

The Age (June 5, 2008) reported Professor Garnaut's pessimistic outlook about Australia's ability to tackle climate change. "An observation of daily debate and media discussion in Australia could lead one to the view that this issue is too hard for rational policy-making in Australia" ... "The issues are too complex, the vested interests surrounding it too numerous and intense, the relevant timeframes too long. Climate change policy remains a diabolical problem."

It is indeed government's responsibility to address both market failures relating to climate change (CC) and social equity (p. 23). Friends of Nillumbik (FoN) want to express our anxiety about the apparent lack of governmental leadership, its potential to merely lip serve the equitable distribution of the costs of climate change (further entrenching the ever-widening divide between the haves and the have-nots and between rural/regional communities and urban areas), and its apparent reliance on technological fixes and market forces to fix the problem (free markets are not the solution to these problems, indeed they are largely the cause).

As the cost of making the required changes are quite astronomical and as there is precious little time to achieve it in, we need inspiring and courageous leadership. With Labor governments in power across the country, not developing a strong and truly world-leading CC policy would be immeasurably inexcusable.

Coal, Carbon Capture & Sequestration vs Renewables

"..... Australia has exceptionally rich resources for renewable energy - for solar, geothermal and wind energy and possibly for tidal and wave power and biofuels – on a per capita basis, amongst the most favoured in the developed world" (p. 10) **But** "Victoria has large reserves of brown coal that can continue to play an important role in the state's energy mix. We also have large reserves of favourable geological formations where carbon dioxide can be potentially injected and permanently stored" (p. 21) **and** "Victoria is well placed to take up these opportunities. Particularly in the area of harnessing our rich renewable resources and utilising the opportunities we have to develop a clean coal resource."

It appears the Labor government is committed to continued reliance on coal-fired power generation, particularly given the media news of 2/7 that the Victorian government plans a new brown coal power plant in the La Trobe Valley.

- Federally, in the area of commercialisation of technologies, renewable energy options were allocated \$0 for the coming year and \$125 million for this term of government; 'clean coal' received \$35 million this year and \$250 million for this term; the geothermal industry, received an ad hoc \$40 million grant, not from the coal sector's windfall, but from the Energy Innovation Fund, money that had been earmarked for research into storage of solar energy.
- At the state level, given that the proposed Mildura solar plant is estimated to cost \$420 million, the recent government announcement of a \$72 million state budget allocation for large-scale, renewable energy projects is paltry.

- The Victorian government's decision to reject "gross feed-in" tariff in favour of a "net feed-in" tariff on domestic solar panels will undermine the fledgling household solar industry but favours the privatised fossil fuel generators.
- Similarly, **the recent federal decision to means-test the rooftop solar rebate should be reversed** until such time as the Government **introduces a comprehensive feed-in tariff to guarantee a market for renewable energy**, like the one which created the world-leading German renewable energy industry.
- **Lost opportunities?** Australia has a significant natural economic advantage in renewable energies, yet the comparative renewable energy targets for Victoria: 10% by 2016 vs Nevada (US): 20% by 2015 seems telling of the Victorian government's lack of commitment to renewables.

The urgency of climate change (CC) is unquestionable, and the stakes are unimaginably high. Australia is richer by far in sun, wind, hot rocks, waves, and brilliant ideas, than in coal. Renewable energy has the potential to power our whole country with zero emissions within the near future, which is impossible with coal. **Our entire energy productions system needs to be redesigned. Australia should move to a post-carbon economy immediately.** Europe, particularly Germany and the UK, seem to have progressed in at least some of these areas, and can provide valuable examples of how this country can proceed. If climate change were prioritised like defence (the federal budget defence allocation of \$125 billion over 5 years is 50 times the \$2.3 billion CC allocation over the same period), an energy efficient Australia powered completely by renewable energy could be a reality by 2020.

Geo-Sequestration

Last April, the Vic government committed \$127 million to develop "clean coal" including a \$110 million fund to establish new large scale, pre-commercial carbon capture storage demonstration projects, bringing Victoria's total clean coal investment to more than \$244 million since 2002. **Geosequestration is prohibitively expensive, energy-intensive and potentially unsafe, its timely implementation before critical CC highly unlikely.** According to Vaclav Smil, University of Manitoba: "Carbon geosequestration is irresponsibly portrayed as an imminently useful large-scale option for solving the challenge. But to sequester just 25% of carbon dioxide emitted in 2005 by large stationary sources of the gas we would have to create a system whose annual throughput by volume would be slightly more than twice that of the world's crude-oil industry, an undertaking that would take many decades to accomplish."

In recent times, a number of geosequestration trials have collapsed, such as the Western Australian joint venture between BP and Rio Tinto and the FutureGen project, the world's 'clean coal' demonstration model in the USA; Queensland's ZeroGen is yet to get off the ground.

Emission Targets, Energy Efficiency and Energy Generation Strategic Directions

- The Victorian Government is committed to fostering science, technology and innovation in Victoria. Are there areas of the innovation system that need further support from the Victorian government? How should this be delivered?
- Are there innovative techniques for government and business to share risk in technology development that will accelerate the uptake of breakthrough technologies?
- Are additional measures to reduce emissions justified in case an ETS fails to deliver its promised abatement?

The Australian Coal Association already receives 28 times more of taxpayers' money than renewable energy and earns massive profits. **A redress in the imbalance in funding between coal and renewable energy generation is needed. There is a genuine "infant industry" argument for assistance to renewable electricity generation.** Based on recent reductions in the cost of renewable energy and industry forecasts, it is expected that the cost of renewable generation — particularly from solar and hot rocks — is likely to be competitive with fossil-fuel generation with the carbon price of \$20 to \$30 per tonne already being anticipated by the market.

Viable (Transition) Power Generation Technology

Investigate prospects of switching the existing power generators from brown coal to natural gas as a transitional measure. Longer term, there is the prospect of integrating the generators with concentrated solar thermal plants where the solar energy can be stored as heat to generate base-load power.

A Sydney-based firm "Kinesis" claims viable a transition power generation technology that is ready for large-scale use (especially applicable to city populations) at an acceptable cost. Through the use of new **"green transformers"** (an application of a proven low-emissions technology at scale), **initially driven by natural gas with the potential to use waste and biomass in the future**, the waste heat from energy generation could be used to achieve the heating and cooling required by offices and homes.

Increase wind power generation. According to GREENPEACE Australia's economic modelling, **wind power will be cheaper than coal by 2030.** By contrast, it warns that electricity prices will nearly double by 2020 and almost triple by 2050 if Australia does not move away from fossil fuels, because of rising world prices and the increasing price of carbon permits under an emissions trading scheme. Fossil fuels will continue to get more expensive, while the cost of wind will fall because of economies of scale.

Its blueprint "Australia's Energy (R)evolution", which shows how we can **phase out the biggest sources of greenhouse gas — coal**, proposes **cutting greenhouse emissions to 60% of 1990 levels by 2020 by generating 40% of electricity from renewable sources**, and claims this would stabilise energy prices in the future, as long as it is combined with significant gains in energy efficiency.

Also **geothermal power generation** seems hopeful and **requires research funding**, and must not be allowed to languish because of government inaction.

Increase Energy Efficiency

Tackling energy efficiency provides a tremendous economic and social opportunity, and the climate benefits. The Government's current approach of rebates, grants, loans and cash-only offers are piecemeal. **A systemic infrastructure upgrade across Australia can increase efficiency by 30% or more across the economy.**

Emission Targets

"The VEET scheme will play a role in achieving the government's targets of reducing emissions from households by 10 % cent by 2010, and reducing Victoria's overall emissions to 60% by 2050 (based on 2000 levels)."

The German government is committed to major energy reform as well as a greenhouse emissions reduction target of 36% by 2020.

California is committed to cutting its greenhouse emissions by 80% by 2050, and by 25% by 2020. California has introduced a raft of other initiatives targeting high-polluting industries, promising to put solar panels on a million roofs, and launching major energy efficiency programs.

Even Britain's conservative Tories' *Blueprint for a Green Energy Economy* advocate Britain and other wealthy countries should work to cut their greenhouse emissions by at least 80% by 2050. They are committed to rolling short-term targets, including a legally binding target to reduce emissions by 25% by 2020.

Adopt more ambitious emission targets. Germany, Spain, Britain, Scandinavian countries, California can do it.

Emissions Trading Scheme, Correct Pricing Policy, Taxation, Other Economic System Failures, Population, Insatiable Demands

- What is stopping people from realising opportunities to reduce their energy use and save money?
- How can we develop the capacity of individuals and households to reduce their energy bills through energy efficiency measures and behaviour change?
- What mechanisms should the Victorian Government adopt and advocate at a national level to ensure that socially-disadvantaged communities and households are supported through the transition to the ETS?
- What is needed in your community for people to change their everyday practices to reduce climate change impacts?

Emissions Trading Scheme (ETS)

The Emissions Trading Scheme **must include the transport and energy sector**, with no exemptions for coal burning energy plants or petrol production and use. If it is to have any hope of changing our ways, and encouraging alternative renewable habits, it cannot exempt the biggest offenders without being all but useless.

The truly needy should be compensated for any increase in the petrol price due to an Emissions Trading Scheme, but the rest of us need to shoulder the burden, and realise we have had it too easy for too long, that the way forward will require not a few

cents a litre less for petrol, but more expensive petrol and consequently a change of habits that if unable to be adopted willingly will be forced upon us. It is, quite simply, time to grow up.

Pricing policies that reflect resource scarcity (eg. water, oil, clean air, etc) provide clearer market signals and so should encourage better market resource-allocation. Many consumer goods currently available on the market require copious amounts of energy and/or resources to build and/or use eg, white goods, plasma TV's, 'instant' hot water systems (which are gas efficient but can waste much water because the hot water produced has to push out cold water stored in pipes before it can be used). **All goods and services should have comprehensive climate impact (CI) classifications and carry a CI component in their prices.**

Regulate for higher manufacturing standards such as improved insulation, more efficient electrical appliances, and replacing electrical heaters and hot water systems with solar collectors. Instead of in-built obsolescence, manufacturing standards should be well-designed, sturdy, meant to last a life time. Rationalisation of the things we perceive we need and that we produce is needed.

New minimum standards for cleaner efficient cars, ideally higher standards than those adopted in Europe. To be able to replace our current cars when they reach their lives' end with at least **an affordable locally built hybrid**, or even more ideally one that **does not use petrol or petroleum-related products at all**, and even more ideally one that is **built to last for decades rather than mere years**, would be wonderful.

Continued provision of subsidies for renewables and other incentives, making them cheaper, is required. However unfortunately, people do not like change and our habits are entrenched. **Enforcement rather than enticement is more likely to be effective in changing people's habits.** Fair government leadership with clear rules is required. Rather than the proposed 'user pays' measures and expensive and ineffective advertising campaigns, non-regressive tax system adjustments would be a more direct and effective way of dealing with the social inequity ramifications of climate change.

Encourage greater community living and local production with locally sourced materials. Encourage simpler, more sensible life styles. Cultivate attitudinal change to a more 'caring' attitude that encourages looking beyond ourselves and the boundaries of our private properties. **Prioritise our needs**, starting from the most basics of food & shelter to rationalisation of all the crap we produce.

Start addressing probably the most fundamental of market failures, that of the economic system itself: its imperative for constant growth and the ever increasing world population and insatiable demands, which are unsustainable. Without government guidance, the economic engine will just drive us all round ever-narrowing circles until it starts burying itself and us in the process.

Natural Resources, Biodiversity, Ecosystem Degradation

- What natural assets are most vulnerable to climate change?

- What are the existing barriers (eg. competing land use pressures) preventing us from building the resilience of these assets and ecosystems?
- How do we ensure that no perverse environmental outcomes occur through encouraging emission reduction in areas such as forestry, agriculture and geosequestration?
- How can we use increased awareness in climate change to build upon current initiatives such as BushTender, which encourage land-holders to improve their management and protection of native vegetation?
- How will the role of Parks, Reserves and other protected areas change?
- What opportunities are there to contribute to carbon sinks through enhancement of Melbourne's green wedges and establishment of bio-links throughout Victoria's rural landscape?

We strongly support the establishment of principles and procedures, aimed at biodiversity protection and ecosystem restoration, that all landholders will need to uphold.

By placing much emphasis on protecting biodiversity *ONLY* if we can afford it, the guiding principles of the government's '*Land and Biodiversity at a time of Climate Change Green Paper*' seem to be based on an economic rationalist approach to environment protection. In the face of climate change and the rapid speed at which ecosystems will decline, to place our irreplaceable and priceless environment second to the growth of our economy lacks vision and true understanding of our dependence upon healthy, intact ecosystems.

We have traditionally traded environmental destruction for economic growth. In the face of collapsing ecosystems, the economy can no longer take precedence over the ongoing protection and restoration of the very support systems that sustain us. Climate change is simply a symptom of these ongoing and extensive tradeoffs. Economic growth cannot be sustained at current levels indefinitely, thus, **curbing economic growth** and improving natural ecosystems may be the only truly sustainable approach left to us.

There is already unequivocal evidence to show crashing of ecosystems. **Ecosystem markets** may provide additional support for our natural environment and may finance on-ground works - thus, these emerging markets **should be encouraged**. However, government cannot wait for emerging ecosystem markets to arise before action to protect these habitats is put in place. **Relying on market forces to reverse this trend of ecosystem decline and to provide protection for biodiversity and remnant habitats is dangerous and irresponsible**. If these markets fail, biodiversity protection will again be set back. **Legislation, enactment and enforcement are all critical requirements to ensure ecosystem protection**.

Instead of a 10 year timeline, **the renewed Biodiversity Strategy should be focussed on timelines** that will reach into the **next 100 or 1000 years**.

There is a desperate **need to alter community thinking about our relationship with our land**. We are not owners but custodians over this land. Unfortunately, our society is based upon a structure whereby our "rights" to using our land often seem to override our obligations to protect those habitats and ecosystems within our care.

The suggestion that the Flora and Fauna Guarantee Act should be revised to provide a "more realistic objective" is outrageous! The government has already available a **wide range of under-utilised legislation** - the Environment Protection Act, National Parks

Act, the Flora and Fauna Guarantee Act, Planning and Environment Act, Catchment and Land Protection Act, State Planning Provisions, regulation in the form of Land Use Zones, Overlays, Schedules, Municipal Strategic Statements, and so on. There is little encouragement for relevant authorities to utilise these controls effectively, primarily due to a lack of support from the government and its agencies. **Strengthening, utilising, upholding and enforcing these is urgently needed.**

A consistent and integrated approach to land management should be encouraged between Catchment Management Authorities (CMA) and local government. **Regional Catchment Strategies should influence planning decisions** as these strategies afford a more integrated and encompassing approach to land management and habitat protection. The CMA can provide direction while the councils can provide local knowledge and on-ground implementation of works programs.

Both Australian and State Governments can **improve the efficiency of their joint funding programs** by remaining focussed on outcomes, with projects being driven, and reported upon, by the Catchment Management Authorities. Funding to the CMA should be increased, not reduced as happened with the federal and state funding cuts in NSW.

There needs to be less discretion within our current planning controls, in both the Victorian Planning Provisions and in local planning schemes, to ensure the spirit and intent of existing legislation is achieved.

Despite being leaders in private bushland conservation and the oldest state conservation trust in Australia, **Trust for Nature** continues to struggle for consistent funding. **Services** (eg. Trust for Nature's covenanting of remnant habitats on private land) **provided by such organisations should receive guaranteed funding.**

Melbourne 2030 aims to curb expansion and provide healthy, thriving green belts around metropolitan areas and is considered to be "Worlds Best Practice" in its objectives and strategy. The recent **Melbourne 2030 audit has found a lack of commitment by the state government to uphold these objectives.**

The decline of ecosystems, particularly on private land, must be urgently addressed. The **Net Gain policies of the Victoria's Native Vegetation Management Framework** have failed to achieve an overall gain in vegetation cover and quality. Despite best intentions to bring the community along by creating an ecosystem market, our natural environment remains in decline. **Enforcement is urgently required** to prevent the inevitable decline in vegetation quality through habitat neglect.

Where (presumed) land uses rights (eg. firewood collection, grazing by domestic stock, and vegetation removal for fire protection) **continue to adversely impact on ecosystems**, then consideration should be given to **remove such rights. Point-of-sale changes to land use "rights"**, employed when a property changes hands, would provide greater protection for remnant habitats without alienating a section of the community who may challenge any removal of such rights.

Renewal of Crown Frontage licences should not be considered and these areas need to be revegetated to create habitat linkages across the landscape. The

environmental advantages gained from revegetation of the riparian zones and strengthening the catchments will far outweigh the agricultural value of the land.

Urban sprawl must be contained to reduce impacts on remnant habitats and to avoid losses of agricultural land. By **increasing residential densities within our population centres** would be a cost effective and ecologically sustainable way to handle a population increases. There has been a lack of commitment from the Government to enact the principles of Melbourne 2030, which provides support and protection for Melbourne's Green Wedges. **Funding sources should also be drawn for environmental protection agencies such as Trust for Nature, and for Green Wedges around Melbourne that act as the "lungs" for the city. Planning Scheme reform may be required to reduce loopholes and remove discretionary "rights" allowed under current planning controls.**

"...there are already massive opportunities to be harnessed through alternative land management practices, such as growing trees for commercial carbon offset schemes." **The 'carbon sink' value of Melbourne's Green Wedge areas need to be recognised.**

The intrinsic value of ecosystems is constantly overlooked and the environment is portrayed as being of value when it provides something to human society. If this government is to engage the entire community in environmental management works, then **there must be a shift in the way that the environment is portrayed.**

There is a need for a massive shift in the way communities understand their place within the natural environment (as caretakers & custodians, not owners) as well as a greater emphasis on community life should be fostered. Continued economic growth and ever increasing resource consumption beyond the finite capacity of the environment cannot be sustained indefinitely.

The degree of community involvement in volunteer organisations is relatively poor, and those involved are suffering burn out. **Greater community involvement in projects that assist the restoration of our environment should be encouraged.**

Due to the rapid decline of our ecosystems and degradation of natural habitats, we have reached a stage where simple encouragement of the community and industry to "do the right thing" is no longer adequate. Our natural environment is past the time where mitigations are an acceptable means to account for losses of habitat. **A combination of approaches will need to be adopted to bring industry and communities along the path of biodiversity protection. As well as stronger controls, additional legislation and the effective use of existing legislation, these might include rewards or incentives for those who voluntarily contribute to health of our ecosystems, and penalties on those who continue to have little regard for the natural environment.** The provision of incentives to individuals or industry that provide services/products claiming to benefit the environment will require a "Green" audit to identify the public and environmental benefits being achieved. **The "Green" tick!**

Threatened species form part of complex ecosystems and the only true approach to management of threatened species is to **save and enhance the habitats they occupy.**

Fire as an ecological management tool is an important component of healthy Australian ecosystems and **must be incorporated into our land management practices** in some way.

There exist many weeds which continue to have an impact on natural habitats but have not received the focus of targeted control programs. **"Sleeper" weeds** are an enormous concern in the face of climate change. Seemingly innocuous species may become reproductively successful in warmer temperatures. **We need to be prepared for this likely shift in priority weeds.**

Water

"Water shortages will affect a range of systems and sectors, the most significant being primary production and natural resources and biodiversity. The Victorian Government is delivering on a long term plan to improve water efficiency and build water infrastructure. Even so, climate change will increase the challenge of securing water for Victoria's industries and regions." p.7 climate change will mean drier weather for Victoria.

Water resources should be considered in an ecological sense. *The Land & Biodiversity Green Paper* appears to consider environmental and ecosystem water needs as secondary to the needs of communities, industries and farmers. **Much water wastage** continues to occur in Victoria, and this **should be addressed** as a matter of urgency. While being mindful of the ecological constraints of water harvesting - reduced ecological flows within our rivers and streams continue to reduce river ecosystem health - consideration should be given to **collection of stormwater throughout metropolitan areas**, rather than have this water resource dispersed into the bay.

Regarding forestry practices and strategy, logging in catchment areas should cease.

Land-Use, Planning, Building Practices, Transport & Infrastructure Systems

- What changes to how we live across our cities and towns are we willing to accept? Urban form, building design, streetscapes, street layout, mix of densities, the way we deliver energy and water services, and where we can develop may all need to change.
- What are the essential elements of what we want to maintain as we adapt our settlements to a low carbon profile?
- How can we promote the growth and development of public transport, encourage a shift to low emission transport forms and provide a flexible transport base for our community?

Across the board, people's expectations need to be moderated, and design of all consumer goods needs to be sensible, robust and lasting. There is a need to consider the ecological foot print of all human activity. We have a responsibility to future generations, to pass on a sustainable environment. To do this, **people need to be convinced that taxation levels need to be raised (non-regressively) to enable investment in the large scale environmental & infrastructure upgrades required**, so that future generations may enjoy the same living standards as we currently do.

The Urban Growth Boundary should remain in place as Melbourne's sprawl is excessive already with many outer urban areas suffering from poor public transport access and Melbourne's road traffic getting beyond the joke. The Green Wedge areas are vital to

Melbourne's livability and their fragile eco and biological systems should not be allowed to be further undermined through fragmentation via human settlement.

Agricultural lands close to the city should be protected. The Melbourne region is the 2nd most important region in Victoria in terms of agricultural productivity, and it is destined to become even more valuable in future; we need to preserve these food production options. Cities with strong relationships with their hinterland are the cities that will do best economically, socially, environmentally. For food distribution implications, cities that retain their agricultural land do best (Prof Michael Buxton).

The Victorian Government can build regional capability by **committing** to the application of protective principles including those of Melbourne 2030, and of upholding the legislative biodiversity protection measures currently in place.

Despite the introduction of 'Rescode', incredibly poorly designed housing continues to be building. **Energy efficient building practice codes** (eg. wall & ceiling insulation, double glazing, eaves overhang, efficient building orientation & planning, water tanks & on-site recycling, size of homes, strategic tree planting, etc) **should be enforced**.

(Green fields). When new estates and population centres are being designed, they should be ecologically sustainable with a greater degree of self-sufficiency. The physical environment should encourage community engagement and pride, and a raft of facilities should be planned for: strategic tree planting, walking & bike tracks, community hall & meeting place/performance space, playground, skate board park, sporting & exercising fields & facilities, community vegetable gardens, full range of comprehensively integrated water collection, use, and recycling facilities, access to public transport, etc, etc.

Direct government funding for an expanded, fully integrated and improved public transport is needed.