Inquiry into Waste Generation and Resource Efficiency:

Submission re Draft Report "Waste Management".

Peter Carroll

The Australian Government is to be commended for the initiative of holding this inquiry into "waste".

Human generated "waste" is one of a number of anthropogenic processes that have a deleterious impact on the environment. For whatever reason the subject of waste has not gained the notoriety or allure of other (rainforests, whales or rivers), environmental issues. This is interesting from a number of standpoints, social, cultural and psychological, in that it is one of the most immediate environmental impacts of human activity. It is something which both as a guide to our environmental limitations and our understanding of environmental processes has been largely overlooked.

If we are to look at ways that; "resource efficiencies can be optimised to improve economic, environmental and social outcomes" then it is my view that there needs to be an environmental foundation for our understanding and subsequent action. In non-human systems the capacity and ability of living matter to degrade, decay, decompose and release nutrients and energy for further use is intrinsic within the life-form. No such requirement is in-built within the technologically based waste now generated by humans. The *dilemma of waste* has coincided with the industrialisation, technological advances and population explosion of the last two hundred years. Concomitantly there has been too little appreciation of the *nature* of waste, with reactive engineering responses (which is no criticism of engineering), being applied to solve problems. Additionally there has been little appreciation that many solutions quite often lead to further problems for example, the overuse of landfills as a waste solution. Further I believe that the nexus between *waste and energy* has been largely overlooked. Ecological systems (our life support), conserve and preserve energy and it is only dissipated in the form of heat. A senior manager in the former Ecorecycle Victoria (now Sustainability Victoria), told me that; "we are all consumers". It is this type of unevolved thinking that is at the heart of the problem. It is both the qualitative and quantitative aspects of human production and consumption and resultant waste that are at issue and at odds with environmental systems. It is the type and degree to which we consume that ultimately manifests as "waste" and which we are having great difficulty in coping with. The foregoing views are substantiated in the following quote.

> The most immediate threat, however, may be nothing more glamorous than our own waste. Like most problems with technology, pollution is a problem of scale…Technology is addictive. Material progress creates problems that are – or seem to be – soluble only by further progress. [i](Wright R. 2004 p.7)

In this submission I aim to provide practical and theoretical possibilities for a reorientation of thinking about anthropogenic waste. Definitions of waste have much to do with ideology and dogma and very little to do with ecological processes and how human "waste practices" have progressed (as opposed to evolved), away from innocuous consequences. Similarly the "waste hierarchy" is a construction that seeks to interpret waste according to a pre-conceived notions that "suit" our level of understanding. Although there are hierarchies within biological systems they are specific to the biological and chemical processes of the

system. No such an analogy can be drawn with the arbitrary construction of the human waste hierarchy. For example the inclusion of, "waste to energy" within the "hierarchy" I would argue is anomolous in environmental terms. Biotic systems do not generally convert organic matter back into (heat), energy rather it is used and conserved for as long as possible within a useable form within matter. The earth's systems although in a constant state of flux between perturbation and balance again, generally work in cycles not hierarchies.

There have been many references to the phrase "best practice" throughout literature on waste and within the Productivity Commission report. Unfortunately "best practice" is amorphous at worst and ill-defined at best. It is a phrase that appears to give credence to the quality of a proposition (in this case various forms of waste disposal), but in effect says nothing. It is axiomatic that there is no clear standard or definition as practices are changing all the time. I would posit that "natures practice" is "best practice", as many of the processes involved in the decay and reconstitution of matter have evolved over millions of years longer than humans have been on the planet. Until we learn and actively mimic how nature optimises the use of energy and nutrients in the process of wasting then we will have not achieved anything.

A major component of the problem we have with waste is that efforts to control it are still very much end of pipe solutions. Although Extended Producer Responsibility (EPR), does offer some advances, there has been less than substantial uptake in Australia. The issues that perhaps should be looked at are the; utility, durability and functionality of articles or materials. Rather it is the very "cheapness" of goods that has contributed to current problems, which begs the question that if economic values contributed to this problem in the first place then we need to be very careful in using them to get us out of the predicament with waste. It is the functionality and utility of materials and goods at the end of their usable life that is integral to the problem of our waste. At present there is no disincentive (financial or otherwise), that has only a landfill disposal as their final disposal option. If the product cannot be reused, reconstituted or dismantled for use in some other product/form with minimal expenditure of energy then its value (financial), should be characterised by this limitation. This would apply to the large volumes of the plastic "junk", that we import. After it has started to fall apart or is no longer of any use, then what do we do with it? Send it to the landfill or put it out on hard rubbish collection day. This is an area that I believe needs to be addressed in policy development and has not been considered in the draft report.

Concomitantly it would seem that planned obsolescence has become well and truly established in our society. Despite well-publicised efforts to provide recycling services for articles such as mobile phones and computers, the vast majority of products and materials have no reuse capability, let alone being recyclable after a relatively short life. Again this particular issue has not been addressed in the draft report. There is not much point in being efficient at manufacturing rubbish that has such a short life and requires the further use of primary or capital resources to replace it. There are many examples that range from plumbing fittings to tools to car parts. I believe it is actually costing the community and reducing our wealth in replacing articles that are manufactured to less than suitable standards. An organisation in a similar capacity to Standards Australia could (should?), be mandated to monitor both the quality of and

obsolescence of articles as they will more often than not overlap. In this way it could be possible to regulate or apply such a disincentive so that some waste would not come into existence. In this respect the only "cost" is an economic one, because someone is not able to sell a substandard good or if they do it may cost more than a rival that has been smarter in developing a product that has EPR, or reuse or can be synthesised by natural processes. There are limited environmental costs because the good may have been produced initially and could then not be sold, social costs could be close to zero, because if hardly anyone knows about the product then no-one will miss not having it on the shelf.

The discussion on page xxiv (Economic versus resource efficiency), in my view sets up the wrong argument. If we consider that our very existence is predicated on the efficiency of other species and processes then the question should be how do we integrate economic efficiency (or even make it efficient), into resource efficiency. Resource efficiency in my view is about **optimal benefits, not maximum,** moreover so-called economic efficiency also ignores the "costs of other inputs that are used in production and disposal processes". In fact economic production in many instances could not be "efficient" if these costs were not ignored. Secondly I think the assertion that "economic efficiency is also broadly consistent with concepts of ecologically sustainable development", should have been substantiated. For all that economic efficiency has achieved to date I think the weight of evidence would support the view that it has hindered the implementation of any ecologically sustainable development (whatever that may mean). As for the current generation having to make sacrifices for the benefit of future generations it is likely that such sacrifices will occur as a result of our excesses, and therefore are not in fact sacrifices. There is an implicit assumption in this discussion that we are not living beyond our means or necessity, we are in fact perhaps ore comfortable than we need to be, so where is the sacrifice if we dispense with the presumption of a bacchanalian lifestyle? To the extent that this discussion impacts on how waste issues are perceived I believe it is misplaced and irrelevant.

I would concur with the draft report (pg. xxix), that "Zero waste" is…simply not credible" again it is predicated on an anthropocentric construction that has no rational basis in ecological systems. As far as I am aware all living matter decays and degrades and there are processes and infrastructure, as I have said earlier, that have evolved over time to ensure that this occurs in the most innocuous way possible. Therefore there is always a section or percentage of the system that is undergoing transformation, and waste is in evidence. **If systems could not deal with the remains of living then there could be no more life!** Now for zero waste to occur the earth would end up looking like the moon. The issue is not whether we achieve zero waste, but rather whether every material (and energy), that moves through the human species is able to be synthesised by the systems that currently exist, or whether they can be reconstituted with as little expenditure of energy as possible. There is not much point in implementing recycling processes (notably kerbside in rural areas), and applauding the creation of jobs, and environmental improvement if we are not *accounting* for the energy expenditure in collection and the embodied energy of the infrastructure.

I noted with interest that some of the opening submissions referred to the need to preserve the integrity of organic matter as a nutrient source in the form of compost/fertiliser. This is in contrast with the process of "waste to energy" in the waste hierarchy and the impetus to develop such facilities where they supposedly, "have minimal net negative environmental externalities where they displace fossil fuels for electricity generation." Having inspected the waste to energy facility in Wollongong and from other research I am concerned that there is not a consistent approach to the development of these facilities. With the imperative of "cost benefit analysis" mentioned in the report, this should also apply to the development of such facilities. I queried several engineers and management at Wollongong on the payback period of the energy generation and they were either unaware of the concept or had no idea that such theoretical tool was used to determine the efficacy of such plants. Therefore the assertion that such facilities have "minimal net negative environmental externalities is dubious until proven otherwise.

The emphasis of Policy direction on Product Stewardship schemes and alternative waste technologies as the new "thrust" in waste management policy belies the fact that it still does not address the fundamental problem of over-consumption. I agree that there has been too much emphasis on recycling as a solution and this has been misguided. Nevertheless according to the Australian Bureau of Statistics (ABS), real final consumption expenditure per capita increased at a an average rate of almost 2.2% between 1990-91 and 2000-01.[ii] Unfortunately even with the advent of EPR and new *technology* waste as we know it is likely to continue to grow. Unless an environmental culture evolves that recognises the true nature of waste *progress* embodied in the form of market mechanisms and technology will do little to stem the tide. For over a decade Victoria had goals of reducing waste and increasing recycling. In 2002 Ian Coles, the former head of Ecorecycle Victoria admitted publicly to a failure to reduce the growth of waste in Victoria. This, despite all the marketing, education and lauded successes. Despite the good intentions it would be extremely difficult to stem the flow of waste out of the pipe if the volume coming into it is getting larger every year.

I think there are a number of statements within the draft report that are somewhat dubious or based on assumptions. For example; how has it been determined that; "Policy makers have arguably responded to the community's strong interest in recycling"? (pg. 305) Without evidence it could be equally argued that the increase in recycling has simply come about because a convenient service has been provided, that has required little effort on the part of the community to comply. After all it is the policy makers in local government and higher who determine what type of bin system will be utilised. Also it could be argued that it was a small group of committed individuals who influenced policy makers in the first place (consistent with human history), to implement recycling for certain materials.

At another level I think the discussion of the value of weighting applied to waste disposal methods is useful. It is particularly so from the point of view that quite often unintended consequences arise, and more often than not there are different agendas between the policy makers and those who are impacted by increased pricing. A case in point being that; several years ago rural councillors and officials (including myself), tried to tell the EPA and Ecorecycle management that an increase in landfill levies would lead to an increase in illegal dumping. Unfortunately despite our protestations, our concerns were dismissed. Yet in

the last twelve months we have had senior officials in the EPA decrying the increase in illegal dumping around the state. Now I can't assume it was a direct result of the increase in landfill levies, but it is nevertheless a reasonable conclusion to draw. The increase in landfill levies has not translated into a verifiable net gain in environmental performance. The discussion re price signals also has another impact, where householders pay for waste collection and recycling in their rates. There is no incentive for individuals or small communities who accept responsibility for their attitudes and actions and have no need for any collection. As we know waste collection and disposal was an outcome of health-related concerns, and large groups of people living proximate to one another. Yet if people are able to deal with their waste so that it becomes innocuous they are in fact being penalised by arbitrary regulations. Therefore there also needs to be flexibility within the approaches adopted, rather than a one size fits all.

For the majority of the population waste disposal is not a high priority on their daily agenda, if policies are to be developed that are meaningful then they must lead to *convenient* processes. Waste containment and disposal does not form part of the *immediacy* of people's lives, for example the environmental gain from reducing or eliminating packaging from their lives may not be readily apparent. The problem with financial instruments incorporated into regulation is that they tend to become another thing that over time can be used for revenue raising, or people resent and resist the impost. Conversely cultural or social change will have longer term benefits as different habits are formed, different structures, different materials. Consider fines for littering, we are all aware of the damage caused by cigarette butts deposited in the environment, but if someone drops an apple core should it attract the same penalty? The problem with pricing things is that they can be devalued, or revalued and the narrowness of monetary value, which can't account for the complex interaction of substances and energy.

In closing at this juncture I would like to state that I have grave concerns about the capacity of economic instruments as a tool for improving the *waste performance* of the Australian community. Although the report does provide some useful discussion on the impact of waste to date the problem is as much a cultural and social one that needs to addressed in equal if not greater measure than simply through government regulation and pricing. Concomitantly government is in a bind, as they advocate continued growth and consumption, which exacerbates the problem of waste. The way forward requires a massive rethinking of the problem that is not generally found within the confines of subjective economic processes.

Peter A.Carroll.

[i] Wright R. 2004 *A Short History of Progress* Pub. The Text Publishing Company Melbourne

[ii] Australian Bureau of Statistics.
http://www.abs.gov.au/Ausstats/abs@.nsf/46d1bc47ac9d0c7bca256c470025ff87/D024… accessed 5/5/2006