

# **Global Warming What You Can Do**

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**Edition 111008**

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## Introduction

Sir Nicholas Stern, Head of the Government Economic Service and former World Bank Chief Economist, confirmed what many already know; *"The scientific evidence is now overwhelming: climate change is a serious global threat, and it demands an urgent global response."*

Nicholas concluded his report by saying, *"There is still time to avoid the worst impacts of climate change, if we take strong action now."*

This book explains many ways by which we can reduce the impacts of Global Warming, some very simple whilst others require a more focussed approach. Let's get on with it and do it!

## What is Global Warming?



Climate Change, Global Warming and the Greenhouse effect are the biggest issues we face in the world today. This is a quick overview to show why we need to reduce carbon emissions, and change the way we live. A great deal more information can be found at our website; [Global Greenhouse Warming](#).

The overwhelming majority of scientists now agree that our globe is undergoing major Climate Change. They also agree that the level of carbon dioxide in the atmosphere is rising at a terrifying rate.

We must stop burning fossil fuels in our power stations and transport systems. If we don't stop using fossil fuels, we face the most catastrophic consequences that will affect all who live on our beautiful globe.

## Our Atmosphere

Our atmosphere is a layer surrounding the earth held in place by gravity and primarily made up of Nitrogen (78%), Oxygen (21%), with water and other gases making up the remainder. This small remainder is made up of the trace gases Argon, Carbon Dioxide, Neon, Helium, Methane, Hydrogen, Nitrous Oxide and Ozone. Scientists now realise that the proportion of these gases has increased significantly over a few hundred years.

The real increase in carbon dioxide levels in our atmosphere began around the time of the Industrial Revolution. This is when we began to burn fossil fuels (coal) in large quantities to power our steam engines. The 'Greenhouse Gases', Carbon dioxide, nitrous oxide and methane have all increased exponentially since the 1800s. Today the use of fossil fuel for power and electricity is thousands of times more than what it was in the 1800s.

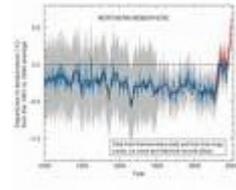
## Greenhouse Gas

To explain why these gases are termed green house gases, we need to understand that during the day the earth absorbs heat from the sun, although much of this is radiated back out into space. The atmosphere surrounding our earth contains these gases, and acts like a blanket keeping some of the heat in. If there weren't an atmospheric 'blanket' we would freeze during the night, like some of the other planets or our moon.

This is where it gets a bit frightening! The fossil fuels we are burning in ever-increasing amounts contribute to higher concentrations of methane, carbon dioxide and nitrous dioxide. These gases are called greenhouse gases as they effectively make the blanket around our globe thicker, trapping more heat and turning the globe into a green house.

## Global Temperature Increase

The world has warmed 0.6°C in the past hundred years and scientists are clear that the world will get warmer this century due to further increases in greenhouse gas concentrations. Average global surface temperatures are likely to increase by 1.4 to 5.8°C from 1990 to 2100. In addition to warming of the Earth's surface, there has been an increase in heatwaves, warming of the lower atmosphere and deep oceans. There are fewer frosts, glaciers are retreating and sea ice is decreasing. Sea levels have risen 10–20 cm and there is increased heavy rainfall in some regions, and less in others.



The Stern Review tells us that, "The scientific evidence is now overwhelming: climate change is a serious global threat, and it demands an urgent global response." Human induced climate change is another major stress in a world where natural and social systems are already experiencing pollution, increasing resource demands and unsustainable management practices.

The earth has gone through many natural climatic cycles during its long history. The scary part is we are causing changes to happen at an unbelievable rate, much faster than normal. Burning fossil fuels pours out greenhouse gases at a life-threatening rate and causing Global Warming. Climate Change is happening right now!

The rate of Climate Change is now so fast we are struggling to adapt our philosophies, economics, and lifestyle to slow it down. We must alter the way we live or we will suffer staggering consequences. For more information visit the web site [Global Greenhouse Warming](#).



**Take Personal Action** - There are many ways to reduce global warming, some very simple whilst others require a more focussed approach. This book has dozens of practical ways to cut carbon dioxide output in your home, which will reduce global warming. Read it, and commit to these simple yet powerful actions around your home.



**Alert and Motivate Our Leaders** - Most politicians and leaders will not act unless they believe a significant number of their constituency are supportive of their actions. If enough people show concern and communicate this concern, politicians are forced into action. Contact you local politician and ask what policies are in place to reduce carbon emissions in your country and what the government is doing to address climate change. Use the [sample letter](#) provided on the web site, but try and personalise the letter a little, so it comes from you!



**Encourage Others** - There is no question, we must act now! Just like you are undertaking these actions, encourage others to do likewise.  
We need to act locally but think globally to turn the tide, and wind back our carbon emissions. If each of us within our own home, neighbourhood, and town encourage each other to adopt practices that reduce our greenhouse gas emissions then we are taking the first steps to a better future.

Email [The 3 Step Climate Change Plan](#) to all your acquaintances, friends and family. Not sure what to write? A short email is available on the Global Greenhouse Warming.com website, simply cut and paste into your email application and hit send... an email suggestion is [here](#).

## Climate Change Course



### Become A Climate Champion!

*I would like to invite you to undertake the newly developed Climate Change Course. This is an important step for you toward preventing dangerous climate change and sets you on the road to become a Climate Change Champion.*

*The course introduces you to the science, impacts and solutions to global warming. Best of all, the course will provide you with a foundation to become a Climate Change Champion!*

*The class has been officially reviewed by the Universal Class™, Course Review Committee, and received the Committee's highest rating - 4 stars.*

*Lessons are self paced, and if you need additional help understanding the material presented, you can email or chat online with me. There is also a discussion area where you can raise questions or concerns you may have. I will monitor your progress throughout the class and assess your body of work at course completion.*

*I look forward to seeing online!*

*Sincerely  
Steve Ewings  
Founder: Global Greenhouse Warming*



[ENROLL HERE](#)

#### Course Content:

- 1. Earth's Long History** - In this lesson we will discuss the immense history of the Earth and the natural cycles of changing climate.
- 2. Climate and Weather** - This lesson will cover basic information about the differences between climate and weather, and how our civilisation is climate dependent.
- 3. Greenhouse Gases** - The lesson looks at the evidence and origin of increasing anthropogenic greenhouse gases.
- 4. The Greenhouse Effect** - In this lesson you will learn about the Greenhouse Effect, the global Carbon Cycle and the relationships with climate change.
- 5. Physical Impacts of Climate Change** - We will look at the range of physical impacts, including; sea level rise, increasing average global temperature, droughts, wildfires and other extreme weather events.
- 6. Social Impacts of Climate Change** - This lesson covers questions like; What happens to people when sea levels rise? Which countries will suffer drought, wildfires, and greater spread of diseases, and what will happen to agriculture?
- 7. What You Can Do** - The final lesson in the course looks at 'mitigation and adaptation' and what you can do to reduce global warming.

## Things You Can Do

### Vehicles

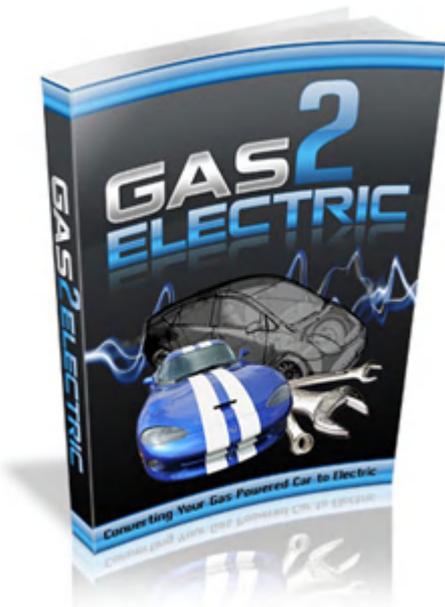
Choose an efficient vehicle: Choose the most fuel-efficient vehicle to meet your needs. This might mean changing from a sporty vehicle, or four wheel drive to a mid size car.



Buy a Hybrid car if you are in the new car market. Hybrids run on petroleum and self-charging electric engines that don't have to be plugged in. There is a huge difference in the fuel efficiency of cars.

Aim for a car that emits less than 130 grams CO<sub>2</sub>/litre. Avoid sports cars, 4X4s, SUVs, and people carriers

### Convert Your Car to Electric



With gas prices skyrocketing and out of control, there is a solution. **Convert your gas car to run ONLY on electricity for a few cents per mile.** This is not as hard as you think, and really is an easy process you can do on your own with a little work.

The [gas-to-electric manual](#) shows you how easy this is. All the steps are numbered with diagrams to be easy to follow.

The conversion does not take too long, all you have to do is follow the simple plans I provide and in a month, you will cut your gas bill to zero!

### Smarter Driving

- Keep your car tuned up (e.g. change air filters regularly)
- Keep your tires properly inflated
- Ensure your wheels are properly aligned.

All these measures save fuel. Soft tyres and badly aligned steering increases friction and drag, using more energy, and therefore more fuel is burned to propel a vehicle.

Reducing your driving speed from 110 kilometres per hour (approx 70 mph) to 80 kilometres per hours (approx 50 mph) produces 25% less CO<sub>2</sub> emissions.



Drive less, carpool and use public transport whenever possible.

## Supplement Your Fuel with Hydrogen

If you are like me, you are you sick and tired of rising fuel prices. I simply cannot believe what we are now paying! And we are still polluting our atmosphere.

You can make your own onboard hydrogen generator. This unit will produce hydrogen while travelling through electrolysis of water using the power generated from the electrical system. A small amount of hydrogen added to the vehicles intake air/fuel mixture allows the engine to operate with less fossil fuel.

You can assemble this [Hydrogen-On-Demand](#) system from simple hardware in one weekend.

Road tests have achieved 50% increase on a heavy 350 V8 van, 56% on a Ford truck, 107% on a Toyota Corolla, 285% on a Chevy 4WD pickup and recently 430% (this is not a typo) on another Chevy in California.

## Make Your Own Biodiesel

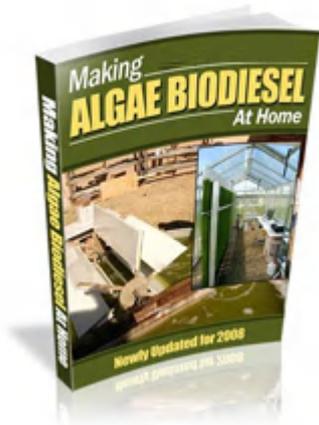


Biodiesel is the name of a clean burning alternative fuel, produced from domestic, renewable resources. Biodiesel contains no petroleum, but it can be blended at any level with petroleum diesel to create a biodiesel blend.

It can be used in compression-ignition (diesel) engines with little or no modifications. Biodiesel is simple to use, biodegradable, nontoxic, and essentially free of sulphur and aromatics.

Now you can make your own biodiesel fuel from used cooking oil, fryer grease, animal fats and lard! All you need are a few easy to find chemicals and some basic equipment that you can easily buy or make yourself. By following the directions in [Encyclopedia of Biodiesel](#) eBook you will be able to make a cheap, clean-burning, non-toxic, renewable, high-quality diesel motor fuel you can use in your car without modifications.

## Make Your Own Algae Biodiesel at Home



There's no doubt, algae biodiesel is probably the most theoretical and experimental aspect of biodiesel. Some of the best minds on the planet, including Exxon-Mobil, Shell, even the Department of Defence are racing to be the first to mass produce algal biodiesel.

The big problem is there simply are no books on the subject. To get all the info you have to collect a dozen different books, from a dozen different and competing fields, some highly technical, and wade hip-deep into the land of the techno-jargon, micro-biology, cell cultivation techniques, petro-chemical engineering. However, [Making Algae Biodiesel at Home](#) is the quickest and easiest way to learn about algae biodiesel. This comprehensive book has over 550 pages of gold-mine info and absolutely everything anyone interested in algae biodiesel would need.

This is really is the ultimate tutorial for making algae biodiesel but until now it was never available (even if you're a veteran biodiesler you'll benefit immensely from understanding about algae biodiesel because this is the cutting-edge future of biofuels).

## Air Transport



Reduce your plane journeys. Travelling by air is the worst way you can travel. Most jet aircraft fly at over 6,000 metres over the ground and the Intergovernmental Panel on Climate Change says carbon

produced at 6,200 metres is three times more damaging than it would be if produced on the ground.

The International Air Travel Association admits aircraft movements create 2 per cent of greenhouse gas emissions. Did you know that travelling by air produces about 19 times more greenhouse gases than rail travel!



By purchasing carbon credits you can help stimulate clean energy uptake and cut emissions contributing to global warming. Anyone can compensate their [greenhouse gas](#) emissions by going carbon neutral. Carbon neutral means that all your carbon dioxide (CO<sub>2</sub>) emissions are offset by carbon credits. You can purchase these for your home, car or air flights, compensating for all your



personal CO<sub>2</sub> emissions. For individuals or households this is how it works: Firstly, a carbon calculator is used to work out your personal or family carbon footprint based on your annual energy activity. This calculation is the total of how much carbon dioxide you are releasing into the atmosphere through your activities. The amount of carbon dioxide you emit is then offset by the purchase of Carbon Credits.

There are quite a few retailers offering uncertified carbon offsets. You should avoid carbon offsets that don't come with a certification as they provide no guarantees that you are getting what you are paying for.

4Offsets.com are fighting global warming and provide a variety of ways for you to offset your greenhouse gas emissions and go [Go Carbon Neutral](#). When you purchase carbon credits, you take responsibility for your contribution to climate change.

## Home – Inside

### Heating/Cooling

Keep doors closed if you have heating or air-conditioning on. Open doors and windows can waste up to 50% of cooling or heating. Have your heating or air-conditioning serviced, and keep filters clean.



Check thermostats on air conditioner and heating appliances. Winter temperatures should be around 18-20°C (64-68°F) while in summer a temperature of 24-27°C (75-80°F) should be comfortable. Use timers so the heating or cooling is not left on for hours. Use it we you need it. Put on clothing instead of turning up the heater.

### Pelmets or Curtain Boxes

Stop air circulating around windows, drapes on windows are essential in colder areas or winter and keep them closed during the day in winter. You might use an extra light globe, but this is more efficient than turning the heating up! Pull down blinds in summer to keep heat out. Don't try and cool/heat the whole house, keep this luxury for your living areas.

### Use Self-Sealing Extraction Fans

In summer if the ambient temperature is lower outside your house, turn on the fan and purge the hot air. A DC fan, run off power stored from solar is a real alternative here. They are simple to install and solar powered.



### Insulate Your House or Unit

You can cut your heating and cooling expenses at the same time as reducing the burning of fossil fuels by using weather strips to seal drafts around windows and doors. If drafts come through from outside walls, install foam draft blockers behind the cover plates. Place covers (inside or outside) on air conditioners during cold months.

Make sure your home is insulated adequately. Many of our older homes have little insulation, especially in ceilings or the attic. You can check the insulation yourself or have it done as part of an energy audit, provided by many utility companies. Call your energy company to see if it offers this service, or visit [Black Energy](#) for more ideas and products.

### Lighting



Use natural light, it is free! Switch lights off, especially those in rooms no one is using. Take out unnecessary lighting. Many hallways and entrances are over lit.

Replace light bulbs with compact fluorescent bulbs. These bulbs use at least 2/3 less energy than standard incandescent bulbs and provide the same amount of light, lasting up to 10 times longer.

You'll save hundreds of kilograms of carbon dioxide. Over a period of 8000 hours, a 20 W long-life bulb produces about 600 kg less carbon dioxide than a 100 W incandescent bulb (if the electricity is generated in a coal-burning power plant).



### Turn Off Equipment On 'Standby'

Stereos, TVs and equipment on standby consume a great deal of energy. Power is consumed not while the appliance is being fully utilised but while it awaits instruction; while it is "standing by". Energy used by standby power can contribute approx 10% of a household's energy bill.



Each of your appliances on standby mode can consume up to 14 watts. This may not sound like much but just think of the number of appliances that you have at home which continuously use standby power. Turn them off!

## Refrigerator

Refrigerators are one of the largest energy users in the home. The temperature of the refrigerator compartment should be between 36 degrees Fahrenheit and 38 degrees Fahrenheit (2-3°C). The freezer should be between 0 degrees Fahrenheit and 5 degrees Fahrenheit (-15 to -17°C). If the refrigerator is set as little as 10 degrees lower than these temperatures, energy use can increase by as much as 25 percent.



A thermometer takes the guesswork out of setting the temperature control and is likely to result in lower electric bills. A thermometer like the one above measures from -20 degrees Fahrenheit to over +60 degrees Fahrenheit (and equivalent in Celsius). The temperature scale clearly indicates what the recommended temperature ought to be for both the refrigerator and the freezer compartments.

Also, put cold items straight back in fridge and don't put hot items in fridge. (Put hot food in a container in cold water to cool it before placing in the fridge). Check thermostats and make sure your fridge and freezer are not unnecessarily too cold.

Fix broken seals to fridges and freezers By fixing any broken seals to fridges or freezers the appliance does not have to work so hard to keep its contents cool and will reduce energy usage. It should also help in keeping the food preserved for longer. The appliance is also likely to last longer because it does not have to work so hard.



Keep fridges defrosted of excessive ice, (should be less than 6mm thick) as build up of ice reduces the efficiency of a fridge. Don't buy a larger unit than you need!

## Dishwashers

Use the economy cycle; remove large food particles before loading. If rinsing before putting in dishwasher, use cold water in a partially filled sink. Don't use running water!

Don't start the dishwasher until it is full.

Switch the dishwasher off for all or part of the drying cycle and leave the door partly ajar. Clean the filter after every washing cycle and use the star energy rating labels to select the most efficient unit, when selecting a new machine. Small households using a smaller and slightly lower star-rating dishwasher might be off than running a big unit part empty.



### Washing/Drying

Avoid using electric dryers, use a clothesline outside, or if don't have access to an outside clothesline use a clotheshorse inside.



### Home – Outside

#### Building or Renovating?

Ensure you have a house energy rating done on the design of your house or renovation. Talk your architect and builder about incorporating passive heating and cooling, read about design so you understand the various elements to good design.

Passive solar is refers to those technologies that can be employed to convert sunlight into usable heat, causing air-movement for ventilation or cooling, or to store the heat for future use, without the use of much or any electrical or mechanical equipment. Passive solar systems have little to no operating costs, often have low maintenance costs, and emit no greenhouse gasses in operation.

#### Geothermal Heating

Save thousands of dollars off your heating and cooling bills by installing a geothermal system. Geothermal heating and cooling technology provides exceptional performance and the United States Environmental Protection Agency (EPA) agrees that a geothermal heat pump is the most energy-efficient, environmentally clean, and most cost-effective space conditioning system available. A new publication [Geothermal Heat Pumps: Installation Guide](#), explains the different systems, designs and even has a DIY section.

#### Recycling

Managing your household consumption patterns can significantly save on resources and energy. Most of the materials in our lives take energy to produce. It usually takes less energy to make recycled products than to make new ones. Stop using plastic bags, buy a carry bag, or box, use recycled paper bags and look for creative ways to reuse items.

Recycle Everything in your house, newspapers, cans, glass bottles and jars, aluminium foil, motor oil, scrap metal, to name a few. Re-use brown paper bags to line your trash can instead of plastic bags. Re-use bread bags and the bags you bring home from shopping. Store food in re-usable containers, instead of plastic wrap or aluminium foil.

Stop junk mail and write to the business sending junk mail asking to be removed from their mailing lists. If you move and want certain mail, update your mailing lists. This minimises duplication of material being sent out. Did you know that humanity tips 700 tonnes of CO<sub>2</sub> into the atmosphere each second!

## Buy Sensibly

Support climate-friendly products and services. When shopping look for recycled content, minimized packaging, and 'climate neutral' products from places like; [Nigel's EcoStore](#), [Gaiam](#), [The Ethical Superstore](#) and [Black Energy](#). These are great places to purchase eco friendly products and gifts.

Avoid buying food or household products in plastic or Styrofoam containers. If you must use disposable products, purchase paper products instead of plastic. Paper items are not fossil fuel (petroleum) based products, and are also biodegradable. Buy 100% recycled paper for you business or home printer. Buy organic when you can, the chemical fertilisers pollute our waterways, and use energy to produce.

Purchase energy efficient appliances. Check the energy rating of major appliances when you purchase. Purchase only the most energy efficient models. Use your consumer power and shop for energy efficient models. You might spend a little more up front, but you will save a lot on electricity, and you will reduce carbon dioxide produced by power plants.

Look at the Energy Rating labels, and compare to get the most efficient appliance. Refrigerators are the big electricity consumers in your home. Upgrading a refrigerator could mean large electricity savings in a household.

Get rid of old appliances; buy a [windup radio](#) or a [windup torch](#) instead of using battery models.

Fully charged, the [radio](#) will last 25 hours. Wind the arm to create and store energy plus there is a solar panel at the top of the radio, to charge and play simultaneously.



## Energy

If we are going to combat greenhouse gases and global warming, we must convert to renewable energy. Climate change is a global challenge and countries need to work together to develop and install both renewable energy and low emission technologies.



The argument that renewable energy is expensive is a furphy! Any new technology is initially more expensive, and the more renewable energy that comes online the cheaper it will ultimately become.

### Choose Renewable Energy Suppliers

If you live in an area where you can choose your electricity supplier, choose one that generates at least half its power from wind, solar energy or other clean sources. Even if you don't have the option to select a supplier, you may still be able to support renewable energy through an option on your electricity bill.

### Use Solar Lighting

Solar means free energy from the sun with significant energy savings. The [Solar Power Design Manual](#) eBook starts from first principles to guide you through the process of designing, specifying and installing your own self-contained solar power system, anywhere in the world. Complete with insolation charts and Solar Sizing Excel® spreadsheet templates.

[Understanding and Installing Your Own Solar Electric System](#) is also another great eBook and takes the mystery out of solar electrical systems. It explains solar power in language that the average person will have no trouble understanding and putting to good use.

It takes you through the learning process step by step, starting with an overview of solar power and continues on with one of the most important things involved when living with an alternative energy system, i.e., energy conservation.

You'll learn about the various components of a solar electric system - batteries, inverters, charge controllers, photovoltaic panels, etc. and how they connect to and interact with each other to form a complete solar electric system.

## Wind Power

There are only a few books out there right now that talk about making [wind turbines](#) and none of them talk about how to do it on "the cheap" and still keep it simple. There are some great wind turbine do it yourself books that talk about hand carving blades out of wood and how to make your own generator from scratch. This includes even winding your own coils, welding, etc. But still, this is cheap but not very simple.



I believe there is too much waste in the world right now. I love the concept of taking something labelled as "junk" and making it new again. I hate to see batteries go to scrap when it is easy to get some more life out of them. Imagine all that lead and sulphuric acid has to go somewhere and I'm always afraid it will impact the environment or the water supply.

I wrote this [wind turbine](#) book for the thrifty person and the "recycler". Someone who wants to build a wind turbine and get started into renewable energy and not break the bank in the process.

Someone who hates to see scrap sit around and go to waste. Someone who wants to become independent from the grid and help

the environment. This e-book is full of pictures and diagrams to explain the concepts.

## Biogas

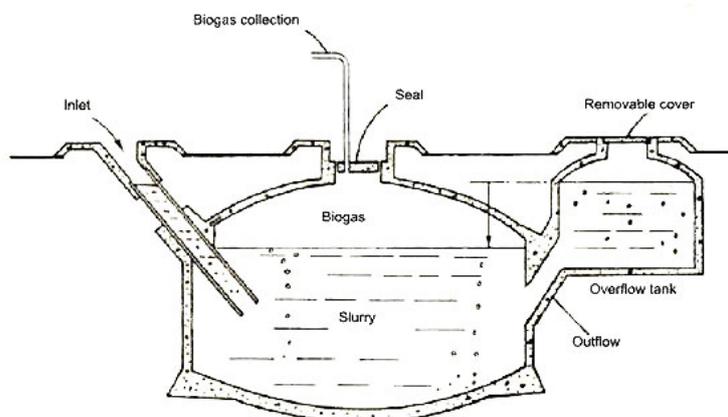


A biogas digester is the apparatus used to control anaerobic decomposition. In general, it consists of a sealed tank or pit that holds the organic material, and some means to collect the gases that are produced. Many different shapes and styles of biogas plants have been experimented with: horizontal, vertical, cylindrical, cubic,

and dome shaped. One design that has won much popularity, for reliable performance in many different countries is presented in the [Build a 3 Metre Biogas Plant](#) eBook.

Construction time and labour resources required to build a 3-CUBIC METER BIOGAS PLANT will vary depending on several factors. The most important consideration is the availability of people interested in doing this project. The project may in many circumstances be a secondary or after-work project. This will of course increase the length of time needed to complete the project.

The construction times given here are at best an estimation based on limited field experience. Skill divisions are given because some aspects of the project require someone with experience in metalworking and/or welding. Make sure adequate facilities are available before construction begins.



## Water

### Hot Water



Install a solar hot water system, or consider a Gas hot water systems rather than electric.

If you have to buy an electric water heater, ensure you buy energy efficient water heaters. Replace your old water heater with a new more energy efficient model and choose the right size!

Move your water heater as close as possible to the main point outlet of the hot water. This reduces heat loss from pipes by shortening the length of hot water pipes transporting the water from the heater.

A lot of energy can be wasted transporting hot water from the cylinder to the tap. Are your hot water lines lagged, or insulated? If this is feasible then insulate your pipes, unlagged pipes wastes a lot of energy. Have you checked the temperature of your hot water system? To prevent growth of bacteria in the storage tank the water temperature should not be below 60°C (140°F), although hot water to your bathroom, ensuite or other personal hygiene areas should not be in excess of 50 °C (122°F).

Why not build your own solar pool heater? This informative eBook shows panel construction for the low cost [solar pool heater](#) that does not require machining, welding or precision work of any kind. No special tools or skills are required to complete this project. Plans are supplied and a 14 page comprehensive set of clearly illustrated instructions to guide you every step of the way. All materials are available from hardware stores and garden shops. The panels can be mounted vertically on a fence or horizontally on a roof It's as easy as ABC so give it a go!

## Showers

Take shorter showers! Apart from saving water, long hot showers consume energy and increase your electricity bill. By installing a simple shower timer (like an egg timer) you can keep track of shower times, and family members have 5 minutes for a shower. This will help train those who spend too long under the shower!



Change your shower fitting to a water-saving showerhead. A water-saving shower rose will save approximately 50% of water compared to an older style shower rose, which may use up to 20 litres (5.2 gallons) of water per minute. This may not sound much, but for a family this could result in saving about 40,000 litres (10,500 gallons) of water every year!

Modern, high efficiency shower roses provide a comfortable stream of water with good wetting and rinsing characteristics, using about 9 litres (2.3 gallons) of water per minute. Showers account for 22% of individual water use in North America!

Besides saving water, if your water is heated by coal or nuclear generated electricity you will save tonnes of carbon dioxide from entering our atmosphere each year. Don't leave water running, and don't let taps drip.

Measure the flow of your current showerhead. You'll need a bucket, a one-litre measuring container (such as a one-litre milk carton) and a watch that shows seconds.

- Fully turn on the cold-water tap of your shower.
- Hold the bucket under the shower for 20 seconds.
- Turn the water off and then remove the bucket.
- Measure the amount of water in the bucket by emptying a litre at a time into the measuring container.
- Calculate the flow rate (in litres per minute) by multiplying the number of litres by three. For example, if you collected 8 litres over the 20 seconds, the flow rate is  $8 \times 3 = 24$  litres per minute.

## Rainwater

Collecting rainwater and precipitation from your roof, which would normally go to waste, and allowing you to redistribute it to the areas where you need it most, great for the vegetable garden!



Many health authorities do not recommend using stored water for drinking purposes if a mains supply is available. It is important to remember that the roof and guttering supplying a rainwater tank need to be kept clean. Depending on the presence of overhanging trees, rainwater may also be contaminated by suspended or dissolved organic matter at times. It is recommended that anyone considering installing a rainwater tank contact their local authority for relevant requirements and gain information on health guidelines and maintenance.

## Garden

Do you like breathing clean air? Plant a Tree!

Another way to stop Global Warming is to plant more trees. Forests and trees breathe in carbon dioxide and by planting trees we create a sink, (CO<sub>2</sub> is sunk in the trees). The carbon dioxide is then tied up and kept out of the atmosphere. The massive deforestation and excessive logging in the past century has wiped out much of our natural forests and rainforests and has removed these precious carbon sinks, stopping the natural uptake of this carbon dioxide.

By planting more trees we can create forests that breathe in the carbon dioxide and in turn breathe out our life giving oxygen. Volunteer with tree planting groups and get involved for a few hours each year to reinvigorate yourself and our atmosphere.

If you are unable to get out and plant, or spare the time, then purchase trees to be planted on your behalf. There are plenty of organizations that you can pay to plant a tree on your behalf. Trees also make wonderful birthday gifts, organise your gifts through



[Sustainable Harvest](#), [Rainforest Rescue](#) and [Trees for Life](#)

## Composting and Organics



Making compost is really a very simple process. It can become a natural part of your yard or gardening maintenance if done properly. If you are mowing your lawn or weeding your flowerbeds, making compost doesn't have to take any more effort than bagging up your garden waste. Avoid manufactured fertilisers, and go organic! In organic gardening, the basic concept of "fertilizing" the soil is to use organic materials like composts and manures. When fertilizing the soil, it doesn't necessarily mean that you use fertilizers. In fact, fertilizers were primarily denoted as anything that increases the soil's fertility.

Organic gardening is a way of going back to the basics, the traditional use of basic fertilizers that increases the soil's capability to enrich the plant. In this manner, the grower uses minerals like calcium coming from the fossils of dead animals, nitrogen from legumes or manures, phosphorus from bones of dead animals, and potassium from wood ashes.

Mulch is a layer of material spread on top of the soil to conserve soil moisture, discourage the growth of weeds, help prevent erosion and prevent large fluctuations in soil temperature. In other words, mulch modifies the soil microclimate around your growing plants. Mulch protects the soil from the drying action of the sun and wind, and protects it from erosion from wind and hard rain. As a result, mulched plants can often endure a long dry spell with hardly any watering.



## Watering

Having a fixed watering schedule can waste large amounts of water. Only water when the grass or plants show signs of needing it. Over watering is bad for plants and lawns, as it encourages shallow root growth, and makes your lawn less hardy. One easy way to work out if your lawn needs to be watered, just walk across the grass. If you leave footprints, it's time to water!

Ensure your lawn height is about 6-8 cm (2 1/2 to 3 inches) to help protect the roots from heat stress, which also reduce the loss of moisture due to evaporation. Allowing the grass to grow slightly taller reduces water loss by providing more ground shade for the roots and by promoting water retention in the soil.



Make sure you adjust irrigation or water system controllers according to summer-winter irrigation needs. Don't water the lawn during midday, to avoid evaporation loss. It is best to water before 8 A.M. or after 6 P.M. and avoid watering on windy days. It is better to water in several short sessions rather than one long one, to allow the lawn to better absorb the water. Check your sprinkler system valves periodically for leaks and keep the heads in good repair. Make sure your sprinkler is placed so it only waters the lawn, not the side walk, and remember that a sprinkler spraying a fine mist increases evaporation.

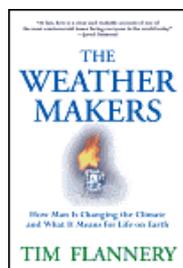


When washing your car, use a bucket of soapy water and use a nozzle to stop the flow of water from the hose between rinsings. Wash your car on the lawn if possible to reduce runoff. Clean, sweep driveways and sidewalks with a broom instead of the hose. Cover your outdoor spa or pool to reduce evaporation. Also, check your spa or pool for leaks and have them repaired promptly.

Use your water meter to check for water leaks in your home. Start by turning off all taps/faucets and water-using appliances and make sure no one uses water during the testing period. Take a reading on your water meter, wait for about 30 minutes, and then take a second reading. If the dial has moved, you have a leak. The most common source of leaks is the toilet.

Check toilets for leaks by placing a few drops of food colouring in the tank. If after 15 minutes the dye shows up in the bowl, the toilet has a leak. Leaky toilets can usually be repaired inexpensively by replacing the flapper.

## Stay Informed



Read widely and understand what we are dealing with. If you have children teach them about the impact of global warming, and what can be done to prevent it. A list of easy reading and technical books are included under 'Resources' below, or search [Green Books](#) or [Barnes and Noble](#) for informative books on Climate Change and Global Warming.

Visit the [Global Warming](#) site to understand the basics of climate change, and use the links at the end of this book, called "Resources" to fill in your knowledge gaps.

Watch the DVD by Al Gore called [An Inconvenient Truth](#). Recently I took my 14-year daughter to see this film, and she had tears in her eyes after viewing it. For the first time she realised the extent to which global warming will change the face of our planet, and the catastrophic consequences if we do nothing. This is a powerful and moving account of Climate Change; give a copy to a friend as a gift!



[An Inconvenient Truth](#)

## Eco Gadgets

You don't have to give up your gadgets to slow climate change. You can use solar power to charge your cell phone, iPod, radio, just about everything, under the sun. Check out some new eco-gadgets at [EcoStore](#), [Gaiam](#) and [The Ethical Superstore](#).



[Solar iPod Charger](#)



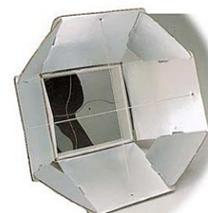
[Solar Headphone Radio](#)



[Solar Outdoor Light](#)



[Solar Torches](#)



[Solar Oven](#)

[Edmund Scientifics](#) has a great range of educational gifts, including solar car kits, solar ovens, and electricity kits. These gadgets and educational gifts introduce children to the potential of renewable energy and they get to see first-hand how the technology works.



[Solar Car](#)



[Solar Heating Kit](#)



[Solar Energy Lab](#)

## Activate

### Speak Out



Our countries need new national legislation and laws to direct us towards solving global warming. Better legislation and laws will help to ensure we develop cleaner cars and cleaner power plants. We also need to agitate for government rebates on installing solar power, solar hot water, or wind power in our homes.

Email, write or call elected officials, and let them know that you are holding them accountable for what they do, or don't do about global warming. Hassle your local representatives and ask for their 'action plan', get climate change on your local council agenda. Is your city a member of [Cities for Climate Protection](#) (CCP) Learn about the CCP initiative, and if your city is not participating, start calling your city council, attend meetings, activate.

### Write

Write to your president, prime minister or leader and ask that they:

- Develop policies to ensure greenhouse gas emissions fall by at least 3% year each year from now on, and that market mechanisms are in place to make this happen.
- Help poor countries cope with disasters caused by climate change and get access to clean energy to help eliminate poverty.

Write letters about Climate Change to the local newspapers. This is a great way to keep the issue in the public mind. It also sparks up a debate and allows us all to understand what the real issues are.

Monitor your newspaper's coverage of this issue and write in response to any stories or letters that dismiss global warming.

### Volunteer

A Get involved: Find out what action groups are doing around your locality or region, if there are no groups, start one!

Meet with your group to discuss and plan how you will get the word out. Call a talkback show and speak about your concerns, organise to speak with children at school.

Volunteer for tree planting days, or start you own tree planting program. Email us with ideas and suggestion we could include on this website.

### Invite

Invite speakers to your school, coffee group or workplace to talk about global warming and what can be done. Invite your school, church or business to do an energy audit and promote energy-efficient measures.

*“You never change things by fighting the existing reality. To change something, build a new model that makes the existing model obsolete.” - Buckminster Fuller*

## Develop a Household Action Plan

Develop your own individual climate protection action plans. There are three basic steps to creating such a plan:

1. Use energy bills and other information on household activities to estimate your annual emissions of greenhouse gases.
2. Identify changes or investments that you can make over the next year to reduce emissions.
3. Track your progress.

Use the Internet to calculate your own CO<sub>2</sub> output. A personal CO<sub>2</sub> calculator is provided by [Resurgence](#), just click on the highlighted link. The calculator is easy to use, but to answer its questions you will need to have information ready about your utility bills and your annual fuel consumption.

After calculating your household's current emissions, you can set a greenhouse gas reduction target. A good start is reducing your emissions by 10% in the next year, but you may decide to choose a higher or lower figure.

No one knows what the future holds. In terms of climate it is unlikely to be better, and it is likely to be worse. When people are asked to change, they're typically asked to swap a sure thing for a maybe, a known for an unknown. Most people are reluctant to make such a trade -- except when current conditions are seen as so bad that anything else must be better.

"We may be entering a new phase of history, a time when we begin to rediscover . . . the traditional teaching that power must entail restraint and responsibility, the ancient awareness that we are interdependent with all of nature and that our sense of community must take in the whole of creation."

Donald Worster, "The Vulnerable Earth," in  
*The Ends of the Earth*

## Resources

### Links

[Global Recycling Network](#)

[ECOWorld](#) – The Global Environment Community

### Reports on Climate Change

[Stern Review Report on the Economics of Climate Change](#)

[The Intergovernmental Panel on Climate Change \(IPCC\)](#)

[Impacts of Europe's changing climate](#)

[US National Assessment of the Potential Consequences of Climate Variability and Change](#)

[Australian Climate Change](#)

### Renewable Energy

1. [Global Wind Energy Council \(GWEC\)](#)

2. [The International Solar Energy Society](#)

3. [International Association for Hydrogen Energy \(IAHE\)](#)

4. [International Hydropower Association](#)

5. [International Energy Agency - Bioenergy](#)

### Online Eco Friendly Stores

[Nigel's EcoStore,](#)

[Gaiam](#)

[The Ethical Superstore](#)

[The Black Energy Store](#)

[Edmund Scientifics](#)

[Green Books](#)

We are currently developing climate change school lessons. These lesson plans will cover climate change and global warming for children from about ages 12 to 15 years old. The lessons draw heavily on the International Panel on Climate Change (IPCC) reports. The science is sound, without political twist, and is up-to-date, plus it is free!



The climate change school lessons can be used freely within an educational context and come complete with activities and class exercises. The work cannot be sold, and will be covered by international copyright. Check the lesson page regularly [here](#).