

Submission to the
**Western Australian
Waste Avoidance and Resource Recovery
Strategy Consultation Paper**

1 March 2018

What is the AIEN?

The Australian Industrial Ecology Network (AIEN) is a vibrant network of like-minded individuals, companies and institutions with a common interest in sustainable development through the study and practice of industrial ecology. We advocate the principles and concepts of industrial ecology in policy formation and business practice. The AIEN actively engages with organisations to facilitate improved performance and environmental benefits.

The AIEN is also a forum in which people can discuss ideas, seek advice from one another, connect with resources associated with the practice and study of industrial ecology or simply keep in touch through the network with developments and best practice in their areas of interest.

The AIEN was established as a proprietary limited company in October 2014 to promote and facilitate industrial sustainability through the application of industrial ecology. The company aims to provide a 'window on the world' of industrial ecology by relaying news, canvassing new ideas, producing 'position papers' on topics, such as energy from waste, organising events and alerting people to developments in academia and in practice. In effect, AIEN aspires to become the 'go-to' organisation for all things to do with industrial ecology, including collaboration on the design, planning and implementation of IE projects.

Introduction

Thank you for the opportunity to provide comment on the *Western Australian Waste Avoidance and Resource Recovery Strategy Consultation Paper*. We congratulate the Government on this Draft and are supportive of the drive for improvement and targets for waste reduction, resource recovery and the diversion of waste from landfill.

Below we have provided a summary of our feedback in response to the Consultation Paper. We would be pleased to provide additional information or clarification of any points if required.

Contacts:

Colin Barker
Chairman
Australian Industrial Ecology Network
T: 0412 043 439
E: cbarker@newtecpoly.com.au

Veronica Dullens
Administrative Director
Australian Industrial Ecology Network
T: 0400 449 100
E: info@aien.com.au

Principles (page 19)

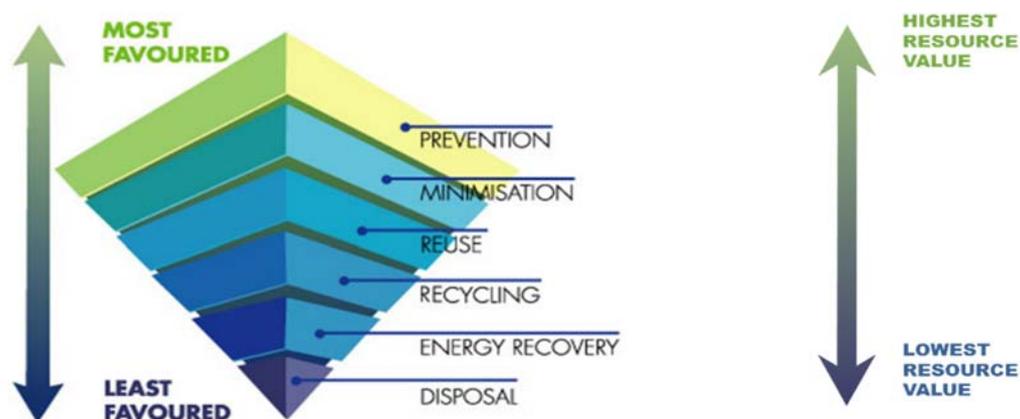
Which of the following principles do you think are most important to consider when developing the waste strategy?

1. Intergenerational equity
2. Shared responsibility for waste management and system stewardship
3. Decision-making which considers the economic, environmental and social costs of waste generation and disposal
4. The need for behaviour change to minimise waste generation
5. The waste hierarchy, which emphasises the need to avoid creating waste in the first place
6. The need for continuous improvement in waste management

AIEN endorses the six principles selected but would suggest that for Principle 5, the concept of Highest Net Resource Value (HNRV) might be considered, reflecting the concept enshrined in the waste hierarchy, but with a more tangible and measurable output.

HNRV reflects an approach that seeks to achieve or retain the highest possible resource value from the materials under consideration, “Net” of the cost and effort to achieve such an outcome.

The waste hierarchy is normally presented only in the context of environmental/social good. The AIEN has re-imagined the waste hierarchy as representing the notional value applied to a given ‘resource’. At the low-end disposal to landfill implies the generator places a negative value on the resource. At the high end the generator places full commercial value upon the resource through avoidance and/or minimisation.



As a community Australia has afforded insufficient attention to recycled product markets. it is recognised the waste hierarchy and the circular economy must be underpinned by markets to utilise reusable and recycled content.

Foundations (page 20)

We will be working in all of the following areas (or 'foundations') during the implementation of the waste strategy. Which areas do you think are most important to ensure our waste targets are met?

1. Planning to provide for waste infrastructure
2. Engagement to provide information and guidance on how to reduce waste and recycle
3. Regulation to ensure that the environment and human health are protected
4. Better practice guidance for the waste industry and local government to improve waste practices
5. Providing economic incentives to reduce waste disposed to landfill and promote recycling
6. Data collection and measurement of performance, to inform decision making and investment

Planning

One concept that might be worth some reflection is the issue of buffers. Certainly, facilities such as landfills, STP's or facilities that might generate undesirable impacts at their respective boundaries need to retain adequate buffers from neighbours, but, increasingly, systematic waste sorting and processing is being conducted in enclosed facilities on standard (heavy) industrial estates.

Buffers are expensive items to achieve and maintain since otherwise valuable land is "sterilised" at a direct cost to the landowner, which will ultimately result in a cost to the customers of the waste service in question and should therefore be minimised wherever possible and practical to do so.

Engagement and Education

Such programs are essential to influence community behaviour in relation to the selection and acquisition of goods and services, the minimisation of waste and most importantly, the focused selection of the discard options available in any municipality.

Where spent or surplus items or materials are discarded in the wrong bin, or not taken back to the manufacture for products with stewardship schemes in place: (a) the potential value of such items is lost or degraded; and (b) the material flow that they do enter is also degraded.

However, in every demographic there are those that will actively participate and those that won't or can't.

AIEN recommends that a **streaming/cascading strategy** be adopted such that, wherever possible, discarded materials are streamed for their HNRV outcome, such that a cascading framework be adopted to ensure that such materials fall to a “next best” HNRV outcome. **If requested, AIEN would be pleased to provide more detailed input.**

Better Practice Guidance

An issue that should be adopted centres on the fact that merely collecting and even initially sorting wastes is **not** recycling. Recycling should only be considered to have occurred where such materials have been returned for beneficial inclusion in the provision of new goods and services at HNRV.

Such markets hardly exist for most reclaimed or processed materials and if the community are to experience the universal and systemic resource recovery outcomes, this must be a crucial **foundation goal**. **Again, AIEN would be pleased to explore these issues if requested.**

Knowledge and Data

These are vital to future planning, however, we would caution that wastes will, by definition, always be present as indeterminate, since what and when the community discards will always be a variable. Any resultant (streaming/cascading) waste system must accept and acknowledge this.

Western Australia's Opportunities for Improvement (page 23)

There are significant opportunities to improve Western Australia's waste and recycling performance to generate benefits for our economy, environment and community.

Which of these opportunities should we prioritise to improve our waste performance?

1. Communicating the economic value of waste and waste management
2. Facilitating collaboration and shared responsibility across public and private sector stakeholders
3. Implementing government policy and regulatory change focused on harnessing markets for waste and recycling
4. Enabling technological and innovative solutions to waste reduction and recycling
5. Developing guides and standards to remove barriers to waste reduction and recycling
6. Improving the performance of waste disposal facilities, including diversion of recoverable materials and pricing which reflects the true cost of waste disposal

Valuing waste

As above, we advocate for the adoption of the HNRV concept to facilitate this outcome.

Collaboration and Shared Responsibilities

AIEN is of the view that such collaboration and shared responsibility is essential to achieve optimised Circular Economy outcomes. Within each complex supply/value chain, the role and responsibility of the brands (or original product manufacturers) is a vital consideration, since everyone else downstream within the value chain is a situation "taker". The brands have an opportunity to become primary situation "makers" and should attain a prominent role in the WA strategy.

Harnessing Markets

This "opportunity for improvement" may be the most challenging to actually achieve. The opportunities in an economy keen to "dematerialise" and "decarbonise" the provision of goods and services is a truly challenging task and **AIEN would be pleased to assist if requested to do so.**

Scope of the Strategy (page 24)

AIEN considers that where systematic and readily accessible drop off or bring back facilities are established to serve existing and emerging Product Stewardship schemes, that a wider range of other difficult materials may well be able to be sensitively and safely handled. Certainly, leaving such materials, where they exist, abandoned in the environment does not seem to be an optimal strategy.

Priority Materials

For any materials to avoid landfill or incineration they will need to be recovered and processed to optimise subsequent value and utility or treated to stabilise or negate any potential for harm. As such all materials listed, and with the addition of existing and future PS schemes should all be included.

The provision of HNRV end uses/markets is a major determinate for success of this WA strategy and an area. **AIEN would be pleased to address if requested.**

Waste Strategy Objectives (pages 26 - 39)

These objectives address the basics, but we would emphasise that to be achieved the wholesale engagement with the brands and manufacturers be essential and the identification of end-uses and markets may well be stimulated by collaboration with the brands as well.

Objective 1: Minimise Environmental Impact

If the strategy essentially provides for the community to discard spent, surplus or otherwise unwanted waste into one of four generic disposal options, then brands could be obliged, at very little cost or inconvenience to themselves, to demonstrate that they have duly considered the post-consumer options available and designed for or made arrangements with one or more of those four options.

Discard Option 1	Organic/green bin/source separated discard and resource recovery channel.
Discard Option 2	Dry recyclable/yellow bin/source separated resource recovery channel.
Discard Option 3	Residual, MSW waste stream.
Discard Option 4	Dedicated drop off/bring back facilities to receive and pre-treat, aggregate and forward materials whose optimised post-consumer fate will not be achieved if they were discarded via options 1, 2 or 3.

This simple requirement could have a disproportionate benefit in linking brands to the actually achieved post-consumer outcomes for their products or services, and even contribute significantly to the “minimisation” objective.

In this regard the design of Option 4 facilities should be developed and implemented for national consistency.

Targets – in a “streaming/cascading” framework the emphasis is to establish “safety net”/acceptable worst-case outcomes and then focus management time and effort on promoting the HNRV outcomes.

Objective 2: Reduce Generation

The key to reducing net waste generation relates to engaging brands in a direct dialogue to facilitate this objective.

For the brands, the issue relates to them fully understanding the common or generic discard options available to consumer and (a) designing accordingly and (b) playing their appropriate role in creating enduring demand for secondary resources.

One specific program that could be initiated is to support and/or oversee the development of universal standards for reclaimed resources so that they can be traded with confidence, “sight unseen” as is operational in the scrap metal sector, but non-existent or nascent in all other sectors. Certainly, plastic recovery and reuse would be greatly expedited if such standards existed, as would biomass, glass and even the paper/cardboard sector could be improved and harmonised.

AIEN would be willing to assist, if requested.

Objective 3: Increase Recovery

As described above, the optimisation of resource recovery is inextricably linked to the “market pull” generated where secure, sustainable and consumer facing markets and end uses have been identified and secured.

This is a major project in its own right, and above the ability of this submission to resolve in detail.

However, AIEN can provide considerable insight into this topic by the adoption of the Industrial Ecology and Industrial Symbiosis principles and disciplines, which AIEN would be pleased to do on request.