

SUBMISSION under Section 4 of Terms of Reference of the Garnaut Climate Change Review:
Medium to long-term policy options for Australia . . . which, taking the costs and benefits of domestic and international policies on climate change into account, will produce the best possible outcomes for Australia.

CUTTING WASTE AS AN IMMEDIATE
POLICY TO MITIGATE CLIMATE CHANGE,
AND ITS ECONOMIC CONSEQUENCES

SUMMARY

The climate change and waste debate has focused on waste disposal. This submission is about the surplus production of waste and waste due to failure to use production adequately.

Up to half of all production is wasted at one stage or another. Cutting this waste production would substantially and quickly contribute to cutting greenhouse gas emissions, as well as other benefits, particularly in conserving resources. These claims are examined.

However, our economic system is geared to require continuous growth in production and consumption. If consumers stop unnecessary waste, and so purchase less, what happens to industries and jobs that rely on continually increasing consumption?

More industries and more jobs that are needed and will be needed can make up for those currently producing waste. Capitalism, always evolving, can continue to evolve, to maintain its advantages in stimulating sustainable progress and preventing stagnation, without its present condition of requiring continuous growth at environmental cost. This is a startling proposition, but necessary to avoid a dead stop in the future. Recommendations for government policies to continue Australian prosperity include immediate actions within conventional thinking, actions on specific details, and others that take a radical perspective. The times require original thinking. *'There is no point saving the planet if the economy is wrecked'* (NSW Premier Iemma), but there is no point keeping our present economic goals unchanged if the planet is wrecked.

The basic aim of economics is quality of life for all. Improved productivity remains a goal, but rethinking of its aims and means is now essential. Measures of productivity and GDP should not include waste.

More references are available than are included here. Most of the facts will be known to you.

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1. INTRODUCTION

The gist of recommendations. Do the threats of climate change justify drastic action? How waste contributes to factors in climate change.

The gist of recommendations detailed in this submission

1. Australia can show leadership in preparing for possible consequences of climate change and in mitigating factors that may contribute to it. This preparedness can be such that should future climatic developments prove benign rather than disastrous, benefits rather than harm still accrue. Inevitably action to cut carbon emissions by cutting waste will also stop waste of resources.

2. Australians can show leadership in businesses and jobs that are needed; in products that are durable, repairable, updatable and recyclable, as well as energy-saving in their production and use; in the profits and jobs that are possible with salvage and re-use; and in caution in population growth, matching population polices with foreseeable costs and resources.

3. The 'future cost' of finite resources should now be included with capital and labor in all economic arithmetic. It is the third factor previously ignored in both capitalist and Marxist thinking because resources were assumed to be infinite, and were only to be costed by the expenses of exploiting them.

But is there a Climate Change danger serious enough to require this urgent effort?

There are strong voices claiming that climate change is not occurring or that if it is, humans are making no contribution to it. They point to exaggerating doom-sayers and past prophets with failed warnings about Apocalypses or Millennium Y2. For a typical spectrum of the anti-change arguments, see Chris Berg, research fellow of the Institute of Public Affairs, in the *Sunday Age* January 27 2008. 'Isn't all this talk of an apocalypse getting a bit boring?' A short refutation of his arguments, fallacies and evidence is available.

Scientists however are becoming increasingly concerned at the changes that are occurring, and urging more drastic action, faster. (UN Intergovernmental Panel on Climate Change (IPCC) Report November 2007i) <http://www.ipcc.ch/>, and further reports. (e.g. *The Age*, 19.1. 2008)

The position taken in this paper is that scientists present overwhelming evidence of present environmental dangers that are likely to increase - that forests are being destroyed, fish stocks being exhausted, increases in deserts and water shortages, some essential non-renewable resources being depleted, in particular fossil fuels, ice and glaciers melting, corals disappearing, animal and plant species becoming extinct or threatened. There are more high temperatures, severe winds and storms, wildfires, droughts, floods and other weather extremes. Atmospheric measures include increases in size of ozone holes and burdens of greenhouse gases. These all have flow-on effects for human habitats and supply of needs.

It is hard to credit that humans have made no contribution to these problems. Our electricity at night can be seen from space (See http://visibleearth.nasa.gov/view_rec.php?id=11793); roads and car parks can take up to 30% of urban space; the high consumption of fossil fuels at trillions of barrels produces measured tonnes of effluents. Google Earth shows how much more of the world's surface has lost its forests, increased its deserts and spread cities even within a child's memory.

Yet Australian growth is expected to result in increasing emissions, not less.
 (<http://www.teachers.forests.org.au/climatestatenewsJan08.html>)

The position taken in this submission is that humans do contribute to factors that affect climates. To act to prevent possible disasters is a wise actuarial approach, whether the danger proves to be smaller or greater than scientists predict. The mass of scientific evidence about what is happening is more to be believed than those with vested interests in continuing waste.

Cutting waste has benefits beyond cutting carbon emissions and other greenhouse gases. It will stave off resource shortages and makes our lives physically healthier and less psychologically stressful. The single great drawback of cutting waste is the problem if continual economic growth is no longer possible by increasing the production of material goods.

2. The greatest challenge is to adapt our economic system of production, distribution and use of goods and services so that it does not require continuous growth to prosper. But also, the challenge is that it does not stagnate, without enterprise and without improving quality of life for all. This submission claims that this is possible, and indicates some directions. It is possible to develop a sustainable economy that improves quality of life, with users rather than consumers, who re-use rather than waste, and sustain their environment rather than increasingly use it up.

There is no point in maintaining continuous growth if it is fatal like cancer, wrecking the body of the earth.

3. The two chief mechanisms for sustainability through reducing waste are:

1. A User economy rather than a Consumer economy. Quality of life is maintained and extended world-wide by use and re-use, durability, reparability and renovatability of products and resources, rather than consumption and planned obsolescence. While the current emphasis on more efficient production of energy is maintained, there is also emphasis on less need to use energy sources when waste is avoided.

2. Population sustainability. Chapter 4.

2. THE EXTENT OF WASTE PRODUCTION.

Definition of waste: *When anything is turned into rubbish before it need be.*

Up to half of all production is wasted at one stage or another. This extends far beyond present individual practices in 'green' lifestyles.

Cutting the production and misuse of this waste would substantially cut greenhouse gas emissions and waste of resources, since carbon emissions are likely to be involved at every stage in the life of a product including: -

- the production of its components
- the manufacture, distribution and sale of the product, including packaging, promotion, and waste of its by-products
- waste of what is not sold
- waste by the consumer
- waste in disposal. Even recycling is more wasteful than continued use or re-use.

To date, publicity on reducing carbon emissions has been focused on greater efficiency and technological improvements in industry, and private actions such as changing to more efficient light globes and not wasting plastic bags.

However, waste is far greater than we realize, and even small actions such as the almost universal filling electric kettles to the top for one cup of tea when multiplied by the actions of an entire population produce tonnes of carbon emissions. Examining specifics can make immediate preventive actions possible, long before other projected measures to reduce emissions may start to show effects.

Types of waste

1. Now receiving serious attention

- Production of energy and inefficiencies of utilities
- Waste in power consumption of industrial and domestic machinery. Star systems inform buyers of energy ratings.
- Waste through loss by vermin, rust, mould, and inadequate preservation methods adds indirectly to greenhouse gases. This is still an enormous problem in developing worlds. One (uncheckable) estimate is that up to a fifth of food in India is destroyed by rats.
- *Methane emissions from ruminant livestock* are estimated to be responsible for 4% of harmful greenhouse emissions – (<http://www.ciesin.org/TG/AG/liverear.html>) more than from all the cars of the world. There is now considerable research in how these live-stock emissions may be reduced or utilised. There are also campaigns to reduce the world's growing appetite for their meat and dairy products, and to substitute other protein, in view of the other adverse environmental effects of cattle and sheep.

2. Waste that is not yet adequately realised or tackled.

The United States leads the world in waste – but the paradox is that the world relies on Americans continuing to consume wastefully.

- *Waste of water and wasteful use of power* add to carbon emissions, insofar as fossil fuels are involved in their methods of production and distribution.

- *Waste of food.* About 2.2 million tonnes of food waste is generated in Australia each year, from food outlets and homes (www.pca.org.au/uploads/00207.pdf). Most of it was edible. ‘Dumpster divers’ today are often middle-class, eating well. All this food has involved carbon emissions in its growth, soil fertilizers, processing, distribution and often cooking.
 - *Products with unnecessarily short lives* through poor quality, low durability, and planned obsolescence. Clothes, computer hardware, household appliances, furniture and plastic-ware are made for increasingly shorter lives and to be unnecessarily difficult or costly to repair. Advertising encourages buyers to shop for lowest prices regardless of quality, which means higher turnover, as consumers must continually replace goods, such as plastic kitchenware, underwear and unmendable chairs. This excess production contributes to more green-house gases in the production and waste in its disposal. Observe shop displays and estimate how short a time before most of the goods displayed may become a problem for landfill.
 - *Waste through ‘conspicuous consumption’* - the words that the 19th century sociologist Thorsten Veblen used for the way the wealthy have liked to show off by conspicuously wasting - the pearls dissolved in wine, the cigars lit with hundred-dollar-bills, the clothes worn only once. Today Western potlatch is as destructive as that of the Kwakiutl Indians who publicly destroyed their own goods to show how top class they were. We have gone from extremes of valuing thrift to status through wastefulness. The savings that first fuelled capitalism came from thrift – but now the need for appearances requires carelessness of environmental costs.
- Waste through value and status dependant upon constant brand-new appearance* is seen in early replacements of car fleets and furnishings, regardless of condition, and in the expanding waste of packaging and paper, regardless of how sourced. . There is no point in hugging trees as long as waste of paper expands as it is, demanding trees or other plant resources. Australia could cut its use of paper by a third, with a resulting greater efficiency rather than less. . Imagine the consequences if legal documents of 15,000 pages, with the possibly intended effect of bamboozling everyone, were restricted to hard copies under 100 pages, or if it became fashionable to re-stamp new letterheads and logos rather than throw out tonnes of stationery with every new trend. Children’s hand-me-downs and re-using textbooks not out-of-date need not be unthinkable.
- *Waste through unthinking and unnecessary excess.* The ‘Always Use an Elephant’ phenomenon is to use large power-consuming equipment for small tasks, taking this for granted. Our wonderful labor-saving equipment banishes the appalling drudgery of the past. However, taking its use to excess means unnecessary carbon-emissions, fossil-fuel consumption and resource waste, and humans who suffer from insufficient useful exercise. Common practices nation-wide add up to millions of tonnes of every variety of waste.
 - Four-wheel-drive Tractors’ and ‘personal tanks’ for local urban use.
 - Motor-mowers for small, flat suburban lawns that can be mown faster, even by old ladies, by a modern light-weight manual mower. Power-mowers make a significant contribution to carbon emissions.
 - Tumble-dryers when hygienic outdoor drying is possible. Yet in some places, clotheslines are banned, as claimed to lower property values. (ABC radio, hard to find reference, a 2004 reference is <http://www.ahrc.com/new/index.php/src/news/sub/pressrel/action/ShowMedia/id/1854>)
 - Vacuum-cleaning at times when everyday cleaning only requires brooms and carpet-sweepers.
 - Clothing that requires dry-cleaning when washable clothing would be as good.

- Insinkerator and other wasteful disposal of kitchen rubbish when worm farms and compost are feasible.
- Local shopping by car, when a shopping jeep could carry the goods.
- The tremendous boons of disposable nappies, tissues and disposable eatware should be kept for when they are really needed, and not for everyday, now there are quick and economical methods of washing long-life nappies, handkerchiefs, crockery and china. Disposable nappies particularly are becoming a global problem for waste of resources and disposal, and the carbon emissions involved. Between 16 - 32% of waste at tips (<http://www.natureschild.com.au/flex/nappies/19/1>). Their components, mainly polymers and cellulose, are resource-hungry and because of the billions of disposable nappies, cost in carbon emissions and water.
- Teabags, so useful in offices and at events, can be wasteful at home, when loose tea used in recent-style strainers is just as easy and less cost.

We should be able to use 'little elephants' to help us, while the 'big elephants' that cost the environment more are available at times they are needed.

Conditions that force people to waste .

These need to be prevented by regulation – for example, it is necessary to ensure that homes have facilities for storage, and means to re-use, recycle and salvage belongings. Otherwise, much that comes in the front door has to go out the back door prematurely. Children's gear especially often is trashed after one-child use, to be bought again for the next.

Waste that could be turned to profit is especially evident in the building industry – in the types of environmentally-wasteful buildings that are permitted, in the utter destruction of substantial properties for redevelopment, and in the limited re-use of materials discarded in construction and renovations, through lack of business acumen and labor to make it profitable.

The point where collapse begins.

Historians from Herodotus on have noted how many former societies were at the height of their power and accomplishments shortly before they collapsed. They have also been at their height of wastefulness and excess. The Greeks concluded from their observations, 'Whom the gods destroy, they first drive mad.' Jared Diamond (*Collapse: How Societies Choose to Fail or Succeed*, 2005) adds case studies from history around the world.

And us – in our present predicament, we are increasing our plane flights, new cars (why does a population of 20 million need 1 million new cars in 2007?), freeways, beef-eating, and even more environment-costly plastic bottles of water in places where good tap water is free.

3. INDUSTRIES AND JOBS THAT ARE NEEDED TO CUT WASTE AND EMISSIONS, AND TO PREPARE FOR AND COPE WITH CLIMATE CHANGES

If people stop wasting, their consumption decreases. This reduces carbon emissions - but what can replace the industries and jobs that currently produce the surplus waste with its additional carbon emissions?

Worries about losing jobs if we do not waste coexist with worries about shortages of labor that are predicted to increase by up to 30%, and calling for imported workers to solve it (e.g. McDonald, 2003 and 2008)¹.

Cutting waste can lose jobs. An analogy for cutting waste in the face of climate change is how it proved possible to mobilise action to cut waste during the emergencies of wartime. Britain is the prime example, as it was greater danger and under greater stress than Australia. We may all be in danger today, and it is wise to take an actuarial approach to the possibilities.

In war-time, labor shortage was a prime factor in cutting waste-making. The threat today is that cutting waste may increase unemployment.

The solution is to put more effort into developing the industries and jobs that are really needed. If all the jobs that need to be done, were being done, there would be no unemployment. There can be higher status and rewards for essential and waste-saving jobs. There can be more, not less research and development.

There are also examples of where reducing labor costs by cutting jobs to increase profits can increase waste and carbon emissions, by substituting machinery for human labor, when there is no humane reason to do so.

More jobs that are needed

More jobs will be needed to combat climate change directly and indirectly, to supply our needs without wasting resources, and to maintain enterprise that improves the way we live.

Jobs will require adjustments in the ways we organize production and distribution. They will need a change in status and rewards for working with your hands, and manual labour. We need highly intelligent and problem-solving skilled tradesmen, such as builders, electricians and plumbers, and stop assuming that everyone with brains must enter a university profession, such as over-supply into the law.

Businesses and employment that save carbon emissions and conserve resources

- *Alternative technology* - Development and sale, including cheap products powered by clean sources, ranging from solar to human exercise-bicycle and treadle. Simple machines for everyday use to complement the present large domestic machines that for many people are elephants used routinely and wastefully for minor jobs. For example - twin-tubs washing machines for small households to supplement the more wasteful front-loaders, hand lawnmowers for the average suburban lawn now that 'shaving' is no longer advisable in droughts, backyard solar cookers and water heaters using reflectors, carpet-sweepers to supplement vacuum cleaners etc, rooftop water collectors, eco-toilets that do not require electricity to run, minicars for one—two

people. Households could share the larger equipment to use when needed, using past experience of problems and possibilities in community sharing.

- Diversified production in businesses, so that they can remain viable as they respond to changing needs. The publishing trend to be able to reprint as needed is an example of response to consumer demand without waste.
- *Quality products* designed for long-term ‘users’ and re-users, who can repair and renovate. Kitchenware is an example where knives and other tools nearly a hundred years old can be better quality than what is sold today, showing what is possible.
- *Clothing and furnishings* requiring less wasteful methods of cleaning.
- *Climate change preparation.* More trained emergency workforce and management in every region, including volunteers
- *Conserving marine and forest resources*, and making it possible for wildlife to survive.
- *More skilled tradesmen*, plus universal training for everyone in basic mechanics and repairs
- *Salvage businesses and consultancies* that ensure nothing is wasted in building wrecking, construction and renovations.
- *More efficient development of fresh food* distribution and retail to prevent waste – e.g. including, for example, discounts for regular orders.
- *Exchange facilities organized* so that people moving house need not throw out as rubbish what they cannot take with them. Australian mobility makes this a significant way of preventing waste.
- *Cutting transport costs* through more local shops and schools, reversing recent trends. A major factor for local shops is how to cut rates and rents, which have helped to drive them under.
- *Local products.* Local shops displaying and selling local and regional products, to cut freight costs which have high emissions.
- *Shops and repairers* are needed for Conservation Products, in every shopping centre. Shoppers will become keener to buy local, and to use organized deliveries, as petrol becomes more expensive and scarcer,
- *Local schools* require more staffing, to the benefit of pupils, while costs of facilities and providing a wide curriculum are met by today’s internet resources and local sharing of facilities.
 - *Land-care* that heals, and that retrieves deserts.
 - *Land-care* for forestry. You cant just plant trees and leave them, without care to ensure that they survive.
 - *Pest and weed* eradication that needs manpower more than chemicals. This last century, feral predators have multiplied in both cities and rural areas. Rats move upwards in multi-storey flats, foxes and crows prey on wild-life and stock. Vectors of disease need controlling.
 - *Products* that are more innovative & less wasteful – that are renovatable, updatable, durable, beautiful and recyclable, and meet our needs for sane quality of life. for everyone.
 - *Sewerage systems* need to be restructured and rebuilt to be able to make full use of our most renewable fertilizer, and also to salvage metals and re-use grey water at source.
 - *Solar, wind and water sources of energy* become major Australian industries
 - *Transport infrastructure.* Vast and often revolutionary improvements.
 - *Transport vehicles* - invention, manufacture and maintenance of more types of vehicles that do not waste, pollute and endanger.
 - *Uses and salvage* for everything that is thrown daily out of shops, homes and building sites.

- *Water-supply* reparation and conservation
- *Work share* to reduce the load on a currently increasingly overworked work force, while others are idle.
- *Services to the public* improved everywhere.

Research

More, not less, research in many fields can reduce carbon emissions both directly and indirectly:

- *Disease-free ways to feed food waste from retail outlets to pigs and poultry*, and of efficient distribution methods (UK wartime experiences relevant here.)
- *Prevent fires* and develop less flammable forests and understoreys.
- *Reverse deserts* and speed the biological processes that can crumble rocks into soils.
- *Fertilizing* the land without pollution and run-off problems.
- *Food sources* easily grown that do not deplete soils and that can withstand droughts.
- *Manufacturing* techniques that conserve resources
- *Plants that* withstand climate changes, poor soils and droughts.
- *Preserving Australian* unique flora and fauna
- *Technology* for and from renewable non-polluting energy sources, Innovative intermediate technology that can be exported, using solar, wind, and well-gearred human power (exercise).
- *Control of pests, weeds and diseases*, that includes finding commercial uses for pests and weeds, since they abound and are hardy.

- *Business development of innovations.* At present innovation in Australia is poorly organized for maximum potential. Even the focus on immediate economic value and the complications in safeguards of copyrights limit the contributions of ideas that can be made by ordinary people or shop floors. *Rethinking everything*, including 'public enterprise'; maximising cooperation as well as competition; investment that supplies needs rather than raises property values; the limits of debt; maximising use of jobs experience; rationalising freight costs; and producing more of what the poor need than of what the affluent do not.

(<http://www.abc.net.au/rn/talks/perspective/stories/s1532778.htm>, Occasional (sic) Paper Series 2/2001: 'Australia Fair' (Hugh Stretton) www.uq.edu.au/economics/cepa/docs/seminar/papers-nov2006/Snooks-Dynamics-Paper.pdf)

Look around to see what needs to be done. We even need more street-signs.

3.The strategy of cutting jobs to increase profits can increase waste

This trend needs to be reversed in many areas. New technology was an early cause of job losses, as machines took over the work. Today's job cuts are often made by wasting resources to avoid paying people. That is, the cost is Future Cost, which the future will pay for, not us. But this Future Cost should be factored into all costs of production today.

- Goods made that cannot be mended or renovated – because that costs labor. e.g. All tubular frame chairs and leather settees should be re-upholsterable.
- Goods made so that if one part needs mending, the whole is thrown out, to save labor.
- Houses wastefully destroyed to build new that are often shoddier because renovations might require more labor and less profit.
- Recycling by re-processing is limited - that costs labor.
- Salvage for re-use by others without re-processing is unpopular - that costs more labor.
- Minimum maintenance to infrastructure, because that costs labor.

- The countryside is ravaged by soil deterioration and pests - but these are regarded as costing too much labor to combat.
- Retail checkouts, bank queues and government and business phone-lines can be deliberately under-staffed to ensure there is always a queue - wasting other people's lives.
- Daily our shops throw out yesterday's food - in a world of hunger and spreading deserts - but it would cost labor to divert it to use.
- Disposables that replace dishwashing, cleaning, mending, and repairing have two antisocial effects - cutting jobs and using up resources that the future will need. i.e. the future is paying for the jobs we do not have
- Even in homes, much 'labor-saving' is at great cost of resources.
- Clear-felling instead of selective logging saves labour costs at the expense of the future. I know of no count that has been made of the deaths of wildlife through bulldozing and loss of habitat; of the waste of everything that cannot be pulped or sawn; of the extinctions of species; of the lack of biodiversity in what grows again following clear felling, and the poorer soils from consequent erosion. Selective wood chipping would add more costs for paper, which we would then use less carelessly.
- Routine replacements regardless of whether all of it are is needed or not. For example, wholesale replacement of street lighting can be wasteful of faultless globes, but saves labour time in patrol.

The example of cotton:

Cotton and rice are problematic crops in the Australian Murray-Darling Basin due to their need for water, and irrigation contributing to the threat of salinity.

If the elastic in underwear was more durable, all the cotton farms on the Murray River could be surplus to needs. This is an exaggeration, but its drift should be taken seriously. There is so much overproduction of poor quality cotton goods in the world that photographs of even the most primitive and secluded tribes in the world are likely to show them wearing T-shirts. Photographs of poverty even sixty years ago showed grey tattered rags. Now the poor worldwide are decently clad with the offcasts of the affluent.

But if cotton clothes lasted longer, sales would be less, then less cotton need be grown and jobs would go. The solution is to look at other 'jobs that are needed'. These can supply employment far beyond the available labour supply - all that is needed is ways to pay for them.

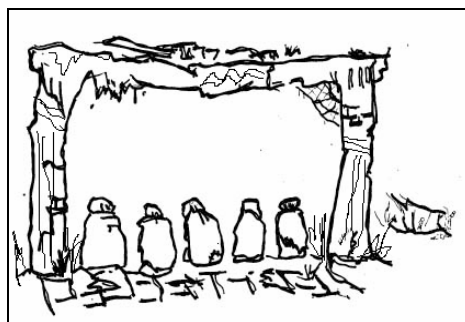
'The need for jobs' is asserted to help justify the production of anything - including the billion-dollar waste-making armaments industries, producing instruments of torture in UK and clear-felling irreplaceable old-growth forests in Australia.

It is clear that a great deal of waste in carbon emissions is due to cutting labor costs. Machines are the basis of our industrial society; most of the labor saved has been hard drudgery. However, it is not being Luddite to observe there are situations where human labor may be more advisable than machinery for many reasons, including the nature of the jobs, such as repairs and maintenance rather than trashing, and the social environment – where the question may be, who profits from production by the machines if everyone is unemployed. There must be no going back to the bad old days, but there are situations when more labor can save carbon emissions from machines operations – even though costs of more labor may raise product costs.

Other jobs that are needed, that need not waste or recklessly produce greenhouse emissions

- *Artistic and other cultural productions*, that can be distinctive for each country, and shared, to contribute to the variety and beauty in life in the world.
- *Child care* that is leisurely, for less herding and more freedom.
- Care for the sick, disabled and frail elderly, that also enables them to contribute what they can to life around them.
- *Education* lifelong to produce resilient, enterprising and idealistic adults.
- *Entertainment* programs that have opportunities to make what can be as fine as possible, record past and present, expand imagination and thinking and good humour, and light up visions of the future.
- *Fashions* that are beautiful, useful, durable and comfortable, and designed to suit different needs.
- *Health*. Investment in preventive services, more than trying to fix up problems too late.
- *Housekeeping* that is sustainable and saves waste is more essential for our economy than markets that produce waste. Sustainable households will require more manpower and even be a means of healthy exercise, but without the drudgery of the past. See for example, G D Snooks, Portrait of the Family Within the Total Economy: A Study in Long-run Dynamics, Australia 1788-1990. (www.uq.edu.au/economics/cepa/docs/seminar/papers-nov2006/Snooks-Dynamics-Paper.pdf) while wasteful white-collar jobs will need less.
- *Housing and community environments* that are decent for everyone, and are kept so. Our spate of development is building wastefully designed houses that will pile up future problems. <http://www.nickwates.co.uk/>
- *Holidays and 'Invention sabbaticals'* specifically to give workers opportunities to develop ideas and innovations.

Many of these needed jobs and industries will show profits in the long-term, not short-term, or the profit will be more for the whole community than the individual business. Financing them and establishing them in the market-place will require some innovative flair. This is not impossible. The gambling is there, but different from the usual gambling on the stock-market or pokie machines.



Then as now “The trouble is, there aren’t any jobs”

¹. Solution to anticipated labor shortages.

One suggestion is that if present employment in wasteful activities ceases, then there is plenty of labor available for areas of shortage, if training is available for the skilled jobs, and good wages and conditions for the unskilled. It is a scurvy argument to seek immigration of unskilled workers because they can be more docile and paid less. (And for elder-care, it can be hard to be cared for by people from another culture, and

we currently attempt to give compatible care for our elderly immigrants from other cultures.) If our culture is raising unemployable youth – then we must attend to our culture.

4. CARBON EMISSIONS AND POPULATION GROWTH

How population growth concerns Australia

The single biggest factor in increasing carbon emissions is world population growth. From over 6 billion now to 9 billion by 2050 will mean an increase by another third (Table 1). The increase in emissions is due not only to the increase in human numbers, but also the desire of the rest of the world for the same quality of life as the affluent West, which has been responsible for the bulk of greenhouse gases. Currently the world's annual emissions of CO₂ are over 27,245 million tonnes, with the United States contribution of 22% now being overtaken by China, and India in fifth place. (The millennium indicators 2007-08-26: United Nation Statistics Division.) Population growth also contributes to climate changes through strains on land use such as deforestation, desertification, water consumption and urban spread.

The rate of world population growth is slowing, yes, but the actual numbers of population are still increasing fast. Misunderstanding statistics that makes people think that slowed percentages for population growth means that the actual numbers slow their increase too. They do not understand that a small percentage of a high number can be much bigger than a larger percentage of a small number. So a growth rate of 2% for a population of say 100 million will add many more numbers to the human race than a previous rate of 5% when its population was only 10 million – the annual increase has become 2 million p.a. instead of the earlier 500.

Most Western countries are actually increasing their populations to a degree that the increase is putting a strain on their countrysides and starting to affect quality of life in traffic-congested cities. Only a few countries are becoming smaller. And emigration to the west is not a permanent solution for the poorer countries with their millions of economic and political refugees.

Australia's present pronatalist policies have economic drivers, to increase consumer and labor markets, and postpone the inevitable need to adapt to an ageing population, but the realities are water shortage, soil fertility constraints and climate problems as the determinants for our carrying capacity for primary and secondary industries as well as cities. More population expansion into vulnerable areas would handicap rather than assist readiness for climate change emergencies.

There are international reasons for Australia to set an example of stable population. Western countries' pronatalist policies prevent them being able to advocate population stability for other countries which desperately need it, including our own neighbors with rapid population growth. (East Timorese women average eight children.) Indonesia resorts to transmigration, including to West Papua. Papua Niuguini, East Timor and Pacific islands experience serious economic and social disturbance.. Differing rates of population growth explain the growing economic disparity between Thailand and the Philippines, which had comparable populations in 1950 (See Table 1).

Offering short-term labour in Australia is not a solution for us or for them if their populations continue to increase beyond their own carrying capacity. An example is Tonga. Tonga's expatriates provide 70% of its GDP, and this encourages large family size in order to have more revenue-providing expatriates. But the result - continuing rapid increase - prevents the islands becoming economically self-sustaining, absorbs all aid, and makes their long-term problems worse.

In a world context, Western absorption of over 180 million economic refugees is impossible. What can Australia do? We have a population of 21 million population, and already face indicators that our mostly-desert continent is more fragile and thirsty than we have recognised.

Australia should be both a model for other countries, and generously aid the development of economic, political and population stability in our neighboring countries too. Both policies are in our own self-interest.

Information is available on a) political, economic, social and religious drivers of population growth. b) Means of stabilizing populations.

TABLE 1 Some illustrative figures of world population growth

THE WEST	1950	2000	estimates for 2050
USA	152 million	282 million	420 million
Russia	101 million	146 million	110 million
Germany	68 million	82 million	73 million
UK	50 m	59 m	63 m
France	41m	59 m	61m
Turkey	21m	65m	86m
Netherlands	10 m	15 m	17 m
Australia	8 m	19 m	24 m
AFRICA – despite AIDS and wars			
Nigeria	31 m	114 m	356 m
Egypt	21 m	70 m	126 m
Ethiopia	20 m	64 m	144 m
South Africa	13 m	44 m	33 m
Congo Kinshasa	13 m	52 m	183 m
Sudan	8 m	35 m	84 m
Kenya	6 m	29 m	64 m
Uganda	5 m	23 m	128 m
Rwanda	2 m	7 m	19 m
Somalia	2 m	7 m	25 m
THE MIDDLE EAST			
Iran	16 m	65 m	89 m
Afghanistan	8 m	23 m	81 m
Iraq	5 m	22 m	56 m
Saudi Arabia	3 m	23 m	49 m
Israel	1 m	5 m	8 m
Gaza Strip	245,000	1 m	4 m
ASIA			
China	562 m	1,268, m	1,424 m
India	369 m	1,002 m	1,601 m
Japan	83 m	126 m	99 m
Indonesia	82 m	224 m	336 m
Bangladesh	45 m	130 m	279 m
Pakistan	39 m	146 m	294 m
Philippines	21 m	79 m	157 m
Thailand	20 m	61 m	69 m
Nepal	8 m	24 m	53 m
Sri Lanka	7 m	19 m	23 m
Cambodia	4 m	12 m	25 m
East Timor	436,000	847,000	1.9m
LATIN AMERICA			
Brazil	53 m	175 m	228 m
Mexico	28 m	99 m	147 m
Argentina	17 m	37 m	48 m
Venezuela	5 m	23 m	37 m
Haiti	3 m	7 m	18 m
OCEANIA			
New Zealand	1.9 m	3.8 m	4.8 m
Papua Niugini	1 m	4.9 m	10 m
Solomon Islands	106,647	466,194	1 m
Tonga	45,700	102,321	188,340
Nauru	3,431	11,845	22,696
East Timor	436,000	847,000	1.9m

Tables compiled from the U.S. Census Bureau, International Data Base. 4-26-2005

5. ECONOMIC CHANGE IN CUTTING WASTE

The way ahead in policies to cope with and mitigate environmental changes is No Excess, to avoid returning to village peasantry and hardship. Unless production and life-styles limit waste, it will be back to a miserable, crowded, hungry peasantry world-wide.

The question is how to pay in the short-term for employment and industries whose values may be long-term, and, like our present emergency services, value them for what they save, rather than produce immediate direct profits.

An international aspect is the consequences of reducing imports of products that are intrinsically waste. This will benefit our own balance of trade, but have repercussions on overseas manufacturers – who must also revise their products in the light of climate change.

It is not in the scope of the present paper to offer details of solutions to these economic dilemmas – but it is surely not beyond human intelligence to deal with problems of human origin. Scientists can produce wonders – economists can also innovate in the face of emergencies. Recent developments in our financial systems such as hedge funds and futures have not been productive solutions to global problems, but they show that innovations are possible.

Growth

In the face of immanent shortages of resources and environmental challenges, profitable growth may need to be defined a) in terms of quality of life - hard to measure - rather than quantity of material production, and b) to exclude the costs of making and disposing of waste.

Present Government policy as proposed in the ALP *New Directions Paper* states that:

“The long term basis of economic prosperity is sustained productivity growth. Businesses that foster productivity growth stay competitive in the domestic and global marketplace, generating more wealth for the national economy. Employees who become more productive enjoy higher rates of pay, and by working smarter, can enjoy a better work/life balance. According to the Productivity Commission, the benefits of stronger productivity growth include better wages and conditions for the workforce, higher profits to shareholders and superannuation funds, and increased revenue (through taxation) to fund social and environmental programs.” A recommended goal is 2.05 per cent per annum.

Cutting waste-making produces less material growth, but means more efficiency in producing what is needed.

The economic problem summarised:-

Mass production has raised the standard of living of populations worldwide, because economies of scale enable goods to be cheap,

If waste is stopped, so that products are durable, re-usable, renovatable, and populations are stabilised, then mass production faces problems of market saturation.

Once every household in Australia has, say, an efficient, durable, repairable refrigerator, they may be unlikely to need another unless circumstances change or a better technological alternative is found. As was common in the past, once a household was furnished, it was for a lifetime. Some goods could be handed down from generations. What was no longer wanted still had second-hand value.

How then can it continue to be profitable to manufacture new refrigerators for the much smaller market? Small-scale production will raise costs to customers.

Some ideas towards solutions from the layman's perspective,

Even small counts, when multiplied by sufficient instances.

- To work out a balance from present excesses in production and consumption.
- Company diversification ensures that businesses do not rely on production of one type of goods only. This can be both vertical and lateral. Could some of the production lines and workers' skills of an extinct Mitsubishi car manufacturing be turned to versatility, producing for home and export such items as durable domestic and catering hardware, and motorless human-powered vehicles for local cartage? Very small businesses producing a single line may also work at other things – as small farmers increasingly do today.
- Production geared to meet demand that varies over time. This is already happening in some areas of book publishing, to avoid pile-ups of unsold books. Further print-runs can be run out immediately.
- Co-operation as well as competition. This has tricky aspects, in view of the ill-effects of cartels, and the question of how new more efficient companies can enter markets. Something can be done, including use of the Internet, to re-jig advertising so that new entrants have more chance and the big companies do not hold the overwhelming power of big advertising.

At present some standard products are made by far too many firms who compete with too many new but basically similar models. This also increases problems of obsolescence because spare parts soon become unobtainable - and yet often differently branded products are produced in the same factories, c/f laundry powders.

- There is need for the new or there is stagnation and boredom. People can still have change – but not at today's present excess, nor by chucking out what is still useable. There can also be appreciation and love of the familiar.
- Rents and rates. Prices can be lower by keeping within limits costs of rent, rates and other property factors, especially for businesses where production of goods may be small-scale or intermittent according to demand. Some way out is needed for this.
- Packaging and advertising can be reduced to cut waste, once customers realise the advantages of less razzmatazz, and boycott products in containers that mislead by their unnecessary surplus size.
- Factoring 'Future Cost' into costs, that is, the cost to the future of using up resources now. For many components this measure would not be entirely speculative. 'Future cost' realisation would make more expensive some items that are currently used prodigally, but then would be kept only for their great value in emergencies.
- Companies' legal obligation to maximise shareholders' profits could be mitigated by the written legal necessity to consider the public good – a social sanction in practice, as hard to enforce literally. This could encourage ploughing back more profits to improve the company, and according to situation, a long-term time-frame and greater vision is then possible. American research (1999, reference mislaid) has been finding that corporations that have more vision than simply to maximise profits actually became more prosperous than the short-sighted and blinkered. They were more alert to the total scene, and so could see and take advantage of more possibilities.

6 CONCLUSIONS – POLICIES FOR GOVERNMENT

1. Unnecessary waste is an important factor in producing greenhouse gases to exacerbate climate changes, as well as wasting resources. However if households and businesses waste less, they will need to buy less, and this will affect an economy if it relies on continuous growth.

But continuous growth will be fatal. This fact must be faced. Increasing population in order to maintain continuous economic growth will also increase greenhouse gas emissions, emergencies and shortages.

2. Action now is essential to forestall a possible irrevocable tipping point in climate change. It is insufficient to make plans that will only start to have effects in a few years' time. Carbon trading may be profitable business, but many aspects are problematic, including offsets that really offset.

3. Our lifestyles are increasingly wasteful since WW2 and many people have no recollection of thrifty times. It is time to roll back the excesses. We can avoid waste and maintain quality of life.

4. Whatever is done to prevent and reduce waste will be beneficial in all areas of life, socially and environmentally, as well as helping to stall climate changes.

5. So much of the history of humankind has been people making terrible mistakes, not knowing what they did. So their childcare killed their babies, their lifestyles bred plagues, their irrigation made deserts, their descendants worry about Sorry Days.

This last century has been different. It is so full of knowledge about the terrible mistakes that we are making now. History reveals the mistakes of the past, and science tells us the mistakes of the present, as well as adding to them.

The roles of government.

Tricky one that – command economies can achieve the other extreme of shortages and bottlenecks. Governments can also waste by appearing to 'do something' by spending millions of dollars on ill-advised large-scale schemes, advertising campaigns, and expensive private consultancies that carry no on-going responsibility for the outcomes of what they set up, unlike the government works organizations they have often replaced.

Eight feasible policies - among many others that could be tested:

1. *To raise public and business awareness* of the extent of waste and the urgency of immediate action. Models and precedents are in recent government action to involve the public in saving water and land care.

The public can be encouraged and advised about how to use rather than consume, and about buying for quality rather than 'cheapest regardless'. But not by multimillion dollar campaigns! Press releases and media support are preferable.

2. *To facilitate Research & Development* in all relevant areas - technological, economics, social planning, environmental, trade and industry - and publicising outcomes.

3. *Government departments and agencies* overhaul their practices and provide examples.

4. *Direct public investment* (government bonds?) in infrastructure and other necessary actions that are not directly profitable for private undertakings. The long-term profit is both directly and indirectly for the whole community and economy.

5. *Website and other publicity* for waste-saving Australian inventions, innovations and products – reducing the costs for new enterprises to find initial markets..

5. *Develop labelling* of the energy consumption of products to include where appropriate 'environmental friendliness' of sources and methods of production, and estimated durability, repairability and availability of spare parts. This 'life expectancy' guide is similar to the 'best by --- date' with foods. Optional at first so the public can learn to prefer labelled products, and to avoid bureaucratic hassles. The ACCC to have some responsibility, including publicising examples of built-in-obsolescence. There must be also be ways to prevent costly litigation in these areas.
6. *The survival of retailers* when customers become users rather than consumers, including the viability of small local shops with lower turnovers but high social value, especially in regional areas. They will have more chance if something can be done about problems of rents and rates higher than their profit margins can afford. (Investment in property ownership for high regular income is not altogether a good thing as it raises the prices of property.)
7. *Replace destructive taxes* like payroll tax, with taxes on major products that have no path to avoid their ultimate waste. No subsidies for products that are self-evidently a waste of resources, eg tobacco farming.
8. *A definition of citizenship* for schools, immigrants and Australia Day includes some responsibility for avoiding all types of waste - even avoiding self-harming behaviour, with its associated waste of human beings and of resources to clear up the messes.
9. *Stabilising population.* A major way to reduce waste. Australia's pronatalist example to the world must be revised, as world population growth causes increasing havoc on the earth, and Australia itself is recognised as not another Europe but a huge dry fragile continent with low carrying capacity. No more baby bonuses, with their incentive effect operating most strongly for those least able to cope with more children. Encourage replacement reproduction (= two per couple), with on-going child-rearing assistance for the first two children only. Support family-planning, linked with parent-guidance and help, so the emphasis is on 'quality not quantity'. The 'ageing population problem' is tackled by more equitable and widespread national insurance for the working-age population, medical research that reduces the impact of chronic diseases, as more urgent than the current emphasis on stopping acute causes of death, and improved measures to maintain the health of the elderly and their ability to contribute to the community, so that they continue to be maximally self-supporting.

'Stopping waste' is seen to be a simple policy with complex ramifications, that can be implemented in many different ways and at many different points, starting now – not for some date in the future.

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