

## Information related to climate change related matters for climate adaptation on functioning and living.

Researched and compiled by [www.escservices.com.au](http://www.escservices.com.au)

Year 2010 Melbourne AUSTRALIA

Climate change, Urban Heat Island, Albedo effect data are related matter. Their inter-connected issues, and our living activities and functional abilities are the driving force of this natural phenomenon which contribute to the spiralling GHG emission,

The local footprint plays a role in a global weather. The questions are:

- **What are the impacts of climate change to us and our family living condition, our living environment, our natural resources?**
- **What is the climate adaptation for resilience to drought, flood, and high level of carbon emission as a result of climate change?**

And how can we practically plan for a sustainable living with a sustainable thinking to strategic solutions.

For a concise understanding the facts of climate change impact to all facets of life, please refer to research section A, and section B. The research is a web-based platform, and provided local and global website addresses and links will give you a complete detail, and help you to plan for a sustainable living – your future vision of a sustainable culture.

## SECTION C

### C.1 Ecological footprint

**Source:** Google search - Environment Protection Authority Victoria – EPA

**Keyword:** Ecological Footprint

**Website:** [www.epa.vic.gov.au/ecologicalfootprint/default.asp](http://www.epa.vic.gov.au/ecologicalfootprint/default.asp)

#### What is Ecological Footprint?

'The Ecological Footprint measures how much nature we have, how much we uses, and who uses it. It shows us how much biological productive land and water a population (an individual, an organisation, a city, a country, or all of humanity) requires to support current levels of consumption and waste production, using prevailing technology....'

### C.2 Mercury – a toxic content

Do you know that 1/2gram of mercury in a 10 acres lake would warrant issuance of a fish advisory lake?

**Source 1:** Google search for Wikipedia on toxic mercury

**Keyword:** Wikipedia on toxic mercury

**Website:**

[http://en.wikipedia.org/wiki/Mercury\\_poisoning](http://en.wikipedia.org/wiki/Mercury_poisoning)

Where can mercury be found in households

- Battery (dry-cells)
- Fluorescent lighting tube
- Light switches
- Appliances switches
- Auto switches
- Thermometers
- Mercury amalgam dental fillings

**Source 2:** Google search for Article base on Toxic Mercury or Avoiding Mercury Toxicity

**Keyword:** Toxic Mercury or Avoiding Mercury Toxicity

**Website:** <http://articlesbase.com>

Type toxic mercury in search to link to Toxic Mercury or Avoiding Mercury Toxicity

Mercury toxicity symptoms and disorders include:

Adrenal gland dysfunction, antibiotic resistance, autism, birth defects, brain damage, gastrointestinal problems, immune dysfunction, intestinal disorders, kidney damage, liver damage, memory loss.

*'Mercury toxicity can affect the central nervous system, brain, kidneys and liver.....Mercury is a potent cellular toxin and is known to decrease neurotransmitter production, disrupt important processes within the nerve cells, and decrease important hormones such as thyroid and testosterone. Depending on the amount of mercury in the body, the more serious and chronic health disorders become'*

**Source 3:** Google search for US

EPA on toxic mercury

**Keyword:** US EPA on toxic mercury

**Website:**

<http://www.epa.gov/ttn/atw/hlth ef/mercury.html>

Type toxic mercury in search to link to mercury data

## C.3 Water footprint

**Source:** Google search - Water Footprint Organization of University Twente – Netherlands

**Keyword:** water footprint

Website: <http://www.waterfootprint.org>

### What does it mean?

Basically it is the amount of water [that] had been used to grow and produce our food, and other basic necessities for our living activities. We, as human are facing water shortage at some levels around the world of all nations. There are 2 billion people, who are living on this planet at present time, have no access to clean water sources. Australian population is 22 million as of today. China increases its population by 20 million in one year. Would your family consume more, when a third or a fourth child is added to your family member list?

Did you know how many Litres of water our food and our basic necessities have been used from growing to production processes? As a consumer myself, I was astonished to find out this information in my research for my water footprint on water consumption, and would like to share it with you for a consumed perspective.

Could our lifestyle be more sustainable, not to waste our water, our food, and produce more carbon emissions.

Below are some examples

Quantity + Product	Water requirement	Researched source	Chart of water usage per day per household on living activities		
<b>For snack and refreshment</b>			<b>Living activities</b>	<b>Water usage</b>	<b>Solution</b>
1 orange 1 apple 1 glass beer 1 glass of wine	requires 50L of water requires 70L of water requires 75L of water requires 120L of water	<a href="http://www.waterfootprint.org">www.waterfootprint.org</a> University Twente Netherlands	toilet flush – single cistern toilet flush – dual cistern ½ flush toilet flush – dual cistern full flush washing machine - top washing machine - front Washing car – with hose	12L 3L 7L 200L 80L 200L	Rain water usage
<b>For breakfast</b>					
1 cup of tea 1 slice of wheat bread 1 cup coffee 1 egg 1L of milk	requires 30L of water requires 40L of water requires 140 of water requires 200L of water requires 1,000L of water	<a href="http://www.waterfootprint.org">www.waterfootprint.org</a> University Twente Netherlands	Dripping tap Topping up a pool Garden dripper Garden sprinkler Shower – 8 min Shower – 8 min water efficient shower head Hosing driveway Bath Washing hands	2,000L / month 2,000L 4L 1,000L / hour 120L 72L 100L 100L 5L	Grey water usage after applied activities
<b>For meat protein</b>					
1kg chicken meat 1kg goat meat 1kg pork 1kg sheep meat 1kg beef	requires 3,900L of water requires 4,000L of water requires 4,800L of water requires 6,100L of water requires 15,500L of water	<a href="http://www.waterfootprint.org">www.waterfootprint.org</a> University Twente Netherlands	Brushing teeth – tap running Brushing teeth – tap off Dishwasher	15L 5L 50L	Bio black water usage After applied activities
<b>For carbohydrate</b>			<b>Average daily water usage per household of a 3 members of family is around – 700L/day Around 255,500L.</b>		
1kg maize 1kg of potato flakes 1kg wheat 1kg barley 1kg sugar 1kg soybeans 1kg sorghum 1kg rice	requires 900L of water requires 900L of water requires 1,300L of water requires 1,300L of water requires 1,500L of water requires 1,800L of water requires 2,800L of water requires 3,000L of water	<a href="http://www.waterfootprint.org">www.waterfootprint.org</a> University Twente Netherlands	<b>With water tanks and grey water systems , a reduction can be achieved at 500L/day and around 182,500L/year. A saving of around 73,000L of fresh water per year</b>		

## C.4 Waste and recycle

### What is waste?

Farming, Manufacturing, Consumption, Living and functional practices produce waste

The function of living generates waste that comes from unused natural and man-made resources

Waste comes in many shapes, forms and sources – such as organic waste / chemical waste / electronic waste / medical waste / hospital waste / hazardous waste / toxic waste

The question is:

How potentially harmful is waste on methane? and can waste be recycled to re-use as a resource?

### According to Notebook magazine:

*Approximately 3 million tonnes of food waste is waste every year – approximately 145kgs of food waste per person*

*Statistics show Sydneysiders are the worst food waste offenders, with some bins containing 50% food*

*Victorians and South Australians are throwing out approximately 40%*

*ACT is throwing out 4.2kgs of food every week in 2007 – up from 3.7kgs in 2004*

Population growth will drive consumption growth will drive waste and high demand of landfill. What is a sustainable solution to waste of consumption of living practice across this nation?

4R approach is the most practical and sustainable solution. They are: **Reduce – Reuse – Recycle – Resource**

The 4RS approach is a mitigated plan for solution to living waste at present and to population growth in the future

- reduce potential harmful toxic to air, river, and eco-system
- reduce the excessive demand on natural resources
- reduce unnecessary expense on waste cost
- reduce landfill cost
- generate a new renewable source of energy
- generate a new economic sector to meet demand of growth
- return on environmental, social, health, economic benefits

**Source 1:** Google search - National Waste Policy on waste and recycling

Keyword: National Waste Policy on waste and recycling

We do apologise for unable to renew the link to this context.  
Please search for keyword on Google search platform

**Source 2:** Google search for Environment Protection on waste in Australia

Keyword: Environment Protection waste in Australia

We do apologise for unable to renew the link to this context.  
Please search for keyword on Google search platform

## C.5 Low carbon growth plan

**Source:** Google search for Climate Works of Australia organization of Monash University

Keyword: Low Carbon Plan

Website: [www.climateworksaustralia.org](http://www.climateworksaustralia.org)

### What is the Low Carbon Growth Plan?

*'The low Carbon Growth Plan Australia provides the first comprehensive economy-wide blueprint for how Australia can achieve an ambitious reduction in greenhouse gas emissions, whilst also building a growing low-carbon economy.*

*The low Carbon growth Plan identified 54 separate opportunities – across all sectors – that together can achieve a reduction in emissions of 249 Mt CO<sub>2</sub>-e (million tonnes of carbon dioxide equivalent), or 25% below 2000 levels. This target is achievable using technologies available today, and at a cost of just A\$185 per household in 2020....'*

Appropriate planning for a sustainable living will help a family, and business budget to reduce the carbon cost and carbon emission at the same time. For a further knowledge of future carbon cost per tonne please visit: [www.climateworksaustralia.org](http://www.climateworksaustralia.org)