SUBMISSION TO THE

Inquiry into Waste Generation and Resource Efficiency

1. *The economic, environmental and social benefits and costs of optimal approaches for resource recovery and efficiency and waste management, taking into account different waste streams and waste related activities;*

In the view of Healthy Soils Australia Ltd, the optimum level of waste is zero i.e. no waste of any kind so that all externalities are internalised and economic and ecological systems are harmonised.

It is our belief that zero waste can be achieved progressively at no net cost either to the natural environment or the extractive industry sector provided that it is introduced at a rate commensurate with normal replacement of obsolescent technologies and plant upgrades.

In natural ecosystems, everything (whether we think of it as an object, item, entity, living organism, whatever) is either an output of one process or an input for another, though not at the same time. There is a lag and that lag corresponds to the life of the entity. There are huge differences in these time lags when seen from the view of geological processes, species of organism, nation states, economic and political cycles etc.

For living organisms, including humans, the quality of life during their period of existence depends crucially on having the right inputs at the right time and not being an input to some other process for as long as possible.

Economic systems are designed to grow and optimise inputs. They are very successful in this for about one third of the world's population as the growing levels of obesity, traffic, clutter, noise and waste attest. For another third, they are a disaster, as the very high levels of poverty, hunger and disease demonstrate. The remaining third have found a better balance between traditional lifestyles and economic development and are somewhere in between. This third group, while more sustainable than the other two, still produces unnecessary waste.

The challenge now is to design economic systems that work on the same principles as natural systems and put in place the policy and regulatory settings to achieve this.

2. *Institutional, regulatory and other factors which impede optimal resource efficiency and recovery, and optimal approaches to waste management, including barriers to the development of markets for recovered resources;*

The key to achieve the no-waste optimum is through placing product responsibility for an entity with those who create the entity. This requirement is already recognised internationally under the WTO rules and the 'polluter pays' principle.

It will require two different sorts of product transfer arrangements. The first, as now, for organically based products (mainly food and bio-based building products) would involve a transfer of ownership. The second would apply to manufactured products that are technology based (i.e. largely made from metals, petrochemicals and geo-polymers). These would be transferred under some sort of leasing arrangement so that product responsibility continues to be vested in the originator (whom society has already granted limited liability, patent and trademark rights and increasingly requires corresponding responsibilities).

When bio-based products have been used, what is left can be recycled (composted) through local composting facilities. The resulting carbon and nutrients can then be returned to the soil where they are made available through microbiological processes to the next generation. There are a growing number of highly efficient technologies and whole new bio-conversion industries emerging around these processes.

In the case of techno-based products, when they have passed their useful life, they can be returned to the manufacturer for re-manufacture and redistribution.

There are products that involve a mixture of both categories, including some very long-lived categories such as houses and buildings. With small design changes, these too can be constructed in such a way that they can be easily de-constructed so that their bio-degradable components can be re-used by composting or the techno-materials by recycling and/or reprocessing.

Incidentally, the life expectancy of buildings (which consume approximately half of all materials and energy in developed nations) is decreasing. It is a moot point whether a more rapid turnover of buildings low in embodied energy is more sustainable than a much longer turnover rate using longer lasting materials that are high in embodied energy.

3. *The adequacy of current data on material flows, and relevant economic activity, and how data might be more efficiently collected and used to progress optimal approaches for waste management and resource efficiency and recovery;*

There are vast amounts of data on material flows and while the research community will always argue that more data is needed (and that is not denied), there is sufficient data to make the necessary policy adjustments now.

Australia is behind in these areas because of a reluctance by policy makers to shift from an unsustainable linear extraction-use-waste model to a sustainable recycling model for the economy.

4. *The impact of international trade and trade agreements on the level and disposal of waste in Australia;*

In a nutshell, if we do not adopt these new practices we will be cut out of international markets. For example, our agricultural commodities will be contaminated by chemicals and not saleable outside Australia. Even now superphosphate being used in this country already exceeds EU standards for cadmium. The fact that cadmium bio-accumulates has not deterred most Australian farmers from using it despite warnings on the bags. Like the warnings on cigarette packets, they do not impact on behaviour.

5. *Strategies that could be adopted by government and industry to encourage optimal resource efficiency and recovery.*

While zero waste strategies are being adopted around the world and seem to have a significant impact, they do nothing to change the system fundamentally. Thus in the ACT, which was possibly the first government to adopt a zero waste policy, the tonnages of waste going to landfill have reduced massively and the recycling rates are impressive (the best in the country).

But overall waste per capita has gone up. In short the residents of the ACT may have done well as recyclers (and feel good because of it) but they have not moderated their throughput or actually changed their behaviour in any fundamental ways.

It is a good example where attempts to modify behaviour fail when the system itself does not change. Waste is a systemic problem, not a behavioural problem, and it needs to be addressed through system changes.

Specific strategies and policy options that should be adopted by governments might include:

1. incentives for innovation and R&D support for wasteless products and services.
2. requirements to separate at source. (The waste industry sees benefits for itself in single bin collections and charging the cost of sorting to government. Sorting at source with separate collections will enable local processing of organics, less risk of cross-contamination of biological material, better monitoring and employment creation through local recycling.)
3. Food production, paper making, plastic moulding, building de-construction and re-construction are waste avoiding industries that can be operated at the local level as transport costs increase with rising oil prices. They can be promoted through regional development programs and policies.