need by loving service.
4. To seek to transform unjust structures of society.
5. To strive to safeguard the integrity of creation and sustain and renew the life of the earth.

In response to the fifth of these ‘marks of mission’, the Synod of the Diocese of Gippsland adopted a bill entitled “Protection of the Environment Canon 2007.” The bill prescribes and commits the Diocese of Gippsland:

- To acknowledge God’s sovereignty over his creation through the Lord Jesus.
- Note that in Genesis it says that “The Lord God took the man and put him in the garden of Eden to till it and keep it.” In 1990 the Anglican Consultative Council gave modern form to this task when it declared that one of the five marks of the mission of the

Church was "to strive to safeguard the integrity of creation, and to sustain and renew the life of the earth".

- Acknowledge that this Canon gives form to this mark of mission in the life of the Anglican Church of Australia.
- To recognise the important of creation in the history of salvation.
- Acknowledge the custodianship of the indigenous peoples of this land.
- To recognise that climate change is a most serious threat to the lives of the present and future generations. Accordingly, this Canon seeks to reduce the release of greenhouse gases by this Church and its agencies.

As such the Diocese has committed to assist in protecting the environment through the following mechanisms:

- Reduce its environmental footprint by increasing the water and energy efficiency of its current facilities and operations and by ensuring that environmental sustainability is an essential consideration in the development of any new facilities and operations, with a view to ensuring that the diocese minimises its contribution to the mean global surface temperature rise.
- Give leadership to the Church and its people in the way in which they can care for the environment.

- Use the resources of God's creation appropriately and to consider and act responsibly about the effect of human activity on God's creation.
- Facilitate and encourage the education of Church members and others about the need to care for the environment, use the resources of God's creation properly and act responsibly about the effect of human activity on God's creation.
- Advise and update the diocese on the targets needed to meet the commitment made.
- Urging all people to pray in regard to these matters.

Building a Better Relationship with our World is designed for use by parishes in improving their efforts to safeguard and renew the earth. It can also be used by individuals in their homes, workplaces, clubs and other places where they may have to manage facilities and resources.

The handbook is a work in progress. It is intended to be an on-going, living document; one that can be added to as more information becomes available and as new issues that should be addressed come to light. We look forward to receiving suggestions and ideas from you all that can be included in future editions.



This guide is based on that prepared by the Environment Commission of the Diocese of Grafton and the Diocese of Canberra and Goulburn and uses much of their material. We thank them for allowing us to 'recycle' the product of their labours.

Golden Opportunities

We know that the whole of creation has been groaning in labour pains until now; and not only the creation, but we ourselves, who have the first fruits of the Spirit, groan inwardly while we wait for adoption, the redemption of our bodies. For in hope we were saved.

Romans 8: 22-24

Most of the time we work in a context that does not allow us to do more than make minor adjustments to our homes or transport. Every now and then however we can make more complex alterations. Here are some things to consider when you can:

- When building or making major alterations to a building check the 'Green Building guide at <http://builditbackgreen.org/bushfires/interactive-green-building-guide.aspx> ;
- When buying a new hot water system, consider buying a solar system with a gas booster;
- When buying a new car, check the *Bishop in Council* policy and the *Green Vehicle* guide at <https://www.greenvehicleguide.gov.au> ;
- When redesigning a garden look at the *garden section* of this handbook;
- When making parish, personal investment or superannuation decisions, consider the environmental policy of your financial

institution. Ask what their policy on exposure to carbon intensive industries is? Ask if they invest in sustainable organisations?

- Have an ethical investment policy for any savings;

As well as these technical issues, ‘Golden Opportunities’ can occur when we are talking to people – we are, after all, meant to be ‘people of hope’!

- Establish links with community organisation with a view to sharing your environmental ministry;
- Participate in local environmental initiatives or policy formation – your local Council may advise;
- Support or initiate community schemes with a positive environmental element.

Building better relationships in your garden

And the Lord planted a garden in Eden, in the east; and there he put the man whom he had formed. Out of the ground the Lord God made to grow every tree that is pleasant to the sight and good for food, the tree of life also in the midst of the garden, and the tree of the knowledge of good and evil.

The Lord God took the man and put him in the garden of Eden to till it and keep it. And the Lord God commanded the man, “You may freely eat of every tree of the garden; but of the tree of the knowledge of good and evil you shall not eat, for in the day that you eat of it you shall die.”

Genesis 2: 8-9, 15-17

Did you know that food and fibre production account for 26% of our greenhouse gas emissions and 54% of Victorian surface water use?

The backyard vegetable patch can make a significant contribution to reducing these gas emissions and save water.



Many of us live in communities or on farms where the natural environment that once existed appears, at first glance, to be lost or greatly diminished, and rather remote from our present way of living. However, without making radical changes to our lifestyle there is much we can do to restore natural relationships in our gardens and enjoy more fully the world God created. Churches often have a special role, as little-used cemeteries and other patches of fallow ground may preserve remnants of the original flora and fauna not found anywhere else.

Following is a practical guide on how to make our gardens a haven for Australian plants and animals and a place of refreshment and renewal for ourselves. Those who live outside the city may already have patches of remnant habitat on their properties left by either design or accident. These may be fragments of woodland or less obvious habitat. Your local government agency can help you identify these.

It is great to see so many people who are conscious of the benefits of bringing wildlife back to suburban gardens. If you haven't mastered the art yet, these tips may be useful.

The soil environment

Add natural organic materials. Soils need this both for moisture retention and easier root movement. It also adds to soil fertility.

Avoid where possible using chemical fertilizers. They can be damaging to creatures in the soil. Much often washes out and gets into our drainage systems, polluting our waterways.

Water deeply and less frequently.

Keep the soil surface covered with mulch. This not only protects the soil surface with all its fine rootlets and microscopic creatures but also provides a home for beneficial insects, spiders, skinks, etc. It also reduces erosion and evaporation.

Compost your organic matter. A compost bin provides much needed organic matter and nutrients for your garden and also reduces the amount of waste going to landfill where it produces methane (a powerful greenhouse gas). Make sure that you aerate your compost regularly.

***If you have worms in your garden
you are doing something right and
everyone is happy.***



The plant environment

Make your garden more like a clearing in a forest with a small open grassy section surrounded by layers of plants.

Have layers of groundcovers, small shrubs, tall shrubs, small trees and one or two taller trees with some vines intermingled. The more layers you have the more homes you will provide for wildlife.

Provide good ground cover, including tussock grasses, prostrate shrubs, mulch, old logs, and pebbles.

Plant some tall trees relative to the size of your garden and location of your house. Trees help the atmosphere stay fresh and your garden cooler.

Contact bush friendly local nurseries for advice on suitable native plants for your environment. Make sure you include some banksias, eucalypts, callistemons, acacias, grevilleas, syzygiums.

Consider the microclimate of your garden and how this affects choice of plants. For a westfacing well-drained slope, grevilleas, banksias and eucalypts are excellent. For a moist shady gully, choose rainforest species.

Remember that as your garden grows the micro-climate will change. Patches that were sunny will become shady as the canopy extends. Shaded and mulched soil will not need as much water.

Do not plant weed species such as lantana, asparagus vine, Camphor Laurel, Golden Rain Tree, Tipuana, Ochna, many Cassia species, and many others which you can find on the weed sites listed.



Add plants to your established garden to develop ground level, understorey and canopy layers. You can space plants 1-2m apart. Always keep mulch and plants away from stems and trunks of established plants.

Plant bushy shrubs with spiky or thorny leaves. These provide cover and safe nesting places for small birds and animals.

While many gardens may bear little resemblance to the natural environment they can be turned into wonderful niches for both plants and animals.

We call this wildlife friendly gardening “fauna-scaping” creating landscapes that encourage fauna.

Meeting Wildlife Needs

Water

Provide as much water as you can. Have birdbaths and bowls of different depths set at different levels around the garden. Ponds also supply drinking water.

Scrub water bowls regularly and organise someone to top up water whenever you're away.

Check regularly for mosquito larvae. They can be flushed out.

Food

Plan to provide all year the five foods – leaves, nectar, seeds, fruit and insects – that satisfy almost every native bird and animal.

Do not put out honey and water for birds as this can lead to diseases and may harm populations of bees.

Remember that you are setting up a system where things will get eaten. Frogs will eat insects, caterpillars will chew leaves, birds will catch insects, skinks will catch snails but also water dragons will eat frogs and sparrowhawks will catch young birds.

Remember that if this happens, you will actually have succeeded.

Remember that you need plants that will feed the insects and spiders which will be the food of birds, skinks, etc.

Shelter

Study your garden to see what shelter it provides – somewhere to sleep away from predators, the sun, wind and rain. The best shelters include prickly shrubs, dense climbers, hollow trees and logs, piles of rock, and plants which are bushy to ground level.

As trees grow taller and bushier you will notice how many birds start to come and appreciate them as shade, nest sites, day-time roosts, and viewing platforms.





Add nest boxes made of untreated timber. Attach them to trees to provide homes for birds and animals. Kookaburras, parrots, possums, bats and many other animals have difficulty finding suitable homes.

Think of the lizards by providing deep leaf litter, dense prickly bushes, low spreading plants and grassy tussocks. Flat rocks in sunny spots are sunbaking heaven! Make your lizards a bolt hole by laying out a piece of terracotta pipe.

Explore and Discover

To find out exactly what wildlife it might be possible to invite into your garden it is worth exploring the parks and gardens in your area. The Gippsland region, for example, is home to a diverse number of different habitats and Botanical Gardens are an excellent place to get ideas - free guided tours of plants, birds etc. There are also lots of lovely field guides to Gippsland's ecosystems, birds, plants etc.

Useful Resources

The Australian Plant Society of Victoria website at <https://apsvic.org.au/>

Dengate, J. (1997) *Attracting Birds to Your Garden in Australia*, New Holland, London.

Clyne, Densey (2000) *Attracting Butterflies to Your Garden*, Reed New Holland, Sydney.

Casey, K. (1996) *Attracting Frogs to Your Garden: creating an ideal habitat for native frogs in your own garden*, Kimberley Publications, Upper Mt Gravatt.

A parish audit of Church lands

Many churches are responsible for land varying in size from a tiny patch to a large acreage: Their proper care can contribute to the moral and spiritual life of your church. Use this checklist to assess the community/visual/ environmental/ecological value of your church's plot and the potential to develop it.

	Present	Don't Know	Not a Priority
Native plant species and plants that attract wildlife (e.g. nest or roosting sites, native trees, shrubs, lichens, fungi, grasses, wildflowers)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Weeds and plants that endanger the natural environment (e.g. remove weeds like Patterson's Curse and garden plants like rubber plants, privet and lantana)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other features to benefit wildlife (e.g. piles of leaves or rotting logs for insects, small mammals and reptiles, close cover for small birds)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Visually attractive planting/features	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Area for prayer/contemplation/outdoor worship	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Opportunities to take part in improving other church properties	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Does land contain ‘matters of ecological significance’, rare or threatened species?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Does land contain ecosystems that are polluted or contaminated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Useful Websites

Some useful and exciting websites that will give you very valuable information:

BioCITY Centre for Urban Habitats -

<http://www.biocity.edu.au/content/view/66/49/>

Find plants and animals suited to your specific area -

<http://www.floraforfauna.com.au> <http://www.weeds.org.au>

Learn more about weeds and pests -

<http://agriculture.vic.gov.au/agriculture/pests-diseases-and-weeds>

<http://parkweb.vic.gov.au/park-management/environment/weeds-and-pests>

<http://www.urbanforest.on.net/backyard-q09.htm>

Toxic weeds may be a particular concern for parents with young children. Should you want help, the Poison Information Centre phone number is 13 11 26. The Children’s Hospital at Westmead has a very useful website with advice for parents – http://www.chw.edu.au/parents/factsheets/poisonous_plants.htm

Building better relationships through water management

Arise my love, my fair one, and come away; for now the winter is past, the rain is over and gone. The flowers appear on the earth; the time of singing has come, and the voice of the turtledove is heard in our land. The fig tree puts forth its figs, and the vines are in blossom.

Song of Solomon 2: 10-13

"Water is both a common aspect of daily life and an element of rare and inestimable value, leading some to believe that its true worth exceeds that of even gold or diamonds. By reclaiming our inner connection to the sacredness of water, we become inspired to appreciate, honour and protect the waters of the world."

Nathanial Altman in Sacred Water.

Water is essential to life. As it is such an essential element it is considered sacred by most cultures and religions.

At our Christian Baptism we thank God that: "With water you cleanse and replenish the earth; you nourish and sustain all living things", and that we are "called to new birth in your Church through the waters of baptism."

APBA

Yet water seems to be the commodity we take most for granted, but it is NOT inexhaustible.

It is a sustainer of life, a means of transport and energy, it cleans us and provides food. It is used in sacred rites and for gaining wisdom. It is a source of inspiration and enchantment.

A lot of water can be saved around the house, parish and workplace. Try some of these tips:

In the bathroom

Take shorter showers.



Turn the tap off while cleaning your teeth.



Put the plug in the sink when having a shave – do not leave the tap running.

Fix leaking taps and toilet cisterns. A tap leaking at the rate of one drop per second can waste around 10,000 L of water every year.

Install a dual flush toilet.

Run water into a bucket in the shower until it is warm and then use the water on the garden.

In the laundry

Have a full load for the washing machine.

Remember: Grey water from the washing machine rinse cycle can be reused in the garden.

Buy a tank and use rainwater in your washing machine and on your garden.

In the kitchen

Wash vegetables in a basin or a partly filled sink – not under running water

Don't rinse hand-washed dishes under a running tap. If you have a two-basin sink, fill one with soapy water and the other with rinsing water. Otherwise you can use a basin.

Put in the plug as soon as you start running water to fill the sink. Keep the water pressure low while you wait for it to get hot.

Outside

Give your garden a good soak (unless it is raining)

- Once a week in summer.
- Once a fortnight in spring and autumn.
- Once a month in winter.

Water plants in the morning or evening; this reduces the water lost to evaporation.

Use drip irrigation as it waters only the root zone and reduces water use dramatically.

Mulch your garden to reduce evaporation. Water is lost to wind and sun evaporation during the day. Mulch can save up to 75% of the water normally lost to evaporation.

Weed your garden; they are only stealing the water from your plants.

Shade gardens with shade cloth or vine covered structures to further reduce evaporation.

Use a timer when watering. This way you won't forget to turn it off.

When watering with a sprinkler put out aluminium pie dishes - when full an equivalent of 30mm of rain has been applied (depending on dish depth of course). Much more than this is likely to be wasted as the water will go beyond the root zone of shallow rooted plants such as lawn, vegetables and annuals.

Water the roots not the leaves.

Fix leaking taps, irrigation and hose fittings.

Sweep the driveways and paths instead of hosing.

Use a bucket of water instead of a running hose to wash the car.

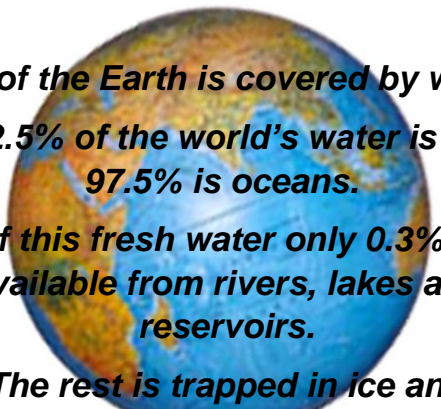
Observe any local water restrictions.

Plant native plants. Remember: they need less water.

Each person uses about 200 litres of water day.

This is about one wheelie bin of water per person.

Never doubt that a small group of thoughtful committed citizens can change the world, indeed it is the only thing that ever has.
Margaret Mead



***70% of the Earth is covered by water.
Only 2.5% of the world's water is fresh;
97.5% is oceans.
Of this fresh water only 0.3% is
available from rivers, lakes and
reservoirs.
The rest is trapped in ice and
glaciers and therefore not
accessible.*** A Parish Water Audit

Good stewardship of water and maintenance issues can both reduce your church's impact on the environment and save your church money, particularly in the long-term. Use the check-up to assess your church's current environmental stewardship on each property (churches, halls, clergy housing) and the potential for improving this.

A parish water audit

	Have Done	Will Consider	Not a Priority
Draft a routine water 'check-list' for each property	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Install a water meter if none present, and monitor water consumption regularly (monthly?)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Check water outlets and fix any drips and leaks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Install water-saving devices e.g. dual flush toilets and low spray flow or auto turnoff taps, drip irrigation systems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Collect rainfall from down pipes for use in buildings and gardens	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Building better relationships through waste management

Hear this, you that trample on the needy, and bring to ruin the poor of the land, saying "We will make the ephah small and the shekel great, and practice deceit with false balances, buying the poor for silver and the needy for a pair of sandals, and selling the sweepings of the wheat." The Lord has sworn, "surely I will never forget any of their deeds".

Amos 8: 4-7

As a community and as individuals we produce huge quantities of waste. On average each Australian household spent \$1200 on items purchased but unused in 2004.

This equates to \$10.5 billion dollars annually, which exceeds spending by Australian governments on universities and roads.

The worse example of wastage is in food – \$5.3 billion pa or 13 times the \$386M donated by Australian households to overseas aid agencies in 2003.

There are Renewable Resources and Non-Renewable Resources in Nature.

A Renewable Resource is something that can be produced again and again. For example: trees can be replanted to make wood and paper and then planted again. Although, we cannot replace earth's original forest cover which is the home of irreplaceable biodiversity and ecosystems.

Non-Renewable Resources cannot be replaced once they have been used, such as oil and metal ore. There are only certain amounts of non-renewable resources on and in the earth.

EcoRecycle Victoria research tells us that:

- Each Australian produces on average about one tonne of rubbish per year.

- In 2003-2004 around **6.34 million tonnes** were dumped in landfills in **NSW**, making us one of the highest waste producers in the world.

This waste ends up in landfill, polluting large areas of our beautiful land, air and water with methane gas and leachate. Rather than think of waste as something we don't want and serves no purpose, **look at waste as the recovery of resources**. This includes the processing of garden and food waste into compost or mulch.

Recycling is a good way of reducing the amount of material going into landfill sites; it can save huge quantities of energy and valuable raw materials.



According to EcoRecycle, Victoria, each week the Australian household saves through recycling:

- Over 3kg of greenhouse gas emissions;
- Air pollution equivalent to 4.5km of travel in family car;
- Over 90 litres of water;
- 3.6 kilograms of solid waste;
- Enough electricity to run a 40 watt light bulb for 72 hours.

But recycling itself requires considerable inputs of energy in transport and processing. To make this as efficient as possible **do not contaminate your recycling** with food waste, medical waste, disposable nappies, chemicals, car batteries or hazardous materials and plastic bags.

Recycling is at its most efficient and worthwhile when we buy back products that have some recycled content or are made from recycled content. This is called **CLOSING THE LOOP**. As consumers we can influence the kinds of products that are sold to us by changing our buying habits.

A few tips to help us reduce our waste footprint

- Think of ways to reduce and avoid making waste in the first place.
- Make a shopping list and use it! Only buy what is needed

- Before we buy anything we need to think, “Do I really need it?”
- It is helpful to think about the reasons and motives that influence our spending habits.
- Take a good look at what goes in the bin and “sort at the source” separating all your recyclables and also your fruit and vegies if you have a compost or worm farm.
- Before we throw anything away we need to think, “Is this item reusable, refillable or repairable? Or is it suitable to give away to someone who may need it?”
- Use reusable shopping bags instead of single use plastic ones. When we do accept plastic ones at the supermarket reuse them at home for storage or garbage or return them to the shop for recycling.
- Avoid disposable and single use items and look for concentrates or refills.
- Try to buy supplies that can be stored eg cleaning goods, pasta, rice, sugar, flour etc. in bulk. This avoids excess packaging and reuse glass jars or other appropriate storage containers.
- Buy products with the less packaging or packaging that can be recycled.
- Make sure you check for the chasing arrows symbol on products and check what items can be recycled in your area.
- Shop Smart and buy items that contain recycled content and items that can be recycled.
- Buy rechargeable batteries and a battery charger. Read the instructions to maximise the life of the batteries.
- Buy recycled paper and paper goods. Whenever possible use both sides of a piece of paper. If only one side has been used, use it for notes, children’s drawing paper, etc.
- Buy local products if possible. This reduces the amount of fuel needed to transport them to our area.
- Make sure there are adequate recycling bins available in the kitchen, the office and other work or play areas. This includes containers for paper and cardboard; bottles, cartons and cans, and green waste.



- **Place some reminders in key places** for example: the office, work, food and tea making areas. These can be simple images or words that will prompt a change in a habitual behaviour.
- **Compost** food scraps. Leftovers, fruit and vegetable scraps, coffee grounds, tea leaves, grass clippings, organic garden waste can all be composted and used in the garden. **Meat, fats and dairy products should not be composted.**
- **Ask friends or community organisations if they can use your unused products** such as paints, chemical, household items, toys rather than throwing them away. Make sure you dispose of old paints correctly at your local annual **hazardous waste collection**.
- **Donate** old clothes, games and other household items **in good condition** to charity organizations, schools, playgroups, children's groups to be used rather than throw them away.
- **Talk to other people about what you are doing and share ideas** that will help us sustain the environmental changes that are put into place.

Useful Websites

www.planetark.org

www.recyclingnearyou.com.au

www.ecorecycle.vic.gov.au

Building better relationships through energy management

Then shall the trees of the forest sing for joy before the Lord; for he is coming, for he is coming to judge the earth. He will judge the earth with righteousness, and the people with his truth.

Psalm 96: 12-13

In Australia every household is consuming food and using energy for lighting, air conditioning and transport. Because of our vast distances and lifestyle, we create massive amounts of waste, including CO₂, on a per head basis.

A simple calculator has been devised to assess our footprint on the environment at www.bestfootforward.com/footprintlife.htm

We need to think seriously how our lifestyle is affecting the planet and the state of the environment which we bequeath to future generations. The majority of scientists and thoughtful people are unanimous in the view that we are devastating our environment by over consumption, waste products and a rapidly changing climate. A good analysis of these issues is the United Nations publication *Global Environment Outlook 2002 UNEP*.

Changing energy usage

Most of our energy use (and green house gas emissions) is hidden in products and services. On average every time we spend a dollar we create 1 kg of green house gases. We can change our personal effect by careful spending choices http://www.isa.org.usyd.edu.au/publications/documents/Greenhouse_Responsibility.pdf (p11 for calculator).

Australia's abundant resources and power stations burning coal have given us some of the cheapest electricity energy in the world.

As a result Australians are among the highest per capita energy users globally and also among the most wasteful.

Australia is forecast to increase its energy use by around 50% by 2020.

Every bill from your electricity retailer gives a little graph of daily usage of electricity and the tonnes of greenhouse gas emissions produced by your daily usage.

Electricity produced in the grid from coal fired power stations is so cheap because the true cost of polluting the atmospheric environment with CO₂ and other gases, is not factored into the price. All of us can help reduce greenhouse gas emissions by choosing renewable energy or “GreenPower” and, preferably, by reducing energy use.

Choosing “GreenPower”

“GreenPower” is electricity generated from ‘clean’ renewable sources such as wind, solar, water and biomass which avoid the release of harmful greenhouse gases which are contributing to the changing climate of our world.

Changing to GreenPower (or a percentage thereof) will cost a little more – something like \$3-5 per week or \$50-75 a quarter. Purchasing greenpower is an ideal option for people who want to reduce their environmental footprint while also seeking to reduce their consumption patterns or lifestyle.

GreenPower is more expensive because electricity from renewable energy sources is mostly more expensive to produce than coal-fired electricity but the greenhouse emissions are much lower.

How to change to “GreenPower”

Investigate which energy company suits you best.

Apply to have the energy supplied to your home, parish or work place as ‘green energy’.

It is estimated that average households emit about 8-10 tonnes of greenhouse gases each year.

Using GreenPower can save up to 5 tonnes of greenhouse gases from entering the atmosphere.

This is the same as NOT driving the family car for 2 years.

By choosing ‘green energy’ the amount of energy you purchase is supplied from ‘green’ sources into the general electricity grid therefore reducing greenhouse gas emissions.

The web site www.greenpower.gov.au provides all you need to know about switching to green power.

What you can do at church and at home to improve your energy efficiency

- **Install insulation** in ceilings, wall cavities and under floors.
- **Improve natural ventilation and solar passive properties** (minimising summer sun and maximising winter sun).
- **Design and orient buildings** to improve ventilation and reduce sunlight heating windows and walls.
- **Install fans inside to circulate the air**, this reduces the need for as much energy intensive air-conditioning.
- **Set thermostats** on air conditioners to slightly **higher in summer** and slightly **cooler in winter**.
- **Plant shade trees around buildings**, they provide natural air-conditioning.
- **Turn off electrical equipment** such as TVs and computers **at the wall**.
- Buy **re-chargeable batteries and a battery charger**.
- **Fit timers** on electrical appliances.
- **Fit energy efficient light bulbs**.
- Consider **solar hot water systems**.



In the kitchen

- **Make sure your fridge is running efficiently** – an old fridge running inefficiently can use three times more power than a new one.
- **Choose a top star rated refrigerator** when buying a new one – this can **save 4.5 tonnes greenhouse gas and \$450 in a lifetime**.
- **Don't have a second fridge** unless absolutely necessary – a bar fridge can cost \$200 a year to run. Only operate it when it is needed.
- **Dry clothes on a washing line** and use clothes driers sparingly.
- **Defrost chest freezers** at least **once a year** and **upright models** two or three times a year.

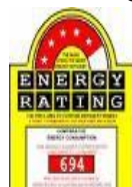




- Remember microwaves, electric frypans or pressure cookers are more efficient than using the oven.
- Use the correct size pan or pot for your hotplate and cook with the lid on.
- Use only the amount of water that you need in your jug or kettle to make your tea or coffee.

Heating and Cooling

- Don't overheat, or overcool, your home – wear appropriate clothing instead.
- For heating and cooling, approximately every 1 deg. C closer to the ambient temperature you set your thermostat, you will save 10% energy and greenhouse emissions.
- Remember, gas heaters are more efficient than electricity.
- Use draught stoppers and curtains to keep out the cold and the heat.
- Close doors to rooms not being used.
- Clean the filters on your air conditioning unit every 3 months.



Energy efficient appliances can save up to \$1400 and prevent 14 tonnes of greenhouse gas being emitted into the atmosphere over 10 years.

The more star ratings, the more efficient the appliance.

Lighting

- Turn off lights not being used. Fluorescents can be turned off even if the room will be vacant for only 5 mins.
- Don't leave outdoor security lights on all night or during the day – consider installing a timer or sensor.
- Remember: Compact fluorescent globes are the most energy efficient. Use them in rooms where light is required for longer periods.
- Make the most use of natural light.
Skylights are a great addition to kitchens and bathrooms.



Fluorescent globes use 80% less energy than standard globes.

Using one 15 watt fluorescent bulb instead of a 75 watt standard bulb you can save \$10 a year!

Hot water

- Remember: Natural gas high efficiency water heaters produce two-thirds lower greenhouse emissions than electric heaters and save you hundreds of dollars in energy bills over the lifetime of the system.
- Solar gas is the most greenhouse friendly source of hot water.
- Use cold water in the laundry.
- Turn off the hot water system when going away for a long period of time.
- Fit an AAA-rated low flow showerhead which may save \$100 on energy and water bills.

Useful Websites

Use the links below to estimate your energy usage in the home and find more ways to save on energy bills and save the environment at the same time

<http://www.energy.com.au/energy/ea.nsf/Content/Ways+Energy+Usage+Calculators>

Your Home - <http://www.greenhouse.gov.au/yourhome/>

Global Warming – Cool it - <http://www.greenhouse.gov.au/gwci/index.html>

A Parish Energy Audit

Good stewardship of energy and maintenance issues can both reduce your church's impact on the environment and save your church money, particularly in the long-term. Use the check-up to assess your church's current energy stewardship on each property (churches, halls, clergy housing) and the potential for improving this.

	Have Done	Will Consider	Not Priority	a
Monitor energy consumption regularly to check trends.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Switch to 'low carbon intensity' energy sources (eg switch to gas, use solar heating, green electricity, etc).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Regularly service cooling and heating appliances.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Consider ways to improve cooling and ventilation effectiveness.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Choose appropriate sized rooms for activities.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Timetable meetings to minimise heating/cooling use.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Fit heating/cooling systems with timer and thermostatic controls.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Commission an energy/environmental consultation (particularly useful if considering new heating/cooling systems or refurbishment of older systems).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fit draft excluders around windows and doors.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Install appropriate levels of insulation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Consider installing double glazing.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Install solar passive designs in any new buildings or rebuilding programmes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Clean windows to maximise natural light.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Encourage building users to switch off unnecessary lights and not leave items on stand-by (e.g. photocopier).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Replace cracked or broken windowpanes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Install low-energy light bulbs where appropriate.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Building better relationships through managing transport

Let the same mind be in you that was in Christ Jesus, who though he was in the form of God, did not regard equality with God as something to be exploited, but emptied himself, taking the form of a slave, being born in human likeness. And being found in human form he humbled himself and became obedient, [likewise] work out your own salvation with fear and trembling, for it is God who is at work in you

Philippians 2:5-8, 12-13

In the western world transport has come to dominate our lives and much of the landscape.

Some things for you to try

- Consider converting your car to LPG.
- Evaluate the cost/benefit of buying a hybrid (dual energy) car.
- Buy the smallest car to suit your needs.
- Use public transport when possible or join a car pool.
- Consider teleconferencing rather than travelling to meetings.
- Service your car regularly.
- Inflate tyres properly for highest efficiency.
- Drive efficiently, smooth acceleration and deceleration saves fuel.
- Drive at moderate speeds.
- Avoid sitting with the car idling, turn it off when waiting for extended periods.
- Walk or cycle instead of driving and enjoy the health benefits as well.

***For every 2000 litres of petrol used,
an average car produces 4720 kg CO₂***

Greenfleet

Greenfleet is an organisation which specializes in reducing greenhouse gas emissions by:

- Planting native trees.
- Promoting fuel efficient technologies.

By joining Greenfleet at the cost of \$40/year, customers effectively “neutralize” their car emissions by planting trees to offset the CO₂ emitted.

Visit Greenfleet at their web site to find out more <http://www.greenfleet.com.au/>

***A Ford Falcon or Holden Commodore will emit
4.0 – 4.2 tonnes of CO₂ per year on average.***

Greenfleet will plant 15 trees each year to offset this emission.

You can also offset the emissions from your plane travel -
<http://www.greenfleet.com.au/>

Appendix 1: What I will do about energy use:

Adapted from handout for the public meeting 'For the Love of the World', Canberra 2006. Use it to help you make some specific decisions.



Change to accredited Green Power option for as little as the cost of 1 coffee per fortnight (ActewAGL 131493, Country Energy 132356)	Reduce emissions through electricity production by chosen amount.	
Install solar hot water system	Up to 30% reduction in household emissions	
Install solar panels (BP Solar (02)87625777, Origin 1800 226 006)	Eliminate household emissions from electricity	
Use energy-efficient whitegoods http://www.energyrating.gov.au	Up to 50% reduction in household emissions from electricity	
Use triple-A rated shower-head	Up to 12% reduction in household emissions from hot water electricity	
Use energy efficient light globes	Up to 12% reduction in household emissions from electricity	
Use the washing machine only when you have a full load, and use eco-friendly washing powder that's suitable for low temperature washes.	Eliminate household emissions from electricity used inefficiently	
Turn down the heating thermostat by 1 to 2°C. If you're cold put on another sweater!	Eliminate household emissions from electricity used unnecessarily	
Turn up the cooling thermostat by 1 to 2°C. If you're hot wear cooler clothes!	Eliminate household emissions from	

	electricity used unnecessarily	
Check fuel efficiency of next car http://www.greenvehicleguide.gov.au	Up to 70% reduction in transport emissions	
Walk, cycle or take public transport	Reduction in equivalent transport emissions	
Calculate carbon footprint http://www.climatefriendly.com/calc.php	Can help eliminate many transport and household emissions	
Complete a household energy audit www.heat.net.au email: info@heat.net.au	Up to 30% reduction in household emissions	
Suggest a workplace energy audit www.heat.net.au email: info@heat.net.au	Up to 30% reduction in workplace emissions	
Write to your local members about climate crisis. For hints see: http://www.efa.org.au/Campaigns/lobby.html#mps House of Reps: http://www.aph.gov.au/house/members/memlist.pdf Senate: http://www.aph.gov.au/Senate/senators/contacts/los.pdf	Can change the world	
Write to your union asking for their position on climate crisis	Can change the world	

My name:

My signature:

