31st July 2010

Project Manager
QLD Waste Strategy 2010-2020 Consultation
Natural Resources and Environment
Department of Environment and Resource Management
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Brisbane Qld 4001

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Environment Institute of Australia and New Zealand

Dear Sir/Madam

RE: *QUEENSLAND WASTE STRATEGY 2010-2020 DISCUSSION PAPER* SUBMISSION

The South East Queensland Division of the Environment Institute of Australia and New Zealand (EIANZ SEQ Division) thank the Queensland Government for the invitation to make a submission in relation to the *Queensland Waste Strategy 2010-2020 Discussion Paper*. SEQ Division's response to the Strategy is in its' Submission at Attachment A.

The EIANZ SEQ Division supports the Queensland Government's intentions to avoid and reduce the creation of waste, reduce toxicity and hazardousness of waste and to enhance capacities for recycling and composting of wastes.

While the Waste Strategy is a laudable step forward, it was felt that the discussion paper did not deliver a clear vision, tight explanation for a strategic approach, nor the full scope of actions that are needed to see full engagement by Queensland with waste avoidance, minimisation and recycling. The linkages of the strategy with other strategic papers in Queensland and nationally are also unclear.

In reply, the EIANZ SEQ Division has outlined a future vision and the key actions flowing from this vision. The EIANZ have also highlighted some detailed issues, including:

- Enabling stakeholder action;
- Ensuring sustainable waste management;
- Seeking sustainable economics;
- Managing landfills and waste processing facilities;
- Public and professional participation; and
- Some examples of potential waste avoidance wins.

References are provided so that DERM can follow up further on some of the key points. Do not hesitate to contact me via email david.carberry@rpsgroup.com.au or phone (4632 2511) if you would like to discuss our submission further.

Yours faithfully

David Carberry
President South East Queensland Division
Environment Institute of Australia and New Zealand

ATTACHMENT A

SUBMISSION ON THE QUEENSLAND WASTE STRATEGY 2010-2020 DISCUSSION PAPER

FROM

ENVIRONMENT INSTITUTE OF AUSTRALIA AND NEW ZEALAND SOUTH EAST QUEENSLAND DIVISION

(EIANZ SEQ DIVISION)

31st JULY 2010

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EIANZ is the peak professional organisation seeking a sustainable environment achieved through excellence in environmental practice. EIANZ SEQ Division members are representative of a broad spectrum of skills covering the planning process, ecological and environmental management, and community resource management. These professionals work in the state government, private industry and tertiary institutions.

This submission has been prepared by a team of environmental practitioners who are passionate about achieving good outcomes for the environment, planning and public recreation, and who have been keen to formulate a response that is appropriate to the overall vision of the Institute.

This EIANZ SEQ Division submission provides comments on the draft actions proposed and other related issues.

This submission consists of comments and suggestions, issues, opportunities and recommendations. EIANZ have provided an explanation for the rationale of recommendations.

1 General Comments

While the Queensland Waste Strategy 2010-2020 discussion paper is a positive move forward, the discussion paper does not clearly outline the problems or issues that this strategy aims to address. In the discussion paper, the following appear to be the motivators identified:

- Increasing community desire to recycle more;
- Increasing community interest in reducing unnecessary packaging, recycling of products and opportunities to recycle;
- Realising social and economic benefits of waste minimisation;
- Some local government landfills have only a few years of disposal capacity left and there are no current opportunities for establishing new sites;
- Island communities in particular have waste management challenges (small population, significant transport costs, planning issues and limited storage space);
- Avoiding leaving the same sort of hazardous waste legacies for our future that we have been left from our past; and
- Activities at the National level and in other states.

1.1 EIANZ supports the guiding principles

EIANZ supports:

1. A changed focus (page 12):
   - ✓ Avoid waste generation;
   - ✓ Where waste cannot be avoided, have beneficial use and resource recovery;
   - ✓ Move towards natural processes, mimicking the cyclic quality of natural systems;
   - ✓ Design for the environment and product re-design;
   - ✓ Cleaner production;
   - ✓ Product stewardship;
   - ✓ Informing the consumer;
   - ✓ Industrial ecology;
   - ✓ Recovery infrastructure investment;
   - ✓ Environmental job creation – and related education; and
   - ✓ Planning for the future and to meet growth requirements.
2. The guiding principles (page 14).

1.2 EIANZ support for sustainable development

Sustainable Development position of EIANZ:
EIANZ supports:

- Promotion of improved valuation, pricing and incentive mechanisms;
- Partnership between government, business and community;

- Broad community involvement and transparency; and
- Introduction of mandatory sustainability reporting and its threshold.

1.3 Support Eco-Re-Design

The EIANZ supports the concept of redesigning products - eco-re-design: redevelopment of products and production lines for ease of product repair (life extension), and recycling (end of life) to avoid need for disposal. For example, the Oral B cross action toothbrush (which needs to change only heads instead of buying a new brush) is a successful step that considers both profit for the company and the environment. Government should encourage these practices.

1.4 Support for a waste levy, but levies must be on all wastes and alternatives need to be available

The EIANZ agrees that a price signal should be applied to encourage the public, local government and businesses to consider waste reduction and resource recovery as more cost effective than disposal. There must be levies on Municipal Solid Waste (MSW) and Self Haul to narrow the gap between cost of disposal and genuine recycling and to encourage waste reduction. There must be available alternatives to landfilling – recycling services and ways to reduce waste need to be readily available or quickly made available and information on the availability needs to be disseminated. Large scale new recycling contracts on MSW by local government, which will drive private investment in new recycling facilities, will only occur if the pricing signal is also on MSW as well as other waste types.

1.5 EIANZ supports Action 1 – a resource efficient government

The EIANZ encourages the Queensland government to more rigorously apply resource efficiency to its own departments and to model these as examples for the public and Queensland businesses.

1.6 Support for prevention and clean up of illegal dumping (Action 10)

The Government does need to prevent illegal dumping. Orphan waste and littering clean ups help to discourage further dumping by people who see "someone else has done it, so I will dump here too". If there is any value retrievable from the dumped/littered assets, then this could be realised, but mainly the funding for the clean up will have to be from Government funds (levies and taxes) unless communities volunteer (e.g. Clean Up Australia Day). NSW Governments utilise patrol officers and security cameras to achieve convictions in areas with a high frequency of illegal dumping (such as outside landfills and in remote back roads). The dumping outside of landfills mostly occurs when the client is frustrated by the closure of the facility, or by a restriction of their being able to dump the waste in the landfill (cost, acceptable type of waste, long queue).

1.7 Support for regulated waste research (Action 22)

Action 22 (research to avoid, reduce hazardous characteristics and find alternative uses) is strongly supported, as this work needs to be done, and is a high-risk category of waste.

2 Suggested Amendments/Additions

The EIANZ has a number of recommendations for the Queensland Government to improve the consultation process and enhance environmental outcomes.

2.1 Succinct statement of vision for 2020

Any future documents should be more succinct in their statement of the vision for 2020. The current discussion document fills the first 21 pages in outlining the background philosophies, which is excessive in the context of the 24-page document. The philosophies, while worthy contexts, are also poorly linked to the strategies and actions in the remaining three pages of the document. It is not clear how the outcome actions are formed from the philosophies and therefore what real relevance they have in the waste strategy. For example if you look at Action 11 page 36: Market development for recycled organic products: "The Queensland Government will work with the organics processing industry to help develop markets and uptake for recycled organic products." This is very short and has little to comment on.

EIANZ recommend that the Government provide a clear succinct statement of:

- Justification of the vision for 2020;
- The changes that are needed to move from the current position to the 2020 vision; and
- The action plan steps and incremental changes that will move Queensland from 2010 to meet the 2020 vision target.

2.2 Difficult to comment on vague actions

The shortage of descriptive and specific data in action plans results in difficulties in commenting on the discussion paper. The draft strategy does not adequately and specifically describe "How the government will achieve the goals". There are only some generic sentences such as: increase the life of our landfills; avoid and reduce waste; optimise recovery and recycling; and develop sustainable waste industries and jobs. Unfortunately the strategy fails to sufficiently address how the government will achieve these.

There was excessive focus on "The need for strategy, the challenges' and the goals" rather than describing specific action plans, which should be the main purpose of the draft strategy. Only the last pages 38-44 very briefly describe the Actions (while the strategy is a very long 44 page document).

2.3 Vague strategies – "a range of programs and initiatives"

Recycling targets (page 32): how are these going to be achieved? The strategy only responds to this question with a vague answer: "a range of programs and initiatives". Page 34 suggests it will be by public place (and away from home) recycling programs.

2.4 Explanation not given for chosen targets

Industry development (page 36): No explanation is given for the targeting of recovered concrete, used glass, end-of-life tyres, organic materials (which need clarification), particle board and other low-value timber, used agricultural plastic mulch and irrigation tape. Is this a risk-based approach?

2.5 Limited industry development – only the organic products industry?

Industry development (Action 11): why is only the organic products industry market development targeted? There is no explanation of any risk-based analysis, whether volume-basis is being used, whether decisions have been made to focus on those issues identified at the National level, or whether it is circumstantial based on those industries for which the groundwork negotiations have been started.

3 An Alternative Vision for the Future

3.1 An Alternative Vision

The report does not clearly identify a vision of where society wants or needs to be in ten, twenty or thirty year's time.

Future vision: all products (including lubricants etc) are 100% recyclable to the same quality product – using renewable energy sources and renewable biological processes to catalyse the return to 100% quality for 100% of the product (i.e. reverse degradation). The only "system loss" will be of energy, which is coming from renewable sources powered ultimately by the sun, gravity and the earth's geothermal heat. The energy is required to counteract product degradation – during maintenance, cleaning, repairing and end of life product renewal. This includes energy captured in biological systems, chemical catalysts (cleaners for example), energy-based cleaning and renewal systems (like sonic vibration and water jet cleaning) and chemical renewal of degraded chemical compounds such as plastics. Also energy to re-gather, capture and re-concentrate dispersed chemicals, dusts, evaporated substances, mixed liquids and aerosols (Jacobs 1991). This is very unlikely to be achievable in the ten-year timeframe to 2020, but could form the long-term vision towards which to work.

3.2 Interim strategy

Interim: while we research and identify ways to achieve the above and redesign our products to meet this, we need to capture all existing products and store them as effectively as possible including avoiding mixing to ensure that we can most easily reprocess and recycle products when the technology is available. All landfills are to be considered a form of interim storage. The future may include mining landfills for heavy metals, petrochemicals and plastics, methane and other assets. Queensland in the future will have to clean up

the legacy of our past – these toxic, mixed landfills. All other storage options (below ground and above ground) are to be welcomed, so long as they meet environmentally sound criteria for storage.

3.3 Actions that follow from this vision and interim strategy

Actions:

- Eco-re-design products to be 100% recyclable or biodegradable – facilitate products being redesigned;
- Undertake life cycle analyses of production and services and move to ensure processes are impact-neutral, apart from renewable energy and renewed/recycled resources;
- Research products and materials to identify mechanisms to be 100% recyclable;
- Research biological systems, catalysts, applied physics solutions and other renewable energy systems (with sustainable life cycle analyses) that enable cleaning, renewal and recycling of products and materials. For example, a technological solution for separating small particles of mineral ore utilising principles of bubble physics and surfactants is the Jamieson cell bubble flotation technique, which can also be combined with fluidisation to separate larger particles;
- Reduce contamination of recycling materials to avoid waste disposal from recycling facilities and identify and utilise bio-systems and catalysts to separate the mixed contaminant wastes instead of sending them to landfill;
- Research and identify ways to ensure the economic sustainability of processes; and
- Establish separated waste storage –whether underground or above ground – until we can reprocess, reclaim and recycle them.

The Government should consider proactively assisting each of these actions to ensure quicker uptake and dissemination of the outcomes for application to business.

3.4 Move from waste management to "REAS: Resource Exchange and Storage" model

The Government, public and business thinking needs to shift from considering unwanted or contaminated materials as waste, and to start considering these materials as a resource – whether low grade (contaminated, dirty, worn out, degraded, decomposing, rusting or broken) or high grade (merely that it is unwanted by this person or business at this time). In the Resource Exchange and Storage model (REAS), "waste management" becomes resource storage and exchange facilitation, which may also include the reprocessing to upgrade or convert to useful and separate contaminant components of any low-grade resources. The Queensland government should facilitate this move by renaming and refocusing the terminology and thinking in this mode.

4 Relationship to Other Reports

4.1 Does the Queensland waste strategy achieve the visions of the national waste policy?

The National Waste Policy 2009 under "Less waste, more resources by 2020 - where we want to be in 2020" outlines a vision for 2020. The following action list is derived from that national document:

- Manage waste, including hazardous waste, in an environmentally safe, scientific and sound manner;
- Reduce the amount per capita of waste disposed;
- Treat waste streams as a resource;
- Increase the amount of products, goods and materials that can be readily and safely used for other purposes at end-of-life ;
- Tailor approaches for remote and rural communities to safely manage, reduce and recycle waste;
- Research, educate and apply controls to minimise current risks and future legacy of wastes and hazardous substances, in particular those that are persistent, bio-accumulative and toxic (including meeting international obligations) using best available evidence, techniques and technologies;
- Reduce stockpiling of hazardous waste, particularly for rural and remote areas, by treating and neutralising the waste or transporting to somewhere where it can be treated and neutralised;
- Negotiate consistent requirements across Australia for disposal of hazardous material;
- Negotiate consistent requirements across Australia for content labelling of hazardous materials in manufactured goods;
- Negotiate consistent requirements across Australia for resource recovery and waste management;

- Establish and support efficient and effective Australian markets for waste and recovered resources;
- Develop expertise in waste technology and innovation to sell internationally;
- Encourage and assist product stewardship, extended producer responsibility, design improvements, increased product longevity, easy disassembly of products for repair and recycling, reduced hazardous content, and less waste in manufacture and use; and
- Collect evidence for reporting on waste recovery and resource management progress and successes with which to inform the public and decision-makers.

4.2 How does the strategy address Chapter 4.6 of the National Waste Report 2010?

How does the strategy take into consideration regional and rural waste management issues? Chapter 4.6 of the National Waste Report 2010 lists several issues that are particular to regional and rural locations. Regional areas need local-scaled infrastructure and markets to counter the expense and environmental impact of transporting recyclable wastes to the capital cities.

4.3 Where are the consideration of reviews of implementation in NSW, Victoria and other states?

The discussion document does not mention any consideration having been made to look at the successes, learning and failures of implementation of these types of policy measures in NSW, Victoria and other states. NSW has had many of these programs in place for the past fifteen years and reviews of effectiveness ought to have been done. Queensland should be considering this advice before embarking on repetition of the same mistakes, so as to focus the Queensland efforts on the successful strategies and not waste money on the weaker strategies.

5 Enabling Stakeholder Action

5.1 Importance of enabling public and business action

The strategy states support for programs to assist the public, local government and businesses implement waste avoidance, product re-designs, and enhanced recycling. The EIANZ recommends that this be strengthened. When the public, businesses and local government do recognise the need for action, they need to be able to afford the time and capital investment to identify the solutions and make the required changes to infrastructure and processes (including behaviour changes and any staff training). They do not usually have the time, free capital or expertise in assessing life cycle analysis or running research projects to establish the right solutions for themselves. Economically speaking, while the businesses are taking time out to repeat research that has already been done and could have been made readily available to them, they are not producing to full capacity and the Queensland economy consequently runs below its potential capacity. In addition, poor decisions resulting from short research timeframes and poor outcomes because of inappropriate conversions and insufficient training will all result in a lower quality environmental outcome than could otherwise have been achieved by strategic upfront advice and assistance.

Consumers (including government and business purchasing officers), when researching the product they are buying (rather than just buying what they have bought before), will seek information from:

- Relatives, friends and colleagues;
- Public sources such as Government reports, certification and independent media comparisons of products;
- The product sellers;
- Past experience of the product and brands, and
- Test-drives, sampling and trialling of the new product (McColl-Kennedy, JR et al, 1987).

The Queensland Government is in a position to provide, or establish a mechanism to provide the useful, factual, unbiased information that allow a consumer (whether private or business consumer) to source and select suitable purchases. This has worked well with energy stars and water efficiency indicators. These kinds of programs could be extended to include such things as the percentage material wasted compared to the product material output, energy and water used to make the product, and whether the material is 100% recyclable.

5.2 Identifying which products are the most durable

Durability and reparability are two factors that are difficult for consumers to assess. An independent assessment of these would assist leverage the market. Currently a consumer can only assess durability based on the "feel of the product", the word of the seller, and the history of product quality from that company, which these days seems to be a poor indicator of current product quality. A reliable and independent validation of environmental status is required – which Planet Ark and Environment Australia provide, to a very limited extent. At the national level, Australian Standards can assist the delivery of quality levels to the market, if they are followed up with inspections and catching of non-adherents.

5.3 Convenient accessible information for purchasers on best products

The Government (and local government) needs to enable action by consumers to have access to products/packaging that are known to be environmentally preferred. Consumers cannot be expected to do life cycle analyses themselves before each purchase decision. Consumers also respond to convenience and so ease of access to better purchases will enhance sustainability strategies – if the products are available at the local shopping centre where the purchaser is enjoying shopping, in trade and business wholesalers and retailers, or conveniently online with other products.

5.4 Public Environmental Reporting to promote eco-re-design and end of life recyclability

Encourage promotion of eco-re-designed features and end of life recyclability – to enable customers to access this information. This could be part of Public Environmental Reporting (PER). It would be important to ensure differentiation between items that are recyclable into the same grade of product, and recyclable to a product is that downgraded quality component (which is not sustainable in the long term unless it can be eventually 100% returned to the high grade product).

5.5 Integrate PER with third party verification

Integrity of PER would be enhanced by more widespread adoption of third party verification. Verification should also maximize opportunities for stakeholder participation such as through the use of reporting review or advisory panels – the use of existing Environment Australia and/or Planet Ark certification could be considered/promoted. Choice Australia (magazine) may also be a useful vehicle for promotion and independent evaluation.

5.6 Create and expand a popular brand for recycled and repaired goods

With regard to changing the unsustainable consumption attitudes (as mentioned in the draft) such as unsustainable fashion trends and buying instead of repairing, the government may invest surplus money of levies on new innovative advertising ideas to encourage recycling and using repaired goods in the community (e.g. government may encourage media and famous popular stars to use recycled and repaired goods to directly suggest to the community that recycling, repairing is cool! We can introduce the using recycled and repaired goods as a new fashion instead of condemning the fashion trends.) However this practice should consider the economy too, because if people do not buy, the economy will stop; sustainable consumption is the best solution. Several organisations now run clothes swap events, where a person can bring garments, receive a "swap credit" for those garments and leave with a similar garment in a different style or colour.

5.7 Adopt and promote ecosystem services

Consider use of ecosystem services for recycling waste – biological sewage treatment, biological waste to energy (biogas), and composting are several options, as are bacterial treatment of waste oil/petrochemicals, as used in soil cleanup for petroleum-contaminated sites.

5.8 Research ecosystem services

Subsidise research into further processing mechanisms and ecosystem services (bacteria, catalysts, etc). Research to prevent release of toxic air, water and land pollutants. Denature toxicity through ecosystem services and/or renewable energy sources.

5.9 Build sustainable cities, towns and regions

Incorporate waste processing and treatment in sustainable city/town/regions – to be economically, environmentally and socially sustainable.

5.10 Support research to identify resource capacity limits

What is a sustainable level of resource use? Which resources need to be limited to enable future generational equity of access? Research needs to be undertaken for many resources to identify what is the capacity limit for that resource, and which resources need conserving.

In the case of pollution dilution (in air, water and soil), and waste burial, there are also variable limitations on capacity for tolerating such contaminants, and research is needed to back up claims that impacts are minimal or non-existent.

5.11 Waste avoidance: consider establishing production-side market signals

To conserve resources and minimise waste in resources with capacity limits, look to establishing production-side market signals rather than end of life disposal signals. For a detailed discussion of the arguments for this position, refer to Bennett, J and Collins D. "The Policy Implications of Sustainable Consumption".

Currently businesses already pay for any resources wasted in the manufacture of products. This price signal is not as effective a deterrent to waste as it could be, because the price for the wasted resources is proportionately low and the cost is merely passed on to the purchaser as a built in cost of the product. Also many of the resources are free apart from the costs of extraction and transport.

5.12 What aspects of market development are proposed?

When the strategy refers to "Development of local markets" (page 31), the type of market development is not specified. The market development needs to be effective. Will the strategy:

- Actively create new markets and assist establish new businesses to utilise recycled materials;
- Assist conversion of existing businesses to incorporate recycled content;
- Assist with research to establish and ensure recycled content is sufficient or equivalent quality;
- Identify opportunities for new markets but not develop them;
- Create a brand or multiple brands;
- Certify or reward users of recycled content;
- Advertise or promote users of recycled content; and/or
- Encourage others to incorporate recycled content only, i.e. not provide any assistance to do so (nor research quality issues management)?

5.13 Consider all landfills as one form of product/potential resource storage

The Government needs to change thinking to consider all landfills as another form of product (waste, potential resource) storage, one that is just underground and highly mixed and crushed. The Government many not wish to store all of its waste (resources) underground nor in a mixed/crushed form, in this way enhancing the potential for future generations to recover the resource.

5.14 No need to oppose storage

The Government does not need to oppose storage above ground by companies who are seeking to avoid waste disposal charges, so long as the company's storage facilities (for which the company is paying) meet environmental protection standards. The Government does not need to differentiate whether something being stored is "waste" or not, only whether the substance has environmental pollution risk in that form of storage.

5.15 Comments on Action 2 – litter prevention

The litter prevention approach does not address the following:

- Penalties and discouragement for littering from sources other than vehicles;
- Increased bins and recycling bins to enable non-littering behaviours;
- Supporting litter-bag programs for portable litter carrying (not just for dog faeces);
- Portable cigarette butt ashtrays for smokers;
- Bin design to reduce littering around bins, and to prevent wind and animals tipping waste back out of the bins; funds to replace existing lesser-designed bins; and funds to ensure collection frequency is sufficient to prevent bin overflow, relevant to the use volumes fluctuations over time;
- Bin design to allow rain/sun-free space to leave reusables (e.g. newspapers for others to read, wrap food scraps in or use as homeless bedding);

- Waste separation at bins with very clear labelling;
- Should also use only biodegradable natural balloons when having any (non-lighter-than-air) balloons at Government sponsored events;
- Ensuring that the wastes that make up litter are avoided, or are made in materials that quickly disintegrate and biodegrade into minimally harmful substances (e.g. food bags and packaging made from rice starch, woven coconut fibres or banana leaves);
- Provision of wind breaks, table clips and weights to prevent litter blowing away at picnic areas;
- Campaigns to model non-littering behaviour – particularly a partnership with, or requirement for this from the main creators of litter wrappers (fast food chains, soft drink and water bottle manufacturers); and
- Shopping trolley strategies – enabling people who need to borrow the trolley to get their groceries home with a workable solution at minimal cost and to ensure the trolley is returned not dumped (More promotion of food delivery? Lifts home in pedal-powered cab? Fund trailers for bicycles to carry shopping and/or hire bikes with shopping trailers?).

6 Ensure Sustainable Waste Management

6.1 The approach to waste avoidance, reuse and management is sustainable

The EIANZ encourages the Queensland Government to ensure that the approach to waste avoidance, reuse and management aligns with the principles of sustainability such as expressed in the Commonwealth Environment Protection and Biodiversity Conservation Act 1999 for development:

(a) Decision-making processes should effectively integrate both long-term and short-term economic, environmental, social and equitable considerations;

(b) If there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation;

(c) The principle of inter-generational equity—that the present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations;

(d) The conservation of biological diversity and ecological integrity should be a fundamental consideration in decision-making; and

(e) Improved valuation, pricing and incentive mechanisms should be promoted.

6.2 Life cycle analysis and end of life planning is applied to infrastructure and processing

The EIANZ encourages the Queensland Government to ensure that the future vision includes consideration of life cycle analysis and end of life planning for infrastructure and processing in waste management. How will this strategy address the issues raised in the Queensland Government's 2006 "Used Glass Study" that identified the collection and recycling of glass from some remote locations as being unviable or unsustainable?

6.3 Current hazardous chemicals limit recycling and reuse

Currently recycling of many products for secondary purposes is limited by hazardous contaminants. For example, end uses of recycled content containing hazardous material will be restricted by human health factors and the environment. For example, fly ash may contain PAH's and tyres contain TPH and heavy metals.

6.4 Encourage reduction in complexity of packaging and products

A reduction in the mixing of raw materials in packaging and products will increase the potential to recycle and minimise the volume of product going to waste. Energy used to separate mixed materials for reuse reduces the competitive price and value, and increases the environmental impacts. The recent trend has been in the wrong direction – moving to greater mixing of packaging materials and materials in products.

7 Sustainable Economics

7.1 Who is the "user" in a "user pays" system?

The concept of user pays is not clear in its definition of "user", as it refers to both the generator and the disposer (and there are interim transporters, importers, wholesalers, retailers and resellers, and also products may be incorporated into other products).

7.2 Waste reporting – which data is cost effective to collect?

What is the cost-benefit of waste data collection and reporting – which aspects are cost effective, accurate and useful through which best methods?

7.3 100% expenditure of the levy on waste minimisation

The EIANZ is concerned that the Queensland Government not erode the environmental gains that can be made from the collection of a waste levy. The money collected should be utilised in its entirety – 100% – for effective activities to assist and encourage the public, businesses, local government and the state government to minimise waste, improve recycling capacities and upgrade the environmental quality of waste management facilities. There are a number of international polluter pays schemes where the money funds collected have not been fully or directly returned for pollution reduction measures.

7.4 Markets must be established that take the full volume of recycled product

To be sustainable, all of the recycled product must be able to be on-sold to the market, otherwise it does not provide a genuine alternative to disposal.

7.5 The need for local manufacturing as a market for recycled materials

If the majority of products are imported from overseas, and thus the manufacturing of the product occurs overseas, then the market for the resources in the product (metals, etc) is overseas – unless there is a competitive manufacturer here or manufacturing that utilises the same materials here (that sells as many products overseas as we import, so there is a balance).

The market in the local community for recycled goods is limited to what is manufactured in the local economy (local goods, tourist memorabilia?), or selling/exporting the waste as a "raw material" (if a buyer can be found). [This scenario could apply at the whole-of-Australia level if we import most of our goods and only export raw materials and expertise.]

This scenario means we must:

- Not import goods (make alternatives locally from local resources);
- Manufacture more at the local level rather than import;
- Export the wastes back overseas as resources for reuse/recycling;
- Upgrade the wastes here and export as processed resource materials; and/or
- Manufacture goods here and export to markets overseas.

We can slow down the rate of waste generation if we limit what we import to:

- Goods that are durable and last as long as possible; and
- Goods that can be repaired, for which there are trained repairers and cost-effective replacement parts.

7.6 Sustainability and life cycle analysis of local manufacturing

Sustainability and life cycle analysis can show that it is better to manufacture locally or regionally and reuse the materials locally or regionally. Local/regional is better if the cost comparison of loss of economies of scale versus transport (and take-back transport costs if factored in) balances in favour where transport costs are too high. Local/regional is better if you are looking to be sustainable cities/regions.
Governments/businesses can reduce some of the transport costs by introducing more economically (and environmentally) efficient means of transport (rail, better roads, etc) for both import and waste/product export. Remote communities (and rural properties) either bear the cost burden of transport to and from their community, or manufacture and repair locally from local resources. If not, then all incoming resources are

stored (as potentially useful in the future), dumped or disposed on site in the local community (or rural property) and accumulate as time passes.

7.7 Failure of the strategy to drive public and private sector investment

A test of the strategy is whether it will actually start to drive public and private sector investment into the types of recycling which are actually viable today - it fails on this aspect.

7.8 Lack of a price signal on MSW will erode organics processing opportunities

The big recycling opportunity to achieve the proposed targets in the Strategy for MSW recovery and recycling (that are currently being exploited in other States and overseas) is in organics processing i.e. energy and compost or fertilizer from waste. Investment in Advanced Waste Treatment facilities for this purpose is likely to only likely to result from large municipal organics contracts and this will then provide the opportunity for commercial food waste volumes to be processed. However, with no pricing signal intended on MSW, this is highly unlikely to happen.

7.9 Lack of household waste levy is a regulatory problem and opens the door for misuse

Having a levy on commercial and not household waste provides a compliance nightmare, which DERM will not be able to ensure integrity in; the concern by legitimate operators is unscrupulous operators will rort the system and increase their market share.

7.10 Levy collection by waste collectors instead of landfill operators

Also, the waste industry heard from a DERM presentation recently that DERM proposes that levies will be collected by the collectors rather than at the tip gate; this is a lovely theoretical idea that simply won't work as the industry does not have the technology in trucks to weigh and record every lift (there aren't even weighbridges at all landfills!).

7.11 Fee differentials between states (and regions)

The relative fee level between states was raised as an issue causing businesses to transport waste between states (or from more expensive zones of the state to the cheaper regional landfills). The fees are still not equal with others states, so the status still remains that requires another form of controls (the existing transport certificates approvals system for example).

7.12 Levies and fines should be based on the types and maybe even volumes of waste as well as weight

To leverage a bias in favour of tackling high-risk wastes, the levies and fines could be based on the risk in the type of waste. If low density wastes such as polystyrene (high volume, not much weight) are levied on the basis of weight, this is a much lower leverage for waste that needs more processing (crushing), so this may also be a consideration needed in negotiating with industry and landfill operators which waste types of waste should be levied at what rates.

In NSW (NSW DECCW website), deductions from the waste and environment levy can be claimed when waste is:

- Transported from a waste facility to another place for lawful reuse; or
- To another facility for lawful recycling, processing, recovery or disposal; or
- Where waste is used for an approved purpose (see Guidelines).

Also in NSW, deductions from the levy (trackable liquid waste) apply where:

- Non-liquids transported off-site for disposal at a scheduled waste facility that is required to pay the solid waste levy;
- Trackable liquid waste transported off-site to another facility that may lawfully receive that waste; and
- Trackable liquid waste is transported off-site to a place for lawful recycling, re-use or processing.

The above needs to be considered in the context that the leveraging of change by imposition of a high levy will not work on its own if there is not also a capacity in the industry (or through government assistance or research support) for making the necessary changes to eliminate or reduce the waste generation.

7.13 Increase viability of resource recycling by providing solutions for contaminated components

The resource recycling industry still does not necessarily have economically viable industry unless there is support. The industry has suggested having a lower waste disposal fee for the unrecycled contaminated component. In a REAS model, this contaminated component needs to be diverted to suitable treatment to enable it to be managed and the resource within it to be reused, or stored (above or below ground) until there is a viable solution to do so.

7.14 Establish markets for recycled products of lower standards

Some waste streams have defined markets for certain high standard products, but lower standard products can still have valuable uses and markets should be established and promoted for these too. For example, some compost may be suitable for some market purposes but not for the higher standard home or potting uses. This creates flexibility and reduces the diversion of lower grade product to landfill.

7.15 Establish incentives for businesses that decrease their wastes and implement recycling

The strategy states: "Any surplus funds will be dedicated to environmental initiatives, including the acquisition of national parks". EIANZ believes that if the aims of levy and fines are genuine for the waste management, then government should invest all of the money in its entirety for better waste and recycling management. Government could find a mechanism to give surplus funds back as incentive to the companies that decrease their wastes and implement recycling systems, instead of investing on other issues that are not related to the wastes.

7.16 Taxation on alternative fuels

Taxation on alternative fuels (such as biofuels that could be generated from waste) has caused some market restrictions in a potential market for green or food waste. This should be reviewed.

7.17 Develop a stimulus package for resource management investment

More investment needs to be attracted to the waste management (resource recovery) sector. The Queensland Department of Employment, Economic Development and Innovation (DEEDI) innovation and economic development programs including the Clean Tech strategy could facilitate this in Queensland.

7.18 Waste levy funds should not be spent on government competition with industry

Waste levy funds should not be diverted to enable local governments to compete directly with the resource recovery and waste management industry. The funds should only be used where industry is not providing or able to provide the needed service to the community, should be delivered where possible as an industry-developing establishment, and the local government service should be able to step down if business becomes viably self-sustaining.

8 Managing Landfills and Waste Processing Facilities

8.1 Consider landfill as interim storage

Consider ALL landfilling to be a form of interim waste storage also (just underground). Later it may be mined for precious metals, methane, petrochemicals/plastics or other assets. The less mixed it is, the better.

8.2 Ensure methane capture – assist regional landfills

Ensure capture of methane and other greenhouse gases – for use as fuel and/or carbon capture and storage.

8.3 Avoid clearing vegetation when establishing new processing facilities

Avoid clearing native vegetation when establishing any new locations for waste processing facilities.

8.4 Minimise mixing and cross-contamination

Minimise mixing of currently unprocessable waste to maximise ease of future recycling/reprocessing (i.e. don't dump everything into the one hole in the ground).

8.5 Ensure uncontaminated construction and demolition waste

It is important to recognise that currently a large proportion of construction and demolition (C&D) waste contains contaminants of hazardous materials that are not suitable for general application. For the C&D waste to be utilised for the suggested purposes (Box 1), the hazardous materials would have to be prevented or removed.

8.6 Store wastes separately for future processing

Storage of (separated) wastes pending technology improvements should be encouraged, so long as the storage meets environmental considerations – odour, visual amenity, health and safety, water quality and groundwater quality are not impacted and the store is not a home for pest species (rats, mosquitoes, flies, feral animals, etc) or weeds. The decision to store onsite by a business (using valuable storage space and requiring meeting environmental criteria) or to pay the levy for common disposal then is an economic decision by the business, not something that has to be regulated (how long can keep, or other such determinants).

This will also potentially reduce more complex compounds forming if there are less diversity of input compounds.

8.7 Provide support for pre-processing of waste for storage in landfill

In order to maximise space efficiency in landfill and reduce air pockets and subsidence, waste is usually crushed. The costs of crushing or shredding or other pre-processing also needs to be considered as part of the full waste (resource) management strategy.

8.8 An increase in hazardous contaminants from new technologies

The recent increase in low energy light globes with mercury, and in products utilising lithium batteries has resulted in an increasing number of these products being disposed to landfill, and this is expected to increase as more light globes and other products reach the end of their life. These products need to be looked at for appropriate management, rather than disposal in mixed waste.

8.9 Stakeholder response to a choice of facility with weighbridge and one without

It could be expected that where a stakeholder has a choice of a facility with a weighbridge and one without (that uses the truck size indicator), the stakeholder would choose that which would result in the cheapest cost for the stakeholder. In calculations of weight conversion factors, there would also likely be arguments where a particular vehicle type is not full of waste, as to what proportion of fee should be payable.

9 Public and Professional Participation

9.1 Include governance and transparency

Sustainability includes good quality governance and transparency. The Stakeholder Advisory Committee on its own is insufficient; the agenda and minutes of the meeting need to be published weeks prior to the meetings and easy mechanisms for comments and feedback to the committee members and the Government need to be provided.

9.2 Ensure that qualified and experienced environmental practitioners are involved

The involvement of qualified and experienced environmental practitioners is critical to ensuring the sustainability adopted.

9.3 Improve public participation opportunities

EIANZ believes that communities should be involved as fully as possible in all stages of environmental decision-making. EIANZ supports the use of full range of methods to achieve public participation: communicating through the media, workshops, submissions, public hearings or inquiries, opinion surveys,

provisions for objections and appeals, access to the courts, and the use of techniques such as Delphi and weighting-scaling and weighting-ranking to quantify community views.

9.4 Environmental Education

EIANZ believes that Environmental Education is an essential component of Australians' education at all levels. We need an educated population, which appreciates the environmental consequences of much of our everyday activities. Environmental issues are not restricted to the biophysical environment but involve all social, economic, cultural and health aspects. Focus should be on the numerous ways in which people interact with their environments.

10 Examples of potential waste avoidance wins

10.1 Reduce Bottled Water Waste

As an example of one product that could be reduced in volume and impact, the bottled drinking water trend of the past two decades could be turned around to start reducing the environmental impacts. The following are the impacts and scope of the issue:

- Three out of four plastic bottles are still not recycled (WRAP 2007). www.londonontap.org/facts/
- Despite recycling efforts, 65% of plastic drink bottles still end up in landfills. *Hannah Edwards SMH 29 July 2007 and Australian Conservation Foundation Research Coordinator Elle Morrell2007*
- Demand for bottled water is growing by 10% annually, adding to the 118,000 tonnes of plastic drink containers manufactured per year. *Hannah Edwards SMH 29 July 2007*
- 550 million litres of bottled water is consumed in Australia each year. *Earth Policy Institute*
- "About 76,000 tonnes of plastic bottle waste went into landfills or ended up in our environment in recent years" *Clean Up Australia Day Chairman Ian Kiernan*
- *Plant Ark Chairman and Founder Jon Dee labelled Bottled Water* "**Environmental Vandalism**"
- Even if bottled water is recycled it uses a huge amount of water and energy in the process. Australian Conservation Foundation, Research Co-Coordinator Elle Morrell
- Bottled water production generated an estimated 600 times CO2 than tap water. *www.taste.com.au*
- An estimated 200mls of oil is used to produce, package, transport and refrigerate each litre of bottled water. As a result at least 50million litres of oil are used in the manufacturing and distribution of bottled water in Australia every year. *Department of Environment and Climate Change*
- According to London research, drinking 1 bottled of water has the same environmental impact as driving 1 kilometre in a car. 'Do Something' Bottled Water Alliance www.bottledwateralliance.com.au
- Australians annual use of bottled water generates more than 60,000 tonnes of greenhouse gas emissions, the same amount that 13000 cars generate over the course of a year. 'Do Something' Bottled Water Alliance www.bottledwateralliance.com.au
- Plastic bottles 450 years to degrade and plastic bags take 10-20 years to degrade in the ocean. *University of WA*
- Bottled Water results in exhaustion and depletion of underground aquifers, which have a flow-on effect of drying out swamps and other water bodies threatening aquatic plants and animals. *Jeff Angel Director of Total Environment Centre 15 July 2008*

10.2 Increase the use of composting utilising the latest technologies in biological digestion

In 2006 – 07 an estimated 20.06 million tonnes of organic waste was generated, of which 13.64 million tonnes were land fill (64.72 per cent of all waste land filled) and 6.43million tonnes were diverted from landfill. Meaning there is a great potential to look at better composting methods for fertilizer re-use. *National Waste Report 2010 Australian Government* www.environment.gov.au/settlements/waste/index.html

Currently we only recycle 41 percentage of our organic waste. *Environment Victoria 2009* www.environmentvictoria.org.au/content/organic-waste

The EIANZ supports the focus on capture and conversion of green and food wastes into organic products.

11 References

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