

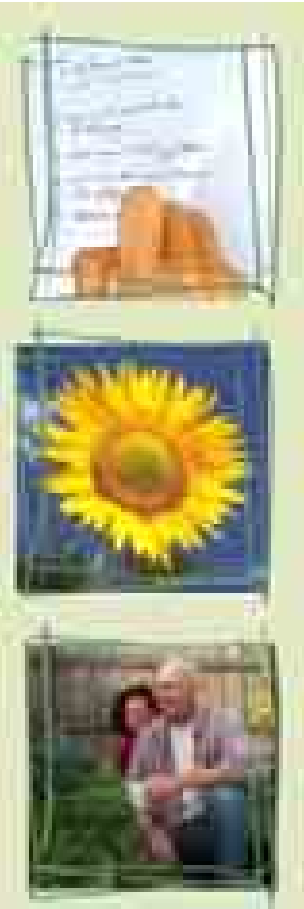


nobody made a greater mistake than he who did nothing because he could only do a little - e. burke

Welcome to **Living**
Smart

Aims of the Living Smart course

- Raise awareness of sustainability issues
- To help you take up new, more sustainable choices in your life
- Empower you to actively participate in your community
- To provide you with an enjoyable and meaningful learning experience
 - with variety of ways to learn

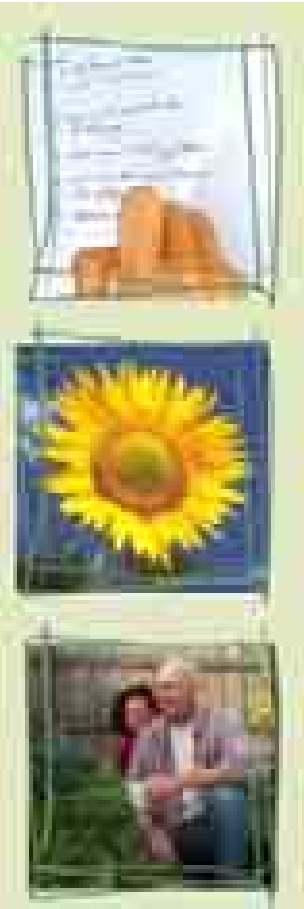


Living Smart Partnership

Living Smart is the outcome of a strong partnership between

- The Meeting Place Community Centre
- City of Fremantle
- Murdoch University
- Southern Metropolitan Regional Council,

together with active participants in the early pilot programs from the Fremantle community



Some Participant Comments on Living Smart

- My Saturday afternoons for 7 weeks have completely changed my life
- I achieved monumental changes in my way of life which I had always meant to do but never got around to.
- It increased my sense of urgency in tackling climate change.
- I thought I knew it all and was doing most of it until I went to Living Smart. Now I'm doing much more and there is still more I can do.



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What is “Sustainability”?



What is sustainability?

Living in a way that meets the need of the present without compromising the ability of future generations to meet their own needs.

Finding a balance between environment, economy and society.

Why Live More Sustainably?



Sustainability Bingo

SUSTAINABLE BINGO

Used public transport to get to work or school	Used a compost or worm farm	Planted a native tree or shrub	Had a home energy audit in last 2 years	Belonged to a community group	Plays musical instrument or sings
Donated items to charity	Carved a native wood carving	Planted a native tree or shrub	Had a home energy audit in last 2 years	Had a water saving device installed	Spent evening outside
Bought a second hand book or CD/DVD	Bought locally grown fruit and veg	Has recycled in the last week	Visited a national park in the last year	Had a water saving shower head	Lost their last shopping bag
Has claimed a tree last year	Used fans instead of air conditioner in summer	Has external shading on West-facing walls	Has been to a local council meeting	Drives a carpool, car-pooling or car	Has an extra place for visitors
Has only 1 fridge/freezer	Planted a native tree or shrub	Has been to a local council meeting	Has been to a local council meeting	Bought organic vegetables in last week	Spends more products with neighbours
Used parks and playground close to home	Has a rainwater tank	Has a rainwater tank	Has a fruit tree	Drinks around 2 litres of water in a day	Spends time and effort to eat breakfast, lunch and dinner

Instructions

1. Find someone for each category and write their name in the box.
2. You cannot use a person's name more than once.
3. Call out Bingo when you have four squares in a row with names in.

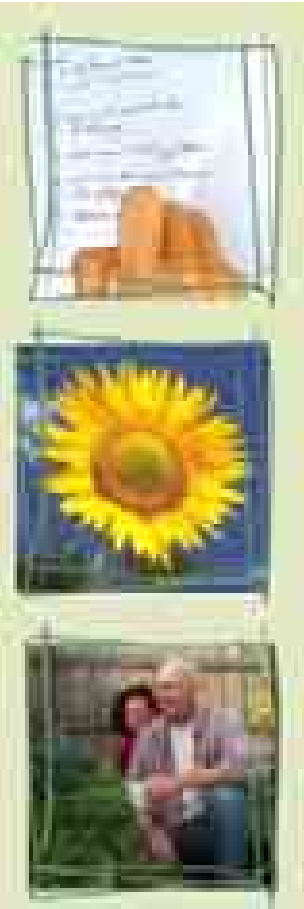
BINGO!!

Living Smart
creating sustainable communities

Living Smart

Possible Course Outline

Wk 1: March 3	Thinking Smart, Being Smart
Wk 2: March 10	Power Smart Travel Smart
Wk 3: March 17	Health Smart - You Health Smart - Home Waste Smart
Wk 4: March 24	Garden Smart for Biodiversity Garden Smart for Productivity Water Smart
Wk 5: March 31	Community Smart & Living Simply Conclusion and evaluation.
Weekend	Excursion (TBD – eg Gardening for Productivity)



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Power Smart Possible Topics

- How to reduce your electricity use:
 - Energy efficient gadgets & appliances;
 - Solar passive design;
 - Reducing heating and cooling;
- Solar Panels for Generating Electricity:
 - Best types for different situations;
 - Government rebates available;
 - What do I need to do?
- Subscribing to Green Power



Healthy Home Possible Topics

- How to eliminate chemicals from your home;
- Cleaning without chemicals;
- Non-toxic cleaning products;
- Improving air quality;



Healthy You Possible Topics

- Diet that is good for you and the planet;
- Organic food and suppliers in Perth;
- Importance of exercise;
- How to de-stress;



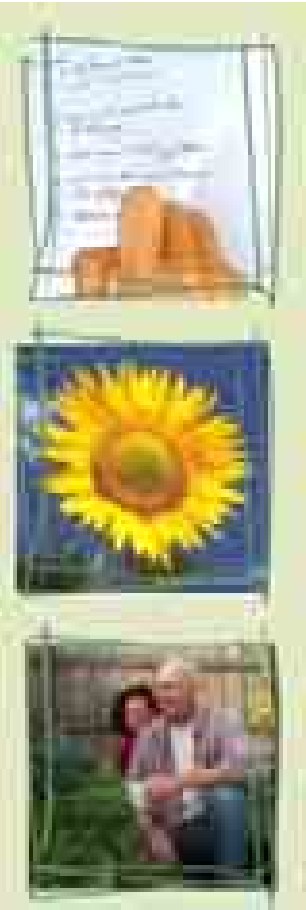
Move Smart Possible Topics

- How to reduce your transport emissions;
- How to improve the fuel efficiency of your existing car;
- Low emissions vehicles;
- Alternatives to car transport;



Waste Smart Possible Topics

- Waste recycling services available;
- How to reduce waste to landfill;
- The 3Rs (Reduce, Re-use, Recycle);
- Composting;
- Worm Farming;



Gardening for Biodiversity

Possible Topics

- Importance of Soil;
- How to plant and maintain natives;
- How to create safe havens for wildlife;
- Is it a weed or a local plant?



Gardening for Productivity

Possible Topics

- How to create a no-dig vegetable garden;
- Crop rotation systems;
- Where to get organic soils, seedlings and seeds;
- Backyard Chickens;
- Backyard Aquaponics (aquaculture + hydroponics)



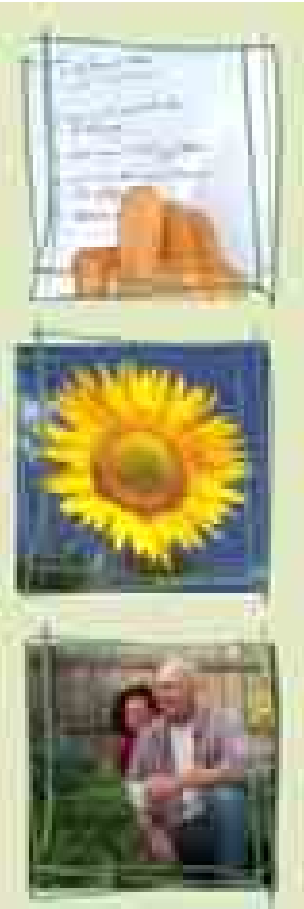
Water Smart Possible Topics

- Rainwater harvesting;
- Greywater harvesting;
- Blackwater harvesting;
- Composting toilets;
- Water-wise products;



Field Trip Options

- Visit Waste Management Facility;
- Veggie Garden Make-over for one lucky household;
- Visit to Environment House – composting;



What do you want to spend time on?

- In Table Teams:
 - Read what is on your flipchart already;
 - Add any additional topics related to the subject that you would like to see;
 - Pass to next table;
- Time: 3 minutes



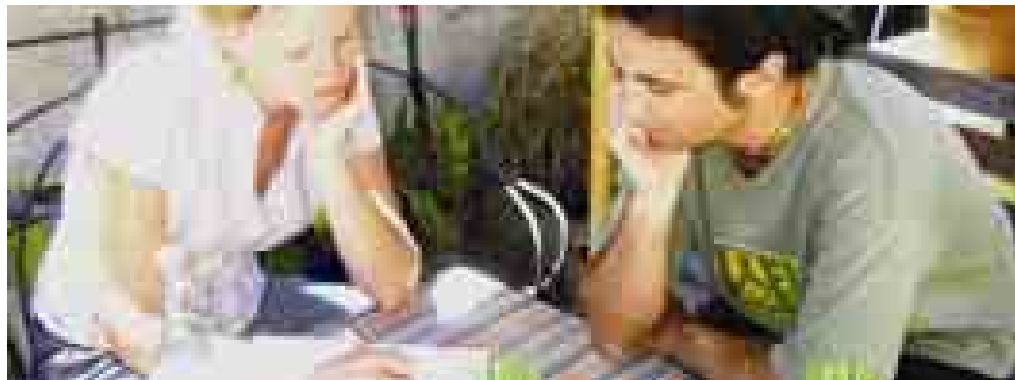
Time for a break



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Learning, Sharing and **Taking Action**

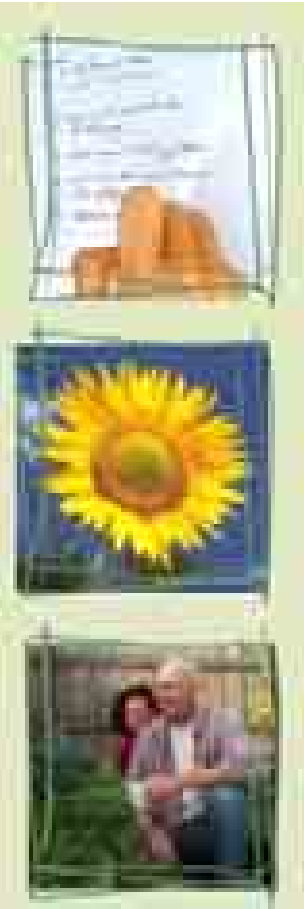


Taking Action

– a little brain science

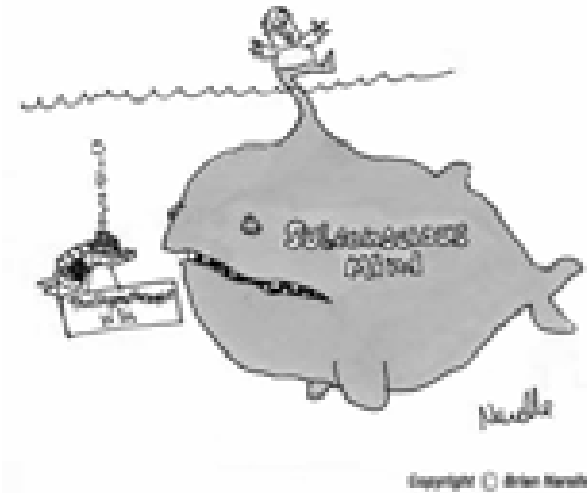
The human mind, like no other, has the ability to create different scenarios and plot a course towards an envisioned future.

- Prefrontal cortex – responsible for reasoning and forward planning
 - 3.5% cats
 - 17% chimps
 - 29% humans
- We have the brains for long term planning in regards to our environment

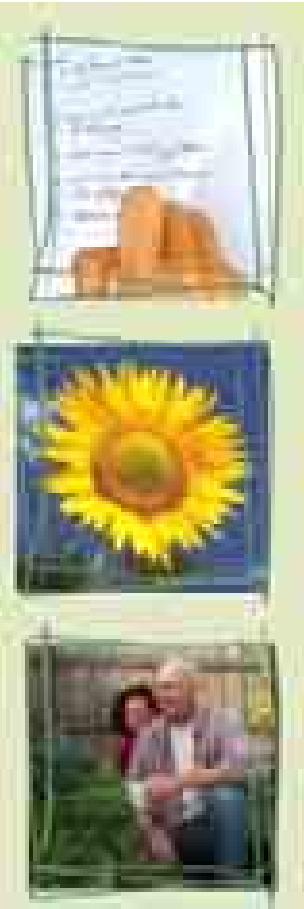


Taking Action

– *creative solutions from the Subconscious*



- Most of the work done behind the scenes
- Believes everything as fact
- Takes the language you use literally
- Takes direction from the conscious mind
- Works on repetition and reinforcement



Tools to Take Action

- Positive language, affirmations and people
- Goal setting
- Visualisations

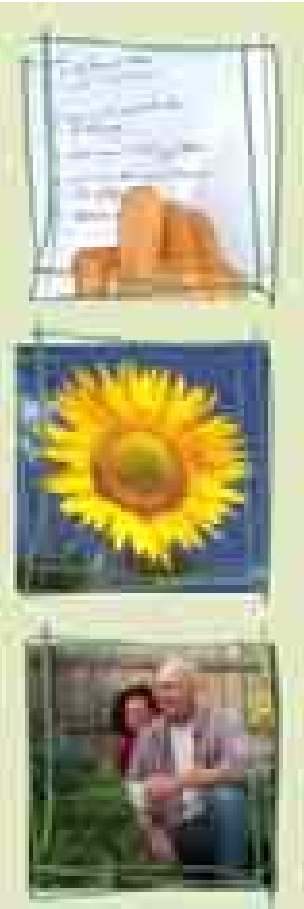


Choosing Positive Language

- I should
- I could
- I would
- I want

What are some positive alternatives?

Use positive words when you set dreams.

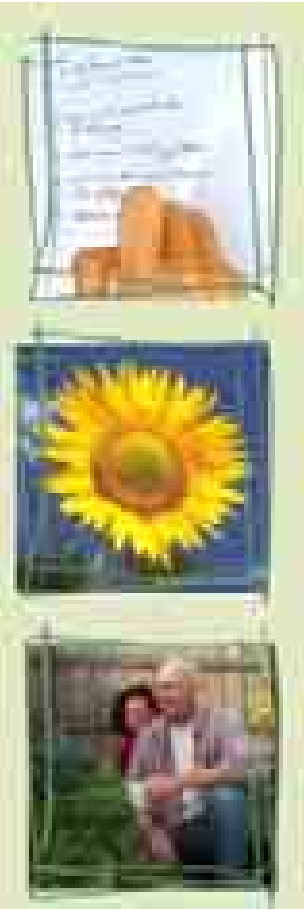


Choosing Positive Language

- I can
- I will
- I choose
- I create
- I am a winner!



*The bluntest pencil records
better than the sharpest mind*



The Elements in Goal Setting

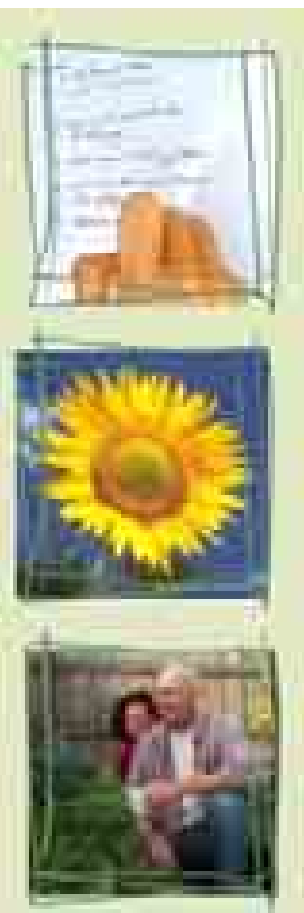
- What, Where, Who and How of a task
- When
 - Set a time frame
- Why
 - Make sure they have intrinsic values, things which really motivate you.



A Personal Story of Change

What motivates me





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SPECIAL REPORT GLOBAL WARMING

TIME

BE
WORRIED.
BE **VERY**
WORRIED.

Climate change isn't some vague future problem—it's already damaging the planet at an alarming pace. Here's how it affects you, your kids and their kids as well.

EARTH AT THE **TIPPING POINT**

HOW IT THREATENS YOUR **HEALTH**

HOW **CHINA & INDIA** CAN HELP
SAVE THE WORLD—OR DESTROY IT

THE CLIMATE **CRUSADERS**

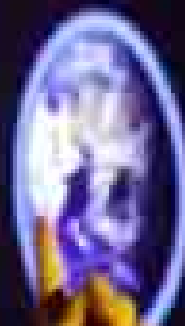
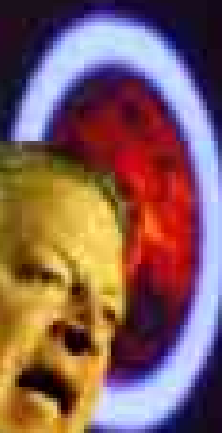


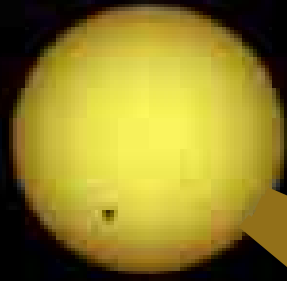
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Venus
457°C

Earth
15°C

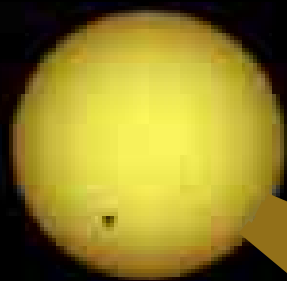
Mars
-65°C





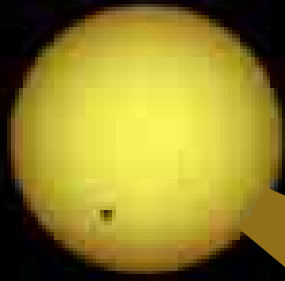
Solar radiation
passes through the
atmosphere warming
the earth





Some of the energy is
radiated back into space





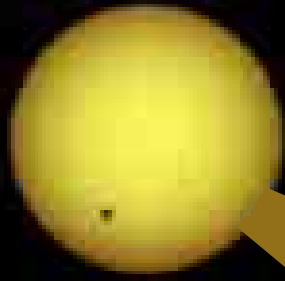
Some of the outgoing radiation is trapped within the atmosphere by the greenhouse gases

The "Greenhouse Effect"

The Earth would be 33° colder if it weren't for the greenhouse effect





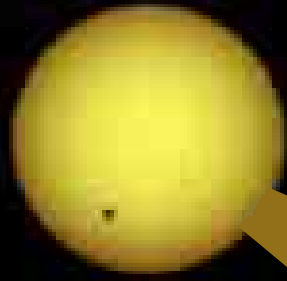


Some of the outgoing radiation is trapped within the atmosphere by the greenhouse gases

The "Greenhouse Effect"

The Earth would be 33° colder if it weren't for the greenhouse effect





More of the outgoing radiation is trapped within the atmosphere by the increasing greenhouse gases

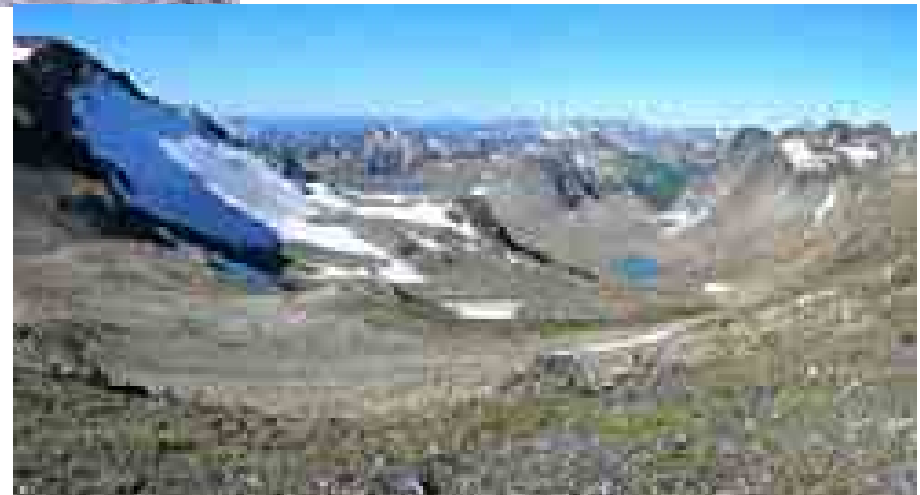
The "Enhanced Greenhouse Effect"



The Whitechuck Glacier (USA) retreated 1900m between 1973 and 2006



1973



2006



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The Boulder Glacier retreated 450m between 1985 and 2003





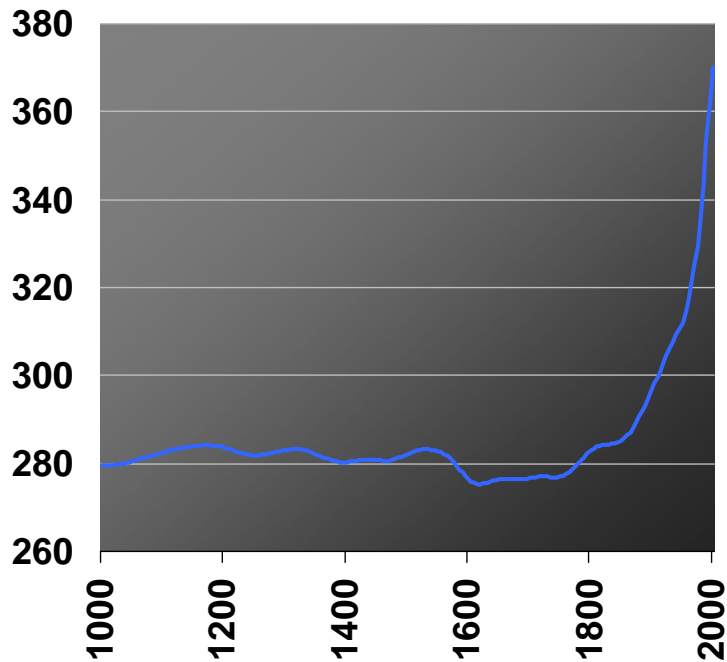
Quelccaya Ice Cap

Peru, 1977

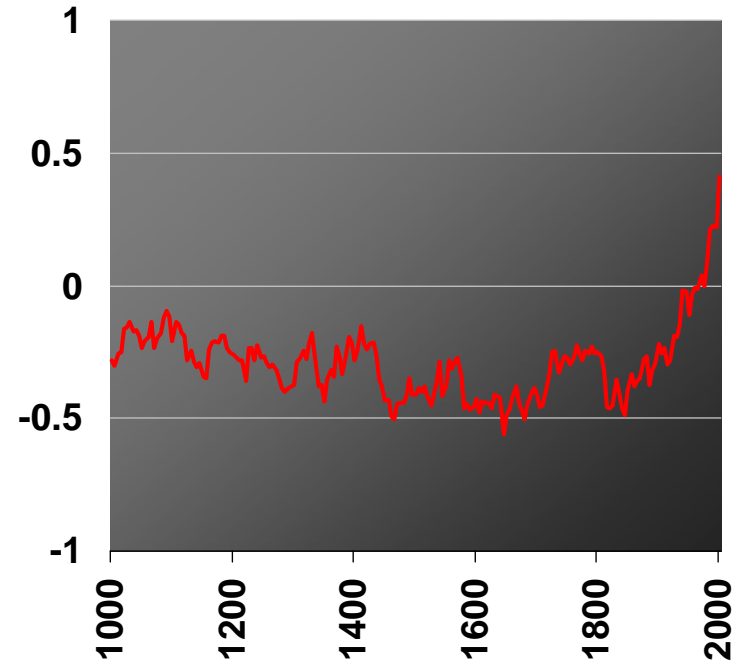


1000 Years of CO₂ and Global Warming

Atmospheric CO₂

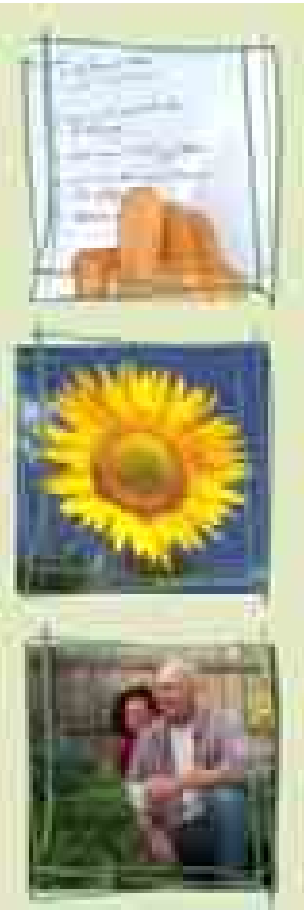
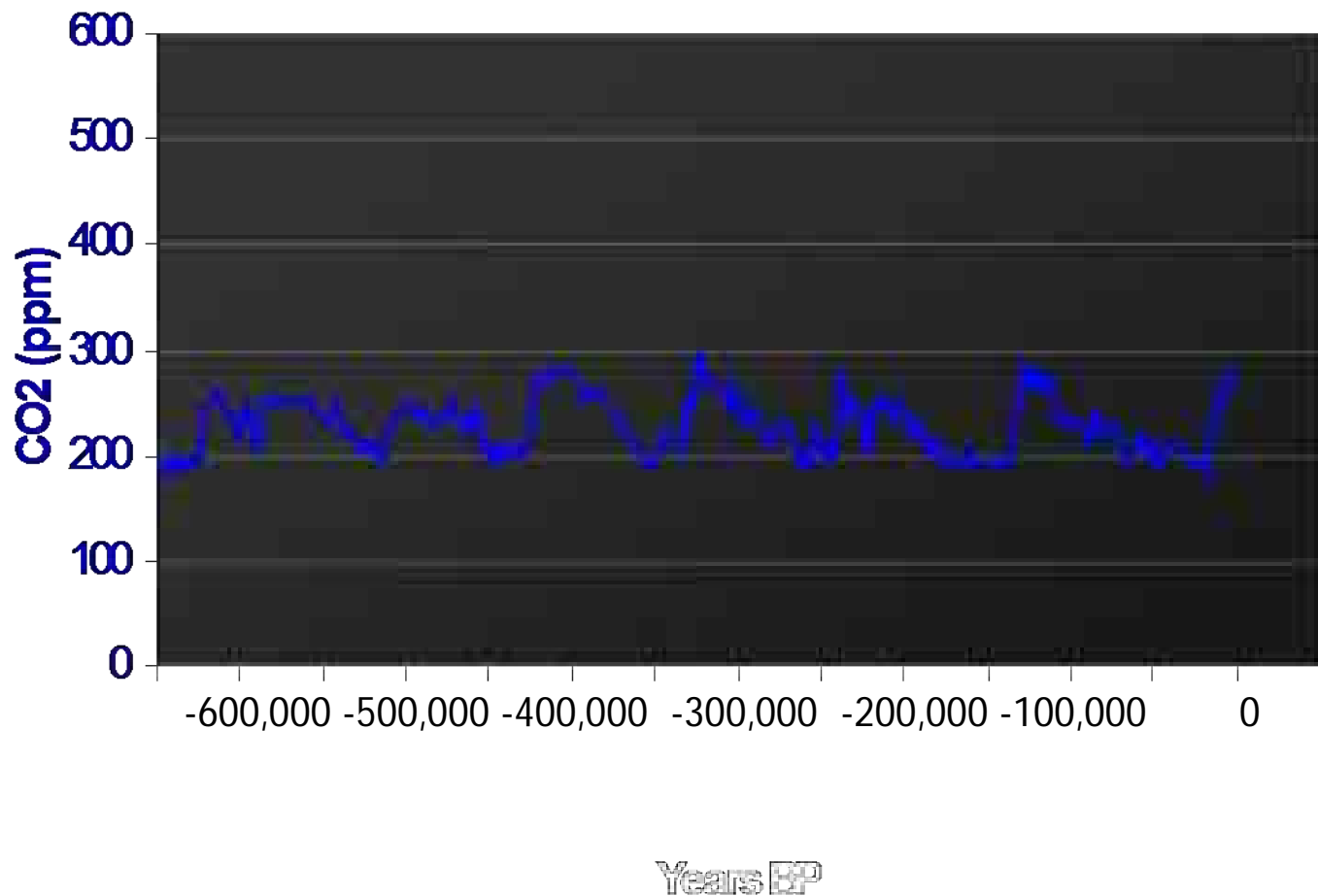


Temperature
(Northern Hemisphere)

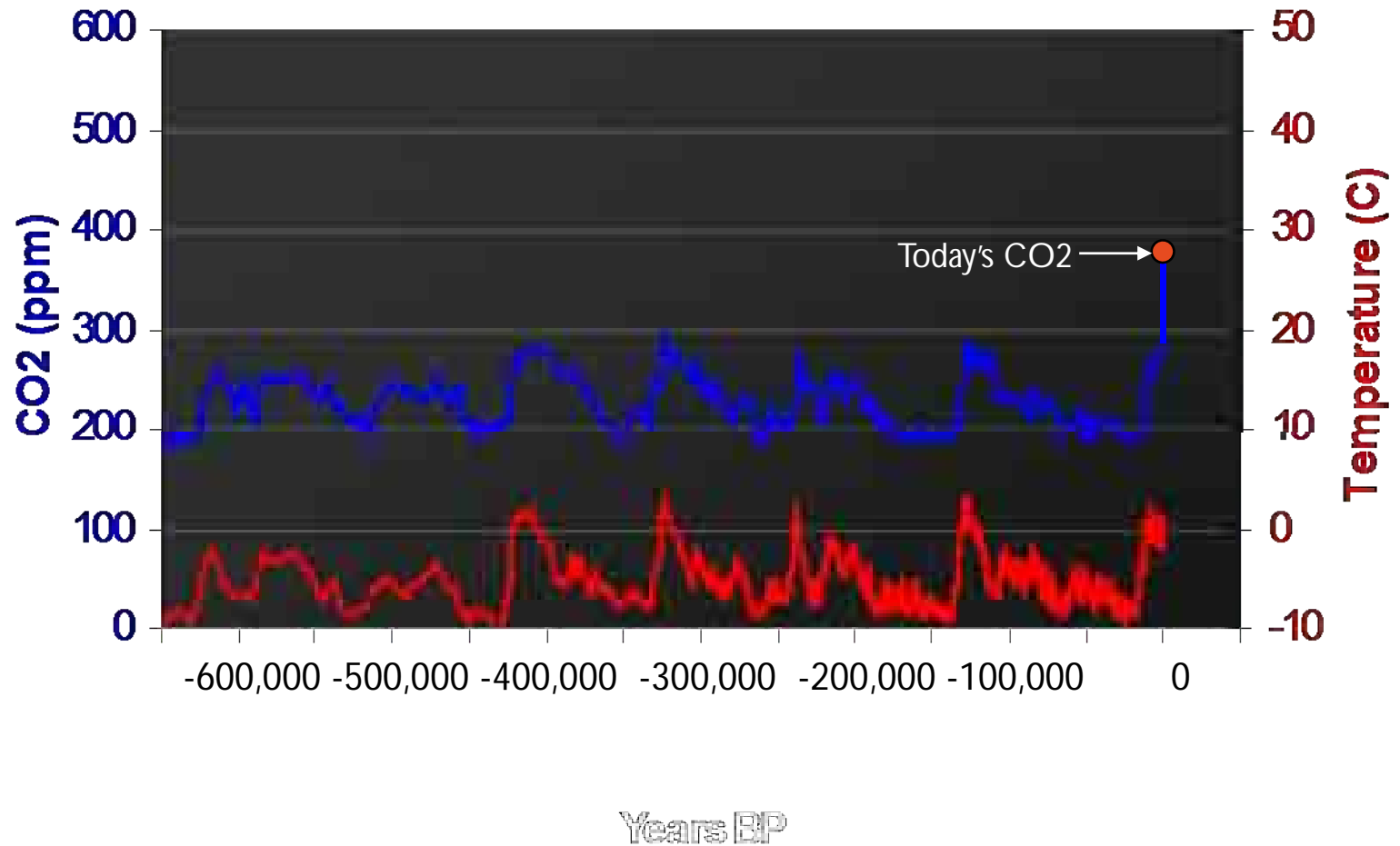


Source: NOAA

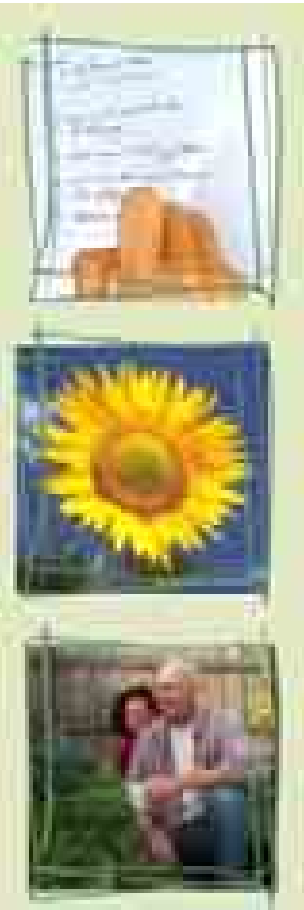
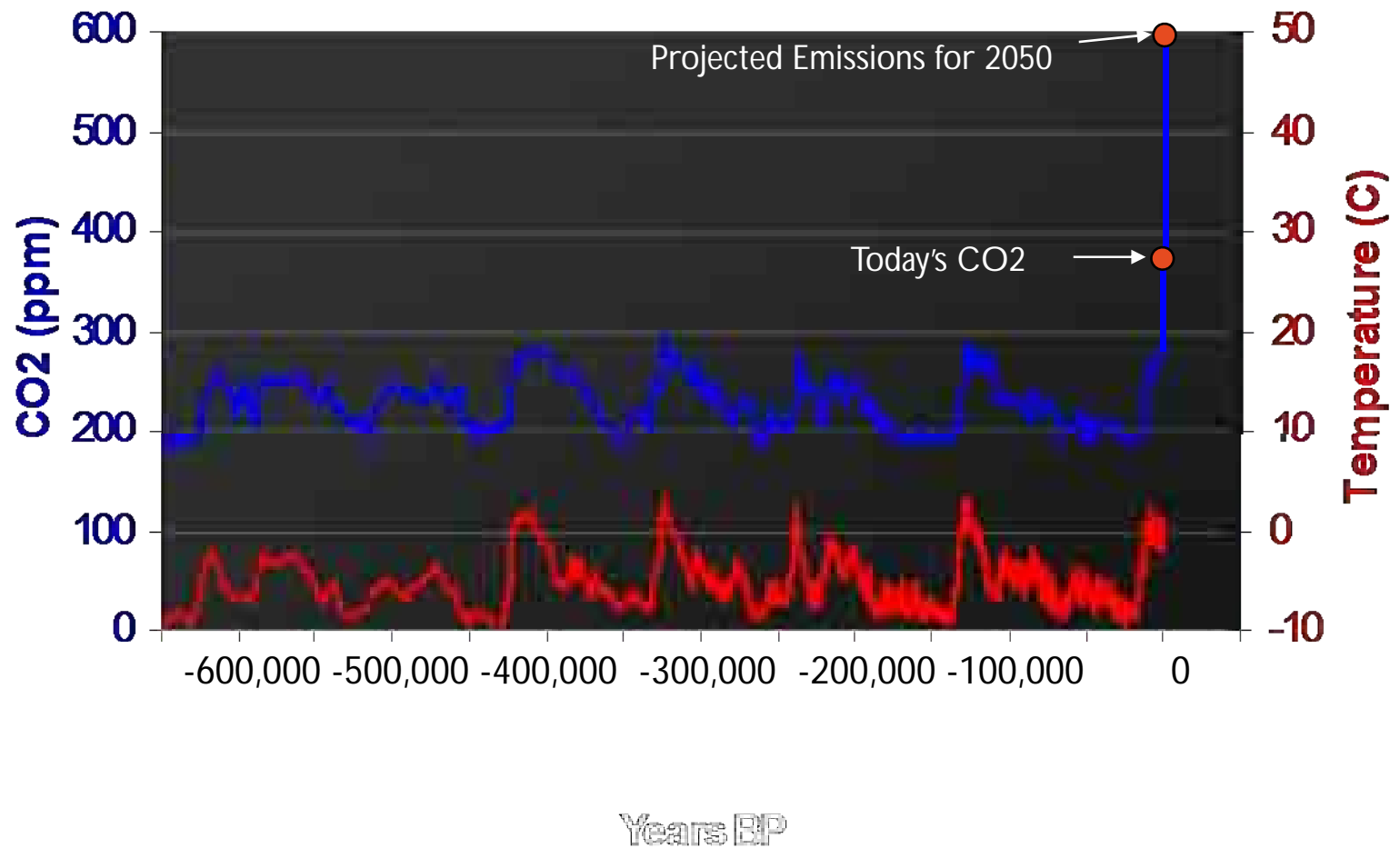
650,000 Years of CO₂ and Global Warming



650,000 Years of CO₂ and Global Warming



650,000 Years of CO₂ and Global Warming



Projected Temperatures in Australia to 2100

2000



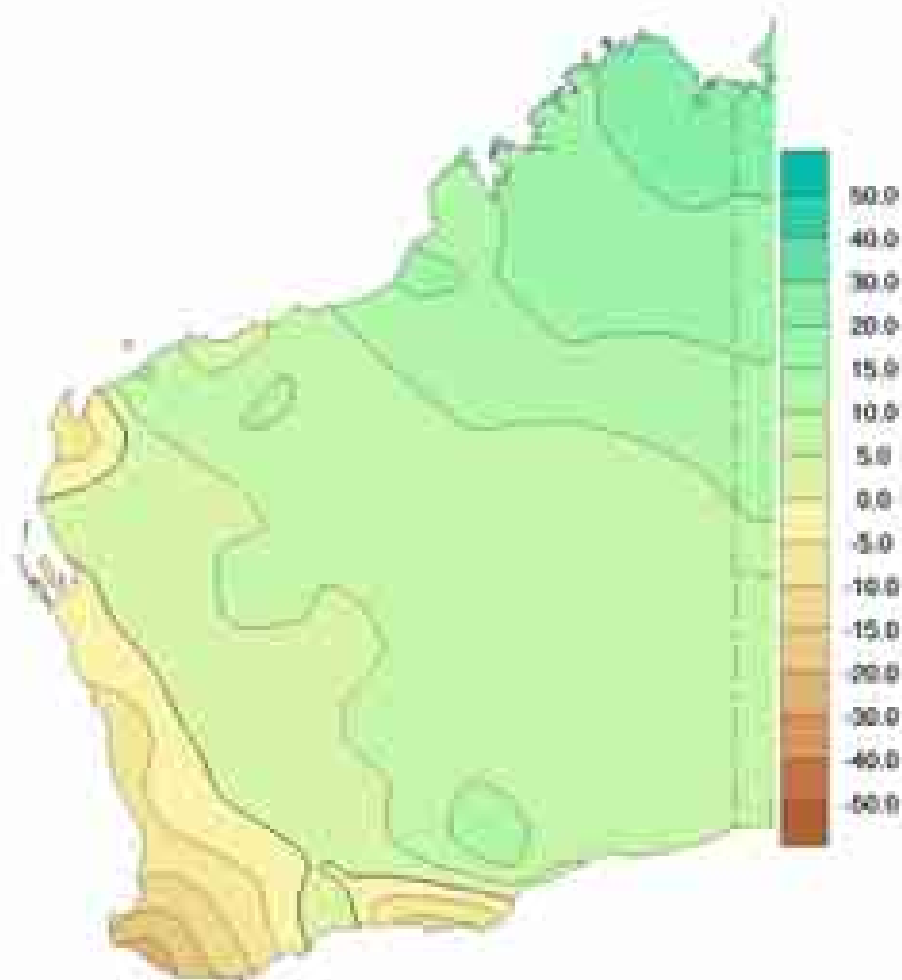
-1 0 1 2 3 4 5 6 7
Temperature Change (°C)

CSIRO Mark 3.5 climate model
IPCC SRES A1B emission scenario
Change relative to 1980-1999 average



Rainfall is declining in the southwest

Trend in Annual Total Rainfall 1900-2007 (mm/10yrs)



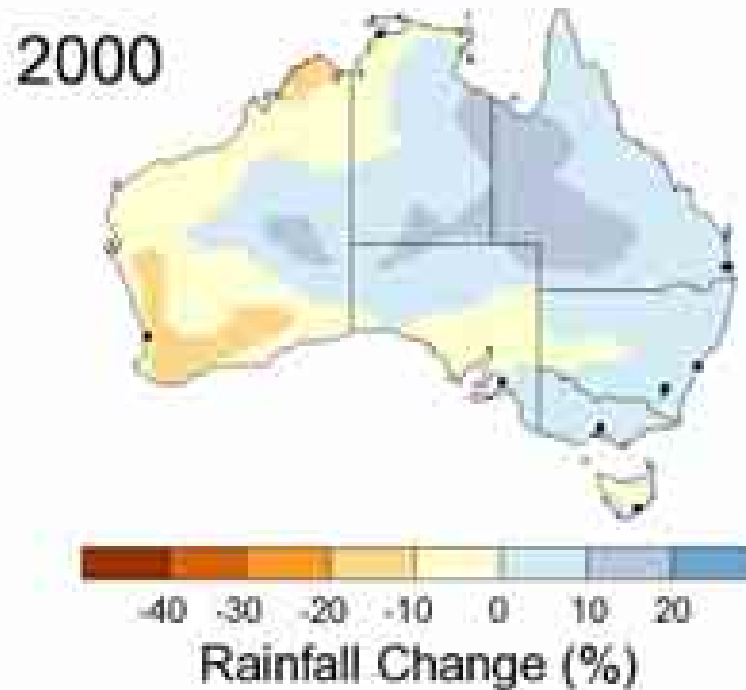
© 2008 University of Arizona, School of Environment and Natural Resources

Source: NOAA



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Projected Rainfall in Australia to 2100



CSIRO Mark 3.5 climate model
IPCC SRES A1B emission scenario
Change relative to 1980-1999 average



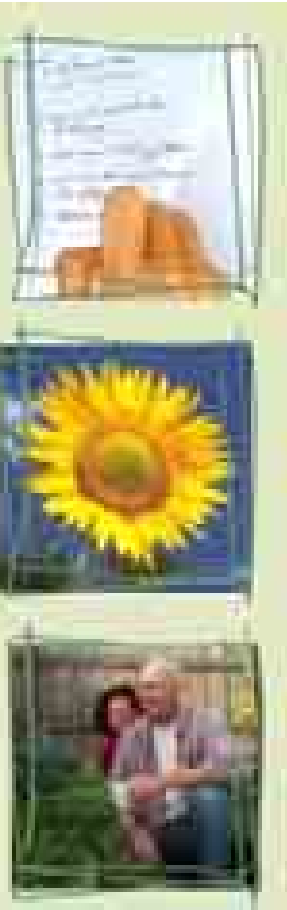
Extremes in Australia



Murray Darling Basin
August 2007

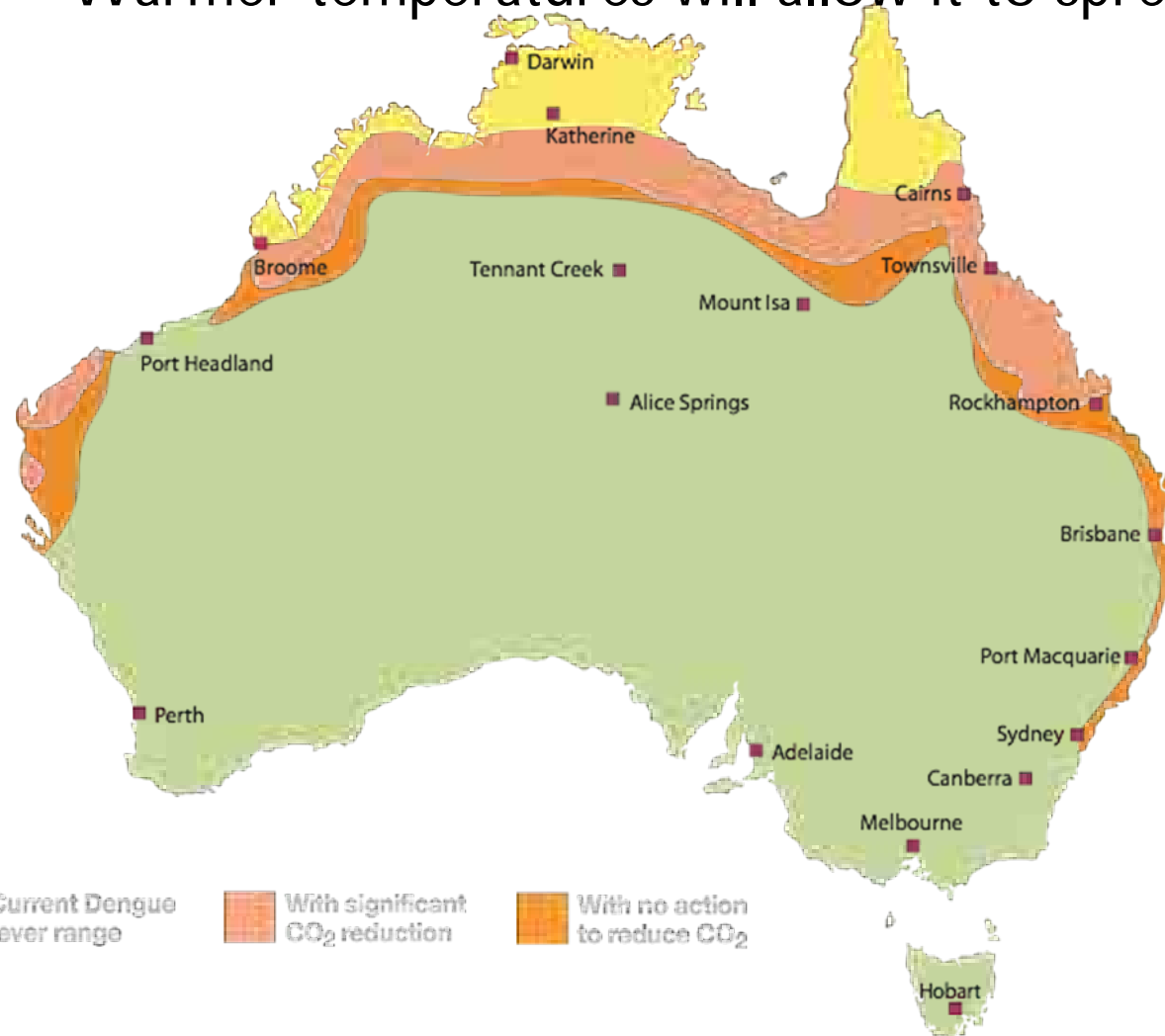


Hunter Valley
June 2007



Dengue Fever in Australia

- Warmer temperatures will allow it to spread south



Current Dengue fever range With significant CO₂ reduction With no action to reduce CO₂

Global Health Impacts

- 175 Million Children impacted by extreme weather events caused by climate change (WHO);
- Up to 400 million more people at risk from vector-borne malaria (US EPA);



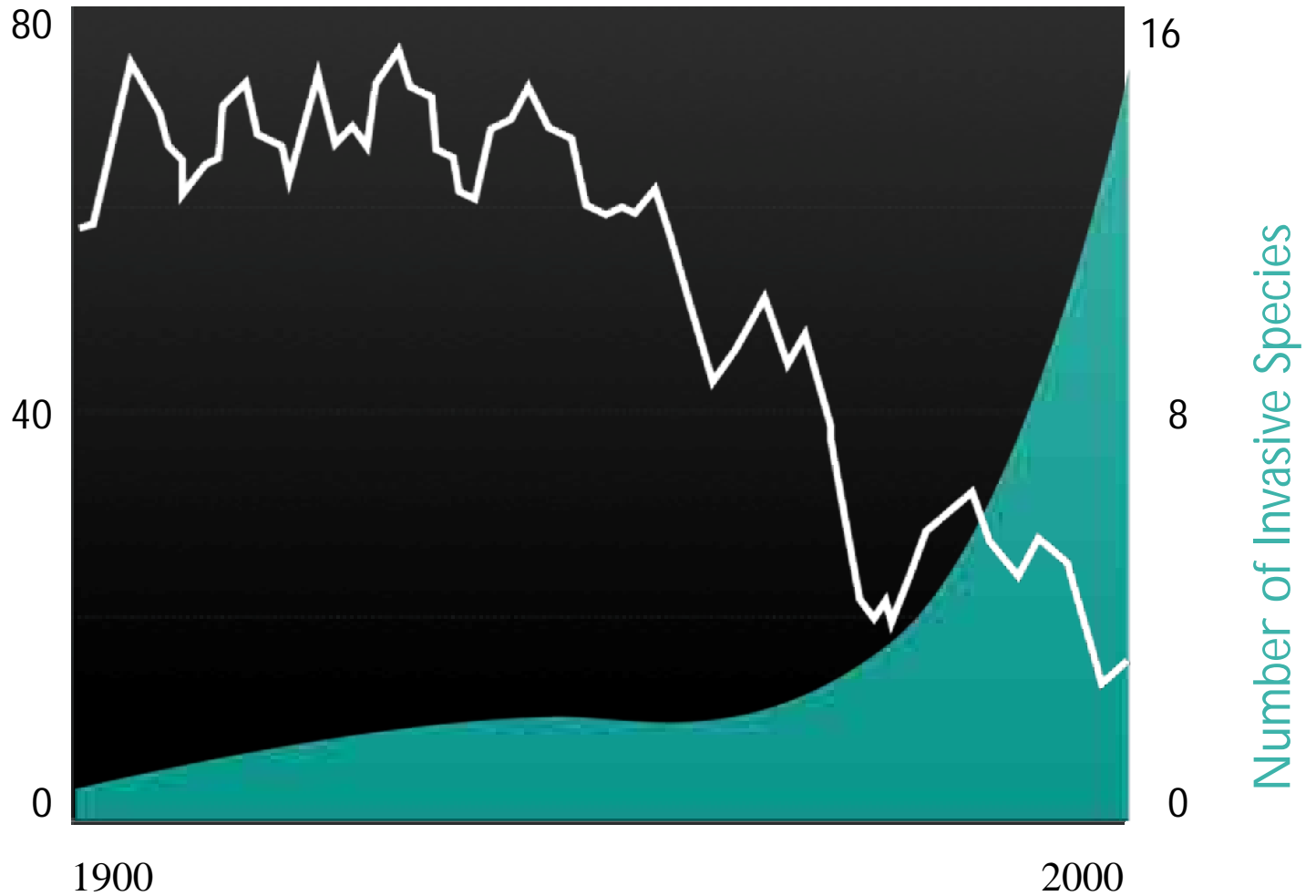
“In Southeastern Australia, the frequency of Catastrophic fire days will increase from 1 in 33 years to 1 in 2.5 years” - IPCC



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10:04 PM



Shifts in Seasons



Frost Days

Number of Invasive Species

Mountain Pine Beetle Damage



Source: Tree Hugger



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100% of Acacia Species in Southwest WA will become extinct with 1-2°C of warming



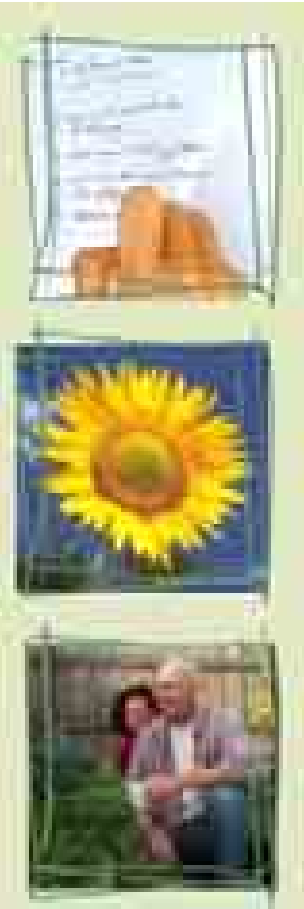
Acacia acuminata

Photos: J. Flint, M. Hancock, S.D. Hopper & E. Wajon

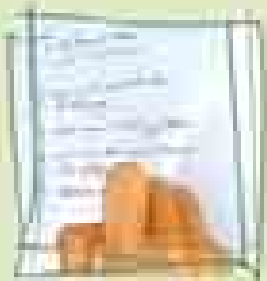
Photography by J. Flint, M. Hancock, S.D. Hopper & E. Wajon. Image used with the permission of the Western Australian Herbarium, Department of Environment and Conservation (<http://florabase.dec.wa.gov.au/help/copyright>). Accessed on Thursday, 18 October 2007.



97% of the Great Barrier Reef will be bleached every year with 2-3°C of warming



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Loss of Artic Sea Ice 1979-2007



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Mandurah Today



Mandurah with a 1m Sea Level Rise



What we all need to do to stop the projections from becoming reality

- Reduce our own emissions
- Switch to green power
- Offset the rest
- Spread the word

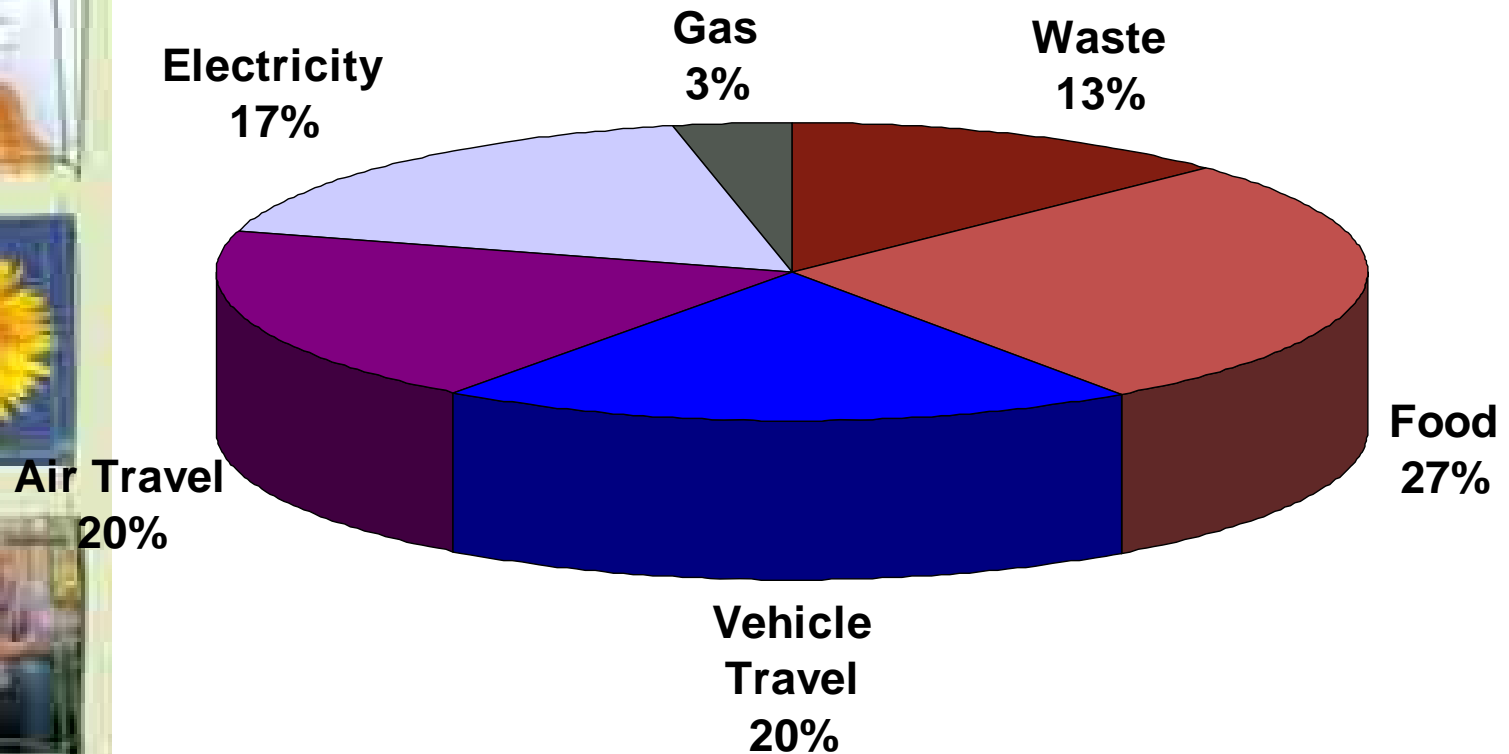


Reduce Your Emissions



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Source of Greenhouse Gas Emissions for a Typical Australian Household



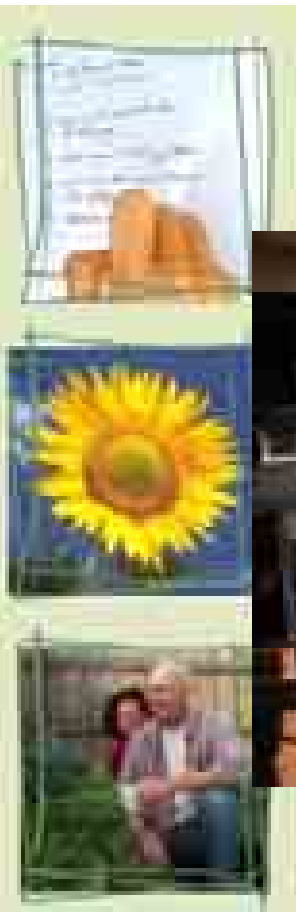


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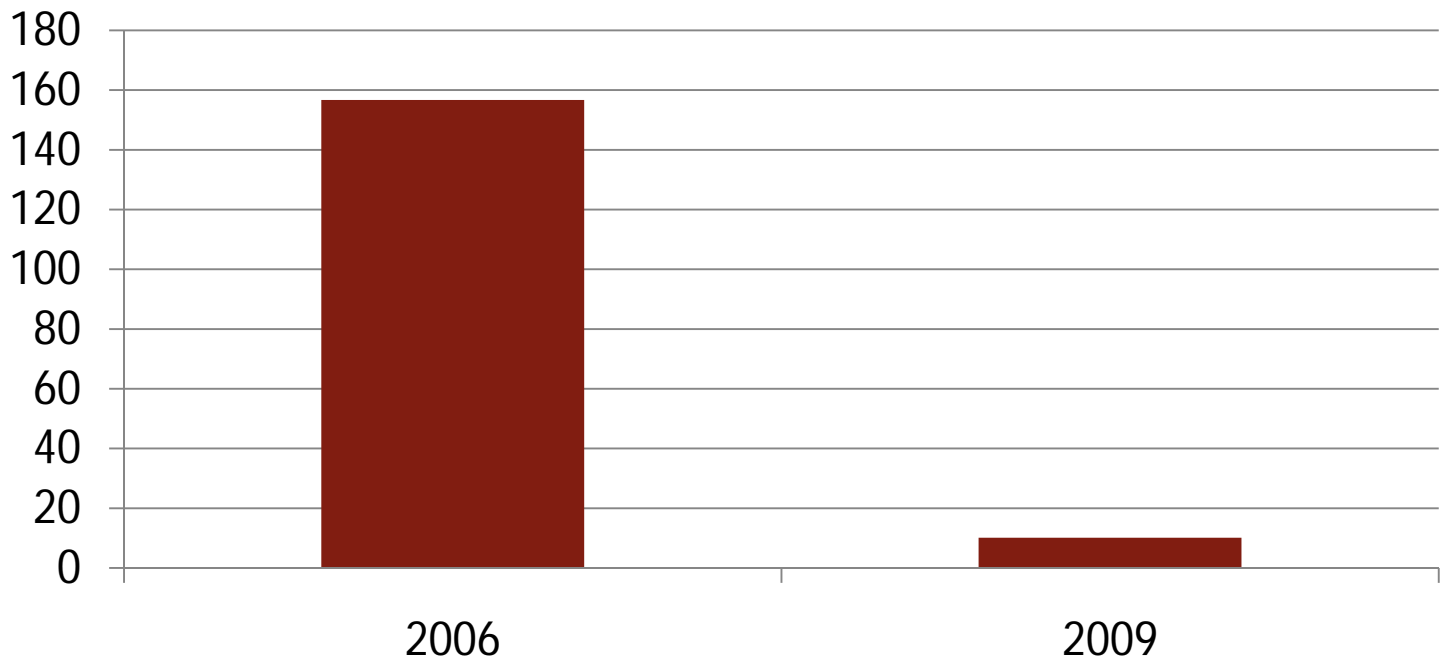
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The end Result?

**Household Greenhouse Gas Emissions
(CO₂e)**



Offset the rest



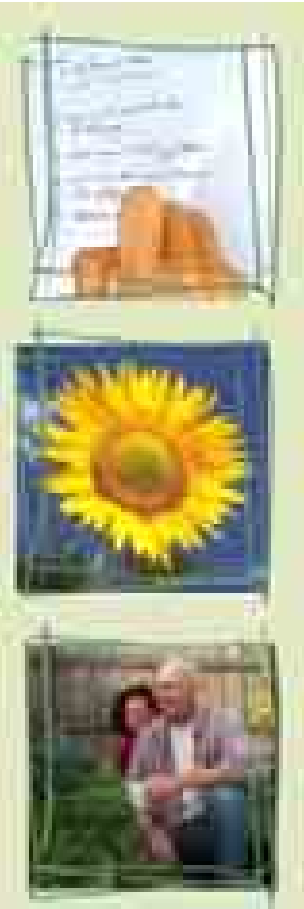
- www.carbonneutral.com.au

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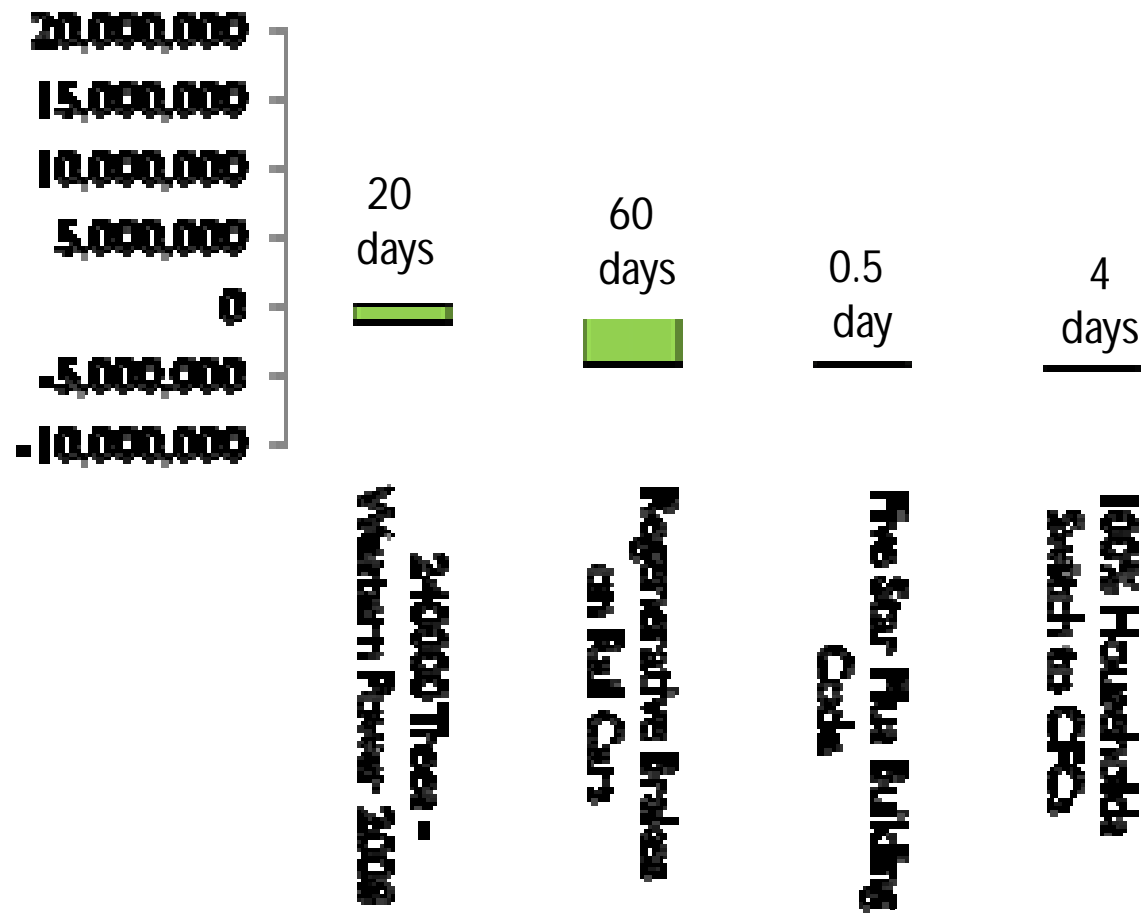
www.climatefriendly.com

Australia's climate change report card



Excellent	 	<ul style="list-style-type: none"> Ratify Kyoto Protocol Renewable target 20 per cent by 2020
Could improve	 	<ul style="list-style-type: none"> Emissions trading scheme by 2010 2020 emissions reduction target Energy efficiency - only modest measures planned
Fail	 	<ul style="list-style-type: none"> No commitment to stop Australia's emissions rising by 2010 60 per cent reduction by 2050 is too small and not binding No plan to stop the construction of dirty coal fired power stations

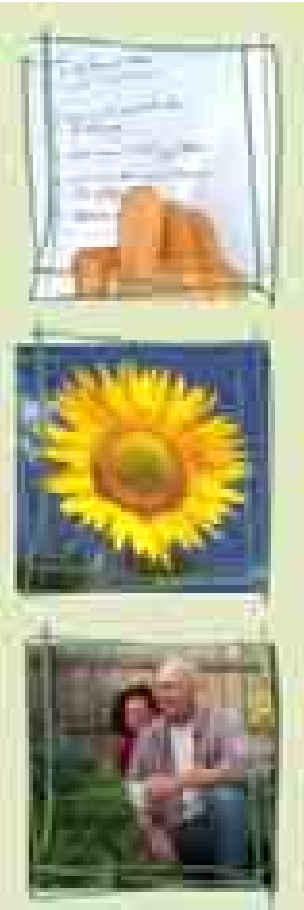
Greenhouse impact of various initiatives



Examples of New Renewable Energy Technology – Solar Thermal Power



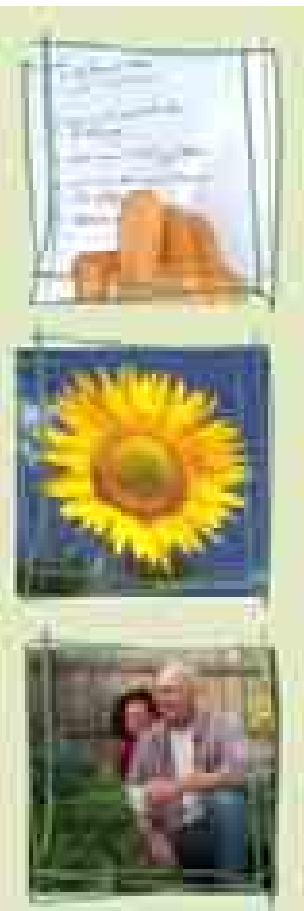
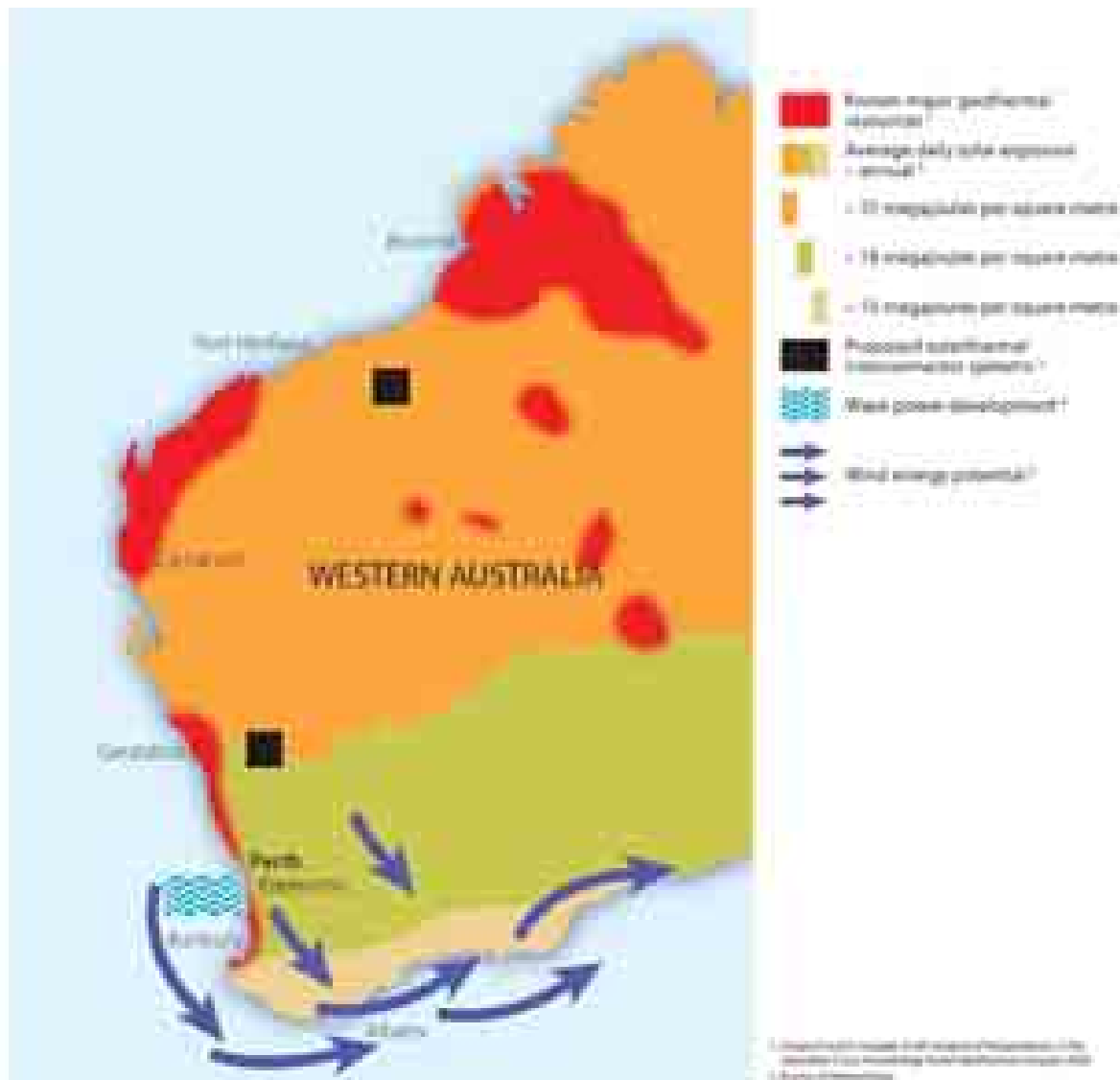
Examples of New Renewable Energy Technology – Wave Power



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WA's Renewable Energy Resources



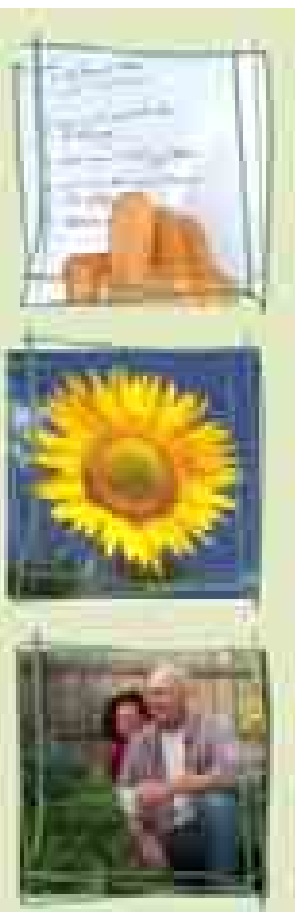
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Spread the word



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The Road Ahead



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Taking Action *with goal setting*

*I will reduce my power use
through shorter showers
and plant a waterwise
native front garden by
January 2007 because I
care about our changing
climate....*



Specific

Positive

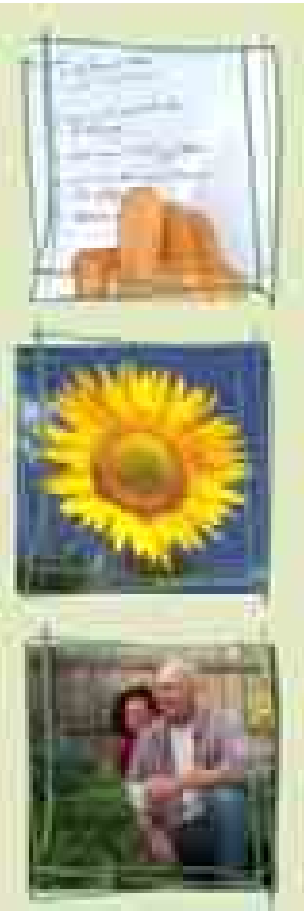
Realistic but challenging

Measurable

Flexible

Your Homework

- Greenhouse Footprint
 - In Australia the average person produces 34 tonnes of CO₂e
 - The sustainable level of GHG per household is just 7 tonnes of CO₂e.
 - What is the footprint for your household?
 - www.wardoffclimatechange.org.au



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Carbon Calculator



The screenshot shows a web form titled "Greenhouse Gas Emissions Calculator". It is divided into three main sections: "Home", "Work", and "Travel". Each section contains input fields for various factors and a corresponding progress bar. The "Home" section includes fields for "Number of people in household", "Type of house", "Type of heating", "Type of cooling", "Type of hot water", and "Type of hot water heating". The "Work" section includes fields for "Type of car", "Type of fuel", "Type of engine", "Type of transmission", "Type of vehicle", and "Type of vehicle". The "Travel" section includes fields for "Type of transport", "Type of fuel", "Type of engine", "Type of transmission", "Type of vehicle", and "Type of vehicle". At the bottom, there is a "Calculate" button and a "Reset" button.

http://www.wardoffclimatechange.org.au/My_html_files/Carbon_Calculator.html

