Submission to the

Victorian Parliamentary Inquiry into Recycling and Waste Management

10 May 2019

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Attachments

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, canvasing 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.

Industrial Ecology (IE) and Sustainability

The overarching aim of IE is the sustainability of economically developed and developing societies. Theoretical IE is concerned with the principles, concepts and techniques for analysis that help us understand the myriad interactions between humans and the natural environment. It is axiomatic that for human existence to be sustainable, human activities must be compatible with environmental sustainability. If we wipe out the species on which we depend for survival or destroy their habitat or render unviable the natural resources that support our way of life, then our species will not be sustainable.

Sustainable development is the route to achieving sustainability, essentially by bringing about intended changes in human behaviour. That is the focus of IE in practice and arguably its ultimate objective. If IE is not applied in practice, and particularly with stakeholder 'license to operate', sustainable development has no chance of happening either.

Introduction

Thank you for the opportunity to make a submission to the Victorian Parliamentary Inquiry into Recycling and Waste Management within the State. The AIEN congratulates the Victorian Government on its endeavours to produce a single cognisant resource management position document for the State.

This AIEN submission does not attempt to address all of the issues raised within the published terms of reference for the inquiry. Rather, the AIEN submission specifically focuses upon the questions relating to what a circular economy in Victoria may look like and the specific prerequisites and policy criteria required in order to move from a 'supply push' waste model to a 'demand pull' resource market model. Consequently, this AIEN submission primarily addresses Item 1, Item 3 (c), Item 3 (f) and Item 6 within the terms of reference reproduced on the page following.

The AIEN has also responded to the Federal Government's *Updating the 2009 National Waste Policy - Less Waste, More Resources Discussion Paper* dated 5th October 2018 and has published a communique (also in October 2018) entitled '*Accelerating the Transition to a Circular Economy: A Blueprint for Action on Plastics and Packaging*'.

The AIEN requests this specific feedback offered regarding the Victorian Parliamentary Inquiry be read in conjunction with the other documents aforementioned (attached) in order to ensure maximum clarity surrounds the communication of the positions being articulated.

The AIEN would be pleased to provide additional information or clarification of any points raised if/as required.

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Inquiry Terms of Reference

Inquiry into Recycling and Waste Management

On 6 March 2019, the Legislative Council agreed to the following motion:

That this House, requires the Environment and Planning Committee to inquire into, consider and provide an urgent interim report, as the committee deems necessary, on the current circumstances in municipal and industrial recycling and waste management, and provide a final report, by Tuesday, 13 August 2019, on the crisis in Victoria's recycling and waste management system, partly resulting from the China waste importation ban, including, but not limited to:

1. the responsibility of the Victorian government to establish and maintain a coherent, efficient and environmentally responsible approach to solid waste management across the state, including assistance to local councils;
2. whether the China National Sword policy was anticipated and responded to properly;
3. identifying short and long-term solutions to the recycling and waste management system crisis, taking into account:
    a. the need to avoid dangerous stockpiling and ensure recyclable waste is actually being recycle
    b. the cleaning and sorting capabilities and the processing capabilities in Victoria and the potential to expand the local recycling industry
    c. how to better enable the use of recycled materials in local manufacturing;
    d. the existing business model and economic challenges facing the existing industry;
    e. the quantifiable benefits, including job creation and greenhouse gas emissions reduction, of pursuing elements of a circular economy in Victoria;
    f. the existing Sustainability Fund and how it can be used to fund solutions to the waste crisis;
4. strategies to reduce waste generation and better manage all waste such as soft plastics, compostable paper and pulp, and commercial waste, including, but not limited to:
    a. product stewardship;
    b. container deposit schemes;
    c. banning single-use plastics;
5. government procurement policies relevant reviews, inquiries and reports into the waste and recycling industry in other Australian jurisdictions and internationally;
6. any other related matters.

Fundamental Themes

Prerequisites of Encouraging/Fostering a Circular Economy

It must be fundamentally understood, the basis for the establishment of a circular economy must include application of supply and demand principles.

In assessing the "waste" model largely in operation within Victoria (and Australia) to this point, it must be accepted the model (driven by supply push) exists simply because there is more "waste" supply, than there is demand for those materials as a resource. The consequence of resource oversupply (be it components of the waste stream or anything else) is a fall in value. In fact, in its extreme, oversupply could mean the resource in question has a negative value with owners required to pay to relieve themselves of the excess resource. This situation characterises the model we have collectively built around "waste". The only way out of the above described nexus is to implement policies to establish (or re-establish) value in relation to the resource in question.

The transition to a circular economy must successfully navigate the society from the existing "waste" sector, driven by gate fees to a quality assured "recyclate" manufacturing sector, making virgin replacement raw materials that the brands can absolutely rely on for quality and reliability of supply. All of this must additionally be based upon recycled material values remaining competitive relative to virgin raw material equivalents. This transition will require careful management to ensure the endeavours of all participants are fully co-ordinated. Victoria has the opportunity to appropriately marshal all participants (including the brands) at the highest level.

The following discussion deliberately uses an 'extreme' example in order for the underlying principles to be more readily comprehended.

Were people to be throwing out gold rings (something of understood high value) we wouldn't necessarily require sophisticated separation and segregation infrastructure, extensive community education programs, etc. in order to address the problem of landfilling too much gold. The inherent value itself would be the natural driver for suitable resource recovery and the ongoing guidance for desired behavioural responses. The reason the problem of landfilling gold would all very naturally right itself is based upon the understood value adding processing options available and the understood market value for the products that would be produced. In other words, the 'problem' of landfilling gold would be simple to overcome because the waste processing infrastructure and processes and the final market for the products are all understood to exist without question.

It must be fundamentally understood, the basis for the establishment of a circular economy must include application of supply and demand principles.

In assessing the "waste" model largely in operation within Victoria (and Australia) to this point, it must be accepted the model (driven by supply push) exists simply because there is more "waste" supply, than there is demand for those materials as a resource. The consequence of resource oversupply (be it components of the waste stream or anything else) is a fall in value. In fact, in its extreme, oversupply could mean the resource in

question has a negative value with owners required to pay to relieve themselves of the excess resource. This situation characterises the model we have collectively built around "waste". The only way out of the above described nexus is to implement policies to establish (or re-establish) value in relation to the resource in question.

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Let us now imagine the opposite situation were to exist, whereby processing infrastructure for future products and markets for those unmade gold products were also non-existent. The question immediately to be asked is; Would single minded focus and investment on separation /segregation infrastructure and intense public education campaigns alone lead to the desired outcomes for gold? The correct answer is obvious. Whilst investment in separation/segregation infrastructure and public education is important, it's only the balanced addressing of supply and demand issues that will lead to the correct functioning of the gold market. The balancing of supply and demand would be best addressed through focussing on investment in product manufacture and product markets.

The AIEN believes all government policy must be equally directed to each participant group in order to realise the circular economy we seek. The AIEN is satisfied most Australian jurisdictions are at least conscious of:

- Product stewardship schemes, product design pressures and consumer behaviour programs in order to minimise the amount of waste being generated; and
- Incentives, supports for better separation/segregation infrastructure and pressures to be placed upon 'waste industry' actors in order to maintain their social license to remain in operation, etc.

The AIEN does not consider any Australian jurisdiction (including Victoria) works in a sufficiently balanced way toward addressing the critical processing/manufacturing infrastructure and market development prerequisites for a circular economy.

Existing Victorian policies and resource management frameworks have primarily focussed on raising awareness and placing obligations on manufacturers, importers, distributors and other persons in the following important areas:

- Separation and segregation of materials/components so as to avoid contamination;
- Aggregation of post-consumer materials/components; and
- Initial treatment of the post-consumer materials/components (in some cases).

The other important pre-requisites for a circular economy, however, include:

- Design of products (in particular those containing plastics and packaging) to reduce waste and enable recycling at end of life;
- Processes and infrastructure to enable materials or components to be reused and/or recycled; and
- Establishment and support for consumer markets for the reused and/or recycled materials/components.

To be clear, the key issues surrounding market development and product manufacturing infrastructure are afforded insufficient attention. The prerequisite for a circular economy must be demand based. Whilst the AIEN fully supports bans upon plastic bags, single use plastic products, non-recyclable packaging, etc (please refer to the attachment '*Accelerating the Transition to a Circular Economy: A Blueprint for Action on Plastics and Packaging*' for further detail), bans combined with separation and segregation infrastructure will not alone lead to a circular economy based upon market pull for the resources available.

The AIEN also notes that a circular economy appears completely different to most stakeholders around the "circle" from resource logistics operators, product manufacturers, product marketers and consumers. A very valuable place for Victoria to demonstrate leadership, and potentially influence the national agenda, would be to convene the necessary forums and dialogues to establish the agreed objectives, principals, and strategies. Currently these forums, dialogues and strategies are formulated without adequate reference to product manufacturing and product marketing considerations.

Fundamental Themes

The Waste Hierarchy Fully Considered

The AIEN believes there are opportunities available for the recycling/reuse of mixed plastics, rubber, glass, timber, aggregates, as valuable resources in higher value add product markets. Further, the AIEN endorses the concept of Highest Net Resource Value (HNRV) as worthy of detailed consideration and promotion. It is a concept enshrined within 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.

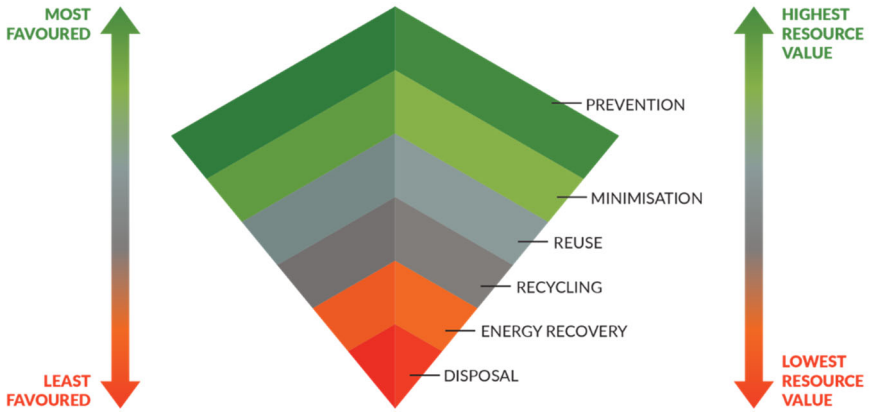
The waste hierarchy is normally presented only in the context of environmental/social good. The AIEN has re-imagined the waste hierarchy as representing the notional value applied to a given 'resource'. At the low-end, disposal to landfill implies the generator places a negative value on the resource.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

Any failure to properly consider the importance of the waste hierarchy and HNRV principles may result in losses in the longer term through stranded investment. When resource availability becomes a constraint, resources will always flow to those who can afford to pay the most for them. This is why over-investment in energy recovery technologies is not recommended until other HNRV alternatives have been first explored.

In certain circumstances, including remote geographic location, and small and highly diffuse resource quantities, there may be valid arguments that energy recovery represents the HNRV achievable for resources otherwise considered as wastes. However, it would be lazy in the extreme to settle for lower resource values simply for ease and expedience.

Energy from waste should only be considered where:

- HNRV alternatives have been fully saturated with the resources they require. This means energy recovery activities are restricted to 'residual' resources not required by the higher value adding processes; or
- Where very unusual circumstances are such that energy recovery is the only feasible process for the recovery of economic value from resources that would otherwise be wasted in landfill.



Fundamental Themes

The National Waste Policy – Current Pros and Cons
Reprocessing Issues

Progress being achieved

There are many companies in Victoria (and Australia) that reprocess packaging into intermediate products like plastic pellets, or finished products like paper, plastic kerbing and furniture. AIEN members demonstrate many resource recovery examples/case studies espousing the circular economy and its principles.

Areas for improvement

The AIEN is fully supportive of a national target to achieve a mean recovery rate of 80 per cent from all resource recovery streams, following the waste hierarchy, by 2030. The AIEN would add the following points to consider in relation to the proposed target:

- The 80 per cent average recovery rate must be a real measure of (otherwise) waste resources being utilised back in the productive economy. The diversion must be verifiable, and the utilisation of the resources at the various levels in the hierarchy must be reported. This will allow follow-up targets in aiming for higher value resource utilisation into the future. It would not be acceptable to the AIEN if the compliant recovery rate was based around high levels of energy recovery without further vision to move to higher levels in the waste hierarchy.
- In seeking to achieve the 80 per cent recovery target, governments must be cognisant that genuine and fundamental change is required, involving new entrants to the recycling/ resource reuse markets, new technologies and new marketing/commercial strategies. Simply funding or supporting new infrastructure for large industry incumbents will only result in improved transport, separation and segregation of the resource streams. The circular economy will only be realised when new processing technologies, new products and new markets are developed. Existing industry incumbents have a clear role but they are generally not best placed to develop new processing technologies, new products and new markets.
- The circular economy can only work once the resource management sector transitions from a supply push market (with rewards driven by gate fees), to a demand driven market with supply chain participants rewarded in accordance with the value they add. The circular economy is predicated on interrelated markets fully functioning as markets. The concept of a gate fee in resource recovery markets is ultimately as distorting to free trade/ markets as government subsidies or tariffs in other commodity markets. If the circular economy is ever to become a reality, the policy must accommodate this transition.

In summary, the AIEN believes any action in achieving 80 per cent resource recovery rates (or greater) must be predicated on the development of a genuine domestically based circular economy. It must not be based on, among others, interjurisdictional transport arrangements, interjurisdictional waste levy distortions, international disposal masquerading as commodity trading or long-term reliance on energy from waste strategies.

The prerequisites include:

- Introduction of new entrants into the recycling/ resource reuse markets, new technologies and new marketing/commercial strategies;
- Transition to demand pull commodity markets for the reuse of preloved goods, recycled content within new goods and goods made exclusively from recycled content;
- The Victorian Government providing financial support for R&D, investments in new equipment, and market development activities, particularly those that will increase recycling of plastics or glass; and
- The Victorian Government reducing approval times for new or expanded recycling facilities.

Fundamental Themes

The National Waste Policy – Current Pros and Cons
End Product and Market Development

Progress being achieved

Many organisations are purchasing products made from recycled materials, including recycled packaging. For example, many councils are working with manufacturers to trial innovative products such as asphalt made with soft plastics and glass. Some multinational brand owners have targets for minimum levels of recycled content in plastics packaging. Additionally, large organisations are starting to work with recyclers to identify products that can be made from their own waste and then purchased by the organisation.

Further to the 2030 proposed target in the NWP discussion paper, an industry-led target was also announced, with 30 per cent average recycled content across all packaging[1].

Other proposed actions and targets in the NWP discussion paper include:

- All Australian governments to adopt sustainable procurement policies or guidance with measurable targets for use of recycled content by 2020;
- 30 per cent average recycled content in goods and products purchased by governments, by total volume, by 2025;
- National standards and specifications for high priority recycled materials or applications in place by 2020;
- Standardised national product labelling indicating the percentage of recycled content in packaging by 2020;
- Australian businesses adopt sustainable procurement policies or guidance with measurable targets for use of recycled content by 2025; and
- 30 per cent average recycled content in goods and products purchased by businesses, by total volume, by 2030.

Areas for improvement

The AIEN questions whether an 80 per cent average resource recovery rate is consistent with a 30 per cent average recycled/reused/repurposed content across all goods and infrastructure procurement. If a genuine domestic circular economy is to be realised, there must be a degree of correlation between average resource recovery and average recycled/ reused/repurposed content in procured goods and infrastructure across the economy. Without these resource recovery and resource utilisation targets being consistent, excess/surplus materials will inevitably arise, market distortions will result and unwanted consequences will almost inevitably occur. It is anticipated more ambitious resource utilisation targets are required to achieve this consistency.

Detailed analysis of material flows (waste generated and products purchased) should be undertaken at a sectoral level to determine the most appropriate overall target as well as targets for individual product categories.

More work needs to be done by all stakeholders to increase demand for products

[1] http://www.environment.gov.au/minister/price/media-releases/mr20180926.html

made with recycled materials. The actions and targets in the NWP discussion paper, if approved, need to be closely monitored and enforced to ensure that they are met. All large organisations in the public and private sector need to look for opportunities to buy products with recycled materials. A model that is starting to work well is for organisations to work closely with recyclers on 'closed loop collaborations' that enable them to buy products containing their own waste streams.

Household consumers can also support end markets by purchasing products with recycled content. A national labelling scheme for packaging, as proposed in the NWP discussion paper, will assist but it needs to be mandatory.

Recommended Actions

- The Victorian Government establish a more ambitious recycled content target than 30 per cent by 2030;
- The Victorian Government participates fully in the upcoming nationally-based mandatory labelling scheme for recycled content in packaging;
- The Victorian Government pursues strategies to ensure organisations in the packaging value chain, including packaging suppliers, brand owners and retailers, work with recyclers to identify and purchase recycled products that meet their procurement needs.
- The Victorian Government pursues strategies to ensure organisations and local councils work with recyclers to target recycled materials in procurement, particularly for civil construction.

ACCELERATING THE TRANSITION TO A CIRCULAR ECONOMY:

A BLUEPRINT FOR ACTION ON PLASTICS AND PACKAGING

October 2018

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Disclaimer

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Introduction

The AIEN is committed to the establishment of a full circular economy for the resources currently categorised as 'waste'.

The AIEN has a diverse membership numbering in excess of 200 individuals and businesses. Among its membership there are many fine resource recovery examples/case studies demonstrating the circular economy and its principles. The membership, however, remains fully aware that the current examples are merely case studies and that much effort will be required to achieve the revolution in materials management requisite to usher in circular economy as the resource management norm.

To this end, the AIEN has prepared this blueprint for prioritised action with respect to facilitating circular economy and start the circular economy 'flywheel' spinning.

Preamble - Circular Economy

The AIEN believes there are opportunities available for the recycling/reuse of mixed plastics, rubber, glass, timber, aggregates, as valuable resources in higher value add product markets. Further, the AIEN endorses the concept of Highest Net Resource Value (HNRV) as worthy of detailed consideration and promotion. It is a concept enshrined within the waste hierarchy, but with a more tangible and measurable output.

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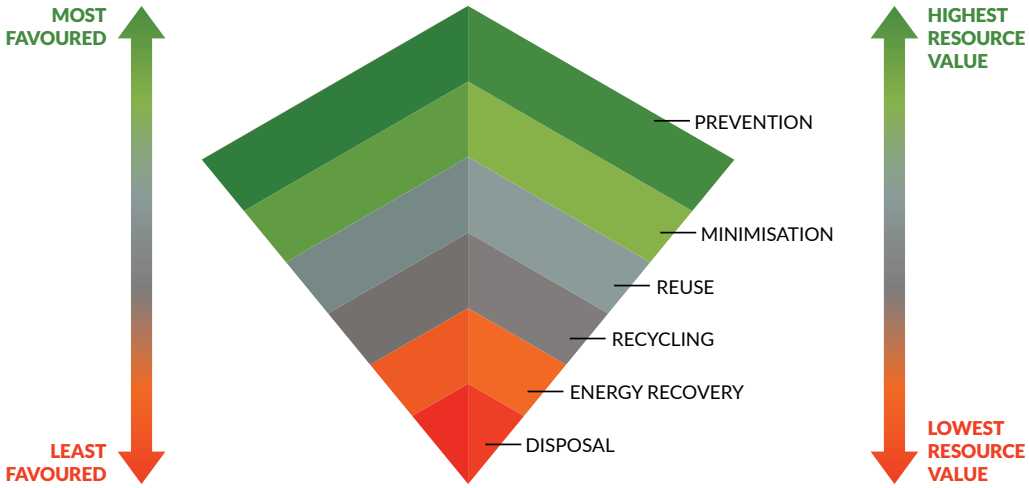

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Blueprint for action

Existing policies and resource management frameworks have primarily focussed on raising awareness and placing obligations on manufacturers, importers, distributors and other persons in the following important areas:

- Separation and segregation of materials/components so as to avoid contamination;
- Aggregation of post-consumer materials/components; and
- Initial treatment of the post-consumer materials/components (in some cases).

The other important pre-requisites for a circular economy, however, include:

- Design of plastics and packaging to reduce waste and enable recycling at end of life;
- Processes and infrastructure to enable materials or components to be reused and/or recycled; and
- Establishment and support for consumer markets for the reused and/or recycled materials/components.

The AIEN believes a holistic Australian approach must incorporate these additional elements in order to successfully move toward a circular economy. The proposed actions and targets outlined in the Discussion Paper: *Updating the 2009 National Waste Policy*[1] are a commendable start, but they need to go much further.

Following the waste hierarchy, the National Waste Policy (NWP) discussion paper proposes a national target of an 80 per cent average recovery rate from all resource recovery streams by 2030.

AIEN's recommendations are outlined on the following pages, with a focus on four key areas: design, collection and segregation, reprocessing and end markets.

[1] http://www.environment.gov.au/protection/national-waste-policy/consultation-on-updating-national-waste-policy

KEY AREA 1:

Product and packaging design

The design stage provides the greatest opportunity to reduce waste at source and to ensure that products and packaging are designed for a circular materials flow.

Progress being achieved

The NWP discussion paper proposes a national target to reduce the total waste generated per capita by 10 per cent by 2030. This is supported by a target to phase out problematic and unnecessary plastics by that same time.

The Australian Packaging Covenant Organisation (APCO) is working with its 1,100 members to improve packaging design through:

- Mandatory use of the Sustainable Packaging Guidelines (SPG) for all new and updated packaging;
- Development of the PREP design tool to assist manufacturers to design for recycling[1]; and
- Members being required to report annually on their progress in reducing and recycling packaging.

Areas for improvement

The AIEN believes more urgent action is required and the proposed waste reduction target is too modest, with the time frame suggested being too great. If the current waste and resource recovery issues are to be satisfactorily addressed, strong government signals are essential in the following areas:

- Stringent packaging design criteria that minimise use of packaging materials;
- Product design criteria that create an environment where repair and reuse become the predominant end of life options; and
- Education programs for manufacturers and consumers to ensure behaviours are strongly aligned with waste minimisation/avoidance initiatives.

In the absence of clear evidence suggesting economic harm and/or major disruption associated with compliance issues, the AIEN would advocate for more stringent targets than suggested. A 10 per cent reduction in per capita waste by 2030 is considered insufficient. Waste minimisation initiatives related to product design may take time to work through the economy. Mandated initiatives related to minimisation of packaging quantities, types, and there similar can, however, be implemented in much shorter time frames.

Presently, there are problematic plastics being used that cannot be reliably removed from plastic waste streams using current infrastructure. The presence of these contaminating plastic items consistently results in the diversion to landfill of large quantities of otherwise recyclable material. Examples of these contaminants include PVC (present in a small proportion of beverage containers) and coloured PET. Even in small quantities, these contaminants destroy the value and markets for large volumes of otherwise recyclable plastics.

In line with international trends and actions (for example, Japan, South Korea, France and California), the AIEN calls upon the Australian jurisdictions to move rapidly toward banning PVC, coloured PET in drink containers and other plastic materials that adversely impact on current domestic recycling systems.

Consumers (households) also have a role in reducing their consumption of plastic shopping bags, straws and non-recyclable packaging. Governments could encourage this through a carefully targeted education program, supported by local councils and brand owners.

Finally, packaging suppliers and brand owners are disconnected from collection, segregation and reprocessing systems for their products at end of life. The new PREP design tool is helping companies to design for recovery, but more direct communication between packaging developers and recyclers would also assist.

[1] https://prep.org.au/main/content/home

RECOMMENDED ACTIONS

1. The Australian Government and State and Territory Governments establish a more ambitious waste reduction target higher than 10 per cent by 2030
2. The Australian Government works with other jurisdictions, APCO and other industry stakeholders, to clearly identify 'problematic and unnecessary' plastics packaging for a potential ban under the Product Stewardship Act. At a minimum these should include:
    a. Single use plastic shopping bags;
    b. PVC bottles and containers;
    c. Coloured PET bottles and containers;
    d. Polystyrene packaging; and
    e. Plastic straws.
3. In recognition that government bans take some time to implement, APCO strengthen the Sustainable Packaging Guidelines to include a voluntary ban on problematic and unnecessary plastics including those mentioned above.
4. The Australian Government works with other jurisdictions, APCO and other industry stakeholders to develop an education program for households to encourage them to reduce their consumption of packaging.
5. AIEN works with APCO and key industry associations including Australian Council of Recycling (ACOR), National Waste and Recycling Industry Council (NWRIC) and Waste Management Association of Australia (WMAA) to develop closer links and communication channels between packaging developers and recyclers.

KEY AREA 2:
Collection and segregation

Progress being achieved

Household packaging is collected for recycling through two primary systems:

- Drop-off points for packaging covered by container refund systems (all jurisdictions except Victoria and Tasmania already have or plan to introduce a scheme); and
- Co-mingled collections: mixed recyclables (rigid plastics, cardboard packaging, paper, aluminium cans, steel cans) are placed in the yellow-top lid for kerbside collection.

This provides a convenient system for consumers.

Co-mingled collections are sent to a Materials Recovery Facility (MRF) where they are sorted into different material streams depending on available end markets.

Other systems include:

- Drop-off services funded by brand owners and other stakeholders, for example, REDcycle for soft plastics, Paintback for paint containers;
- Commercial services that collect packaging from retailers, manufacturers and other sources.

Areas for improvement

The main challenge at present is the level of segregation at MRFs. Import restrictions imposed by China, followed by several other Asian countries, have limited export markets, particularly for mixed paper and mixed plastics grades, and reduced prices (in some cases converting a positive value to a negative one).

MRFs are currently paid a gate fee to sort recyclables and send the segregated, baled materials to re-processors. Once fixed in a contract, the gate fee does not provide an incentive for the operator to invest in equipment or labour to positively sort any more materials for recycling, without a market value that can cover the additional cost.

A contributing factor to poor segregation and high costs at MRFs is the high level of contamination received by many operators. This includes non-targeted packaging like soft plastics, as well as general waste such as textiles.

Consumers need more education to help them 'recycle right'.

RECOMMENDED ACTIONS

1. Local councils change MRF contracts to incentivise increased segregation of materials to increase the market value of collected packaging, for example, through more investment or slower throughput.
2. MRF operators, with the support of state government funding programs, invest in technologies to improve segregation and the quality of sorted materials.
3. The Australian Government works with other jurisdictions, APCO and other industry stakeholders to develop an education program for households to help them 'recycle right'. That is, source-separate correctly at home.

KEY AREA 3:
Reprocessing

Progress being achieved

There are many companies in Australia that reprocess packaging into intermediate products like plastic pellets, or finished products like paper, plastic kerbing and furniture. AIEN members demonstrate many resource recovery examples/case studies espousing the circular economy and its principles.

Areas for improvement

The AIEN is fully supportive of a national target to achieve a mean recovery rate of 80 per cent from all resource recovery streams, following the waste hierarchy, by 2030. The AIEN would add the following points to consider in relation to the proposed target:

- The 80 per cent average recovery rate must be a real measure of (otherwise) waste resources being utilised back in the productive economy. The diversion must be verifiable, and the utilisation of the resources at the various levels in the hierarchy must be reported. This will allow follow-up targets in aiming for higher value resource utilisation into the future. It would not be acceptable to the AIEN if the compliant recovery rate was based around high levels of energy recovery without further vision to move to higher levels in the waste hierarchy.
- In seeking to achieve the 80 per cent recovery target, governments must be cognisant that genuine and fundamental change is required, involving new entrants to the recycling/ resource reuse markets, new technologies and new marketing/commercial strategies. Simply funding or supporting new infrastructure for large industry incumbents will only result in improved transport, separation and segregation of the resource streams. The circular economy will only be realised when new processing technologies, new products and new markets are developed. Existing industry incumbents have a clear role but they are generally not best placed to develop new processing technologies, new products and new markets.
- The circular economy can only work once the resource management sector transitions from a supply push market (with rewards driven by gate fees), to a demand driven market with supply chain participants rewarded in accordance with the value they add. The circular economy is predicated on interrelated markets fully functioning as markets. The concept of a gate fee in resource recovery markets is ultimately as distorting to free trade/ markets as government subsidies or tariffs in other commodity markets. If the circular economy is ever to become a reality, the policy must accommodate this transition.

In summary, the AIEN believes any action in achieving 80 per cent resource recovery rates (or greater) must be predicated on the development of a genuine domestically based circular economy. It must not be based on, among others, interjurisdictional transport arrangements, interjurisdictional waste levy distortions, international disposal masquerading as commodity trading, long-term reliance on energy from waste strategies.

The prerequisites include:

- Introduction of new entrants into the recycling/ resource reuse markets, new technologies and new marketing/commercial strategies; and
- Transition to demand pull commodity markets for the reuse of preloved goods, recycled content within new goods and goods made exclusively from recycled content.

RECOMMENDED ACTIONS

1. State and Territory Governments provide financial support for R&D, investments in new equipment, and market development activities, particularly those that will increase recycling of plastics or glass.
2. State and Territory Governments reduce approval times for new or expanded recycling facilities.

KEY AREA 4:

End markets and procurement

Progress being achieved

Many organisations are purchasing products made from recycled materials, including recycled packaging. For example, many councils are working with manufacturers to trial innovative products such as asphalt made with soft plastics and glass.

Some multinational brand owners have targets for minimum levels of recycled content in plastics packaging. Additionally, large organisations are starting to work with recyclers to identify products that can be made from their own waste and then purchased by the organisation.

Further to the 2030 proposed target in the NWP discussion paper, an industry-led target was also announced, with 30 per cent average recycled content across all packaging[1].

Other proposed actions and targets in the NWP discussion paper include:

- All Australian governments to adopt sustainable procurement policies or guidance with measurable targets for use of recycled content by 2020;
- 30 per cent average recycled content in goods and products purchased by governments, by total volume, by 2025;
- National standards and specifications for high priority recycled materials or applications in place by 2020;
- Standardised national product labelling indicating the percentage of recycled content in packaging by 2020;
- Australian businesses adopt sustainable procurement policies or guidance with measurable targets for use of recycled content by 2025; and
- 30 per cent average recycled content in goods and products purchased by businesses, by total volume, by 2030.

Areas for improvement

The AIEN questions whether an 80 per cent average resource recovery rate is consistent with a 30 per cent average recycled/reused/repurposed content across all goods and infrastructure procurement. If a genuine domestic circular economy is to be realised, there must be a degree of correlation between average resource recovery and average recycled/reused/repurposed content in procured goods and infrastructure across the economy. Without these resource recovery and resource utilisation targets being consistent, excess/surplus materials will inevitably arise, market distortions will result and unwanted consequences will almost inevitably occur. It is anticipated more ambitious resource utilisation targets are required to achieve this consistency. Detailed analysis of material flows (waste generated and products purchased) should be undertaken at a sectoral level to determine the most appropriate overall target as well as targets for individual product categories.

More work needs to be done by all stakeholders to increase demand for products made with recycled materials. The actions and targets in the NWP discussion paper, if approved, need to be closely monitored and enforced to ensure that they are met. All large organisations in the public and private sector need to look for opportunities to buy products with recycled materials. A model that is starting to work well is for organisations to work closely with recyclers on 'closed loop collaborations' that enable them to buy products containing their own waste streams.

Household consumers can also support end markets by purchasing products with recycled content. A national labelling scheme for packaging, as proposed in the NWP discussion paper, will assist but it needs to be mandatory.

1 http://www.environment.gov.au/minister/price/media-releases/mr20180926.html

RECOMMENDED ACTIONS

1. The Australian Government and State and Territory Governments establish a more ambitious recycled content target than 30 per cent by 2030.
2. The Australian Government introduces a mandatory labelling scheme for recycled content in packaging.
3. The Australian Government closely monitors and reports progress towards the targets in the NWP.
4. Organisations in the packaging value chain, including packaging suppliers, brand owners and retailers, work with recyclers to identify and purchase recycled products that meet their procurement needs.
5. State and Territory Government organisations and local councils work with recyclers to target recycled materials in procurement, particularly for civil construction.

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AUSTRALIAN INDUSTRIAL ECOLOGY NETWORK

AIEN

Submission to the

Updating the 2009 National Waste Policy: Less waste, more resources

Discussion Paper

5 October 2018

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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, canvasing 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 discussion paper - *Updating the 2009 National Waste Policy: Less Waste, More Resources.* The AIEN congratulates the Federal Government on this initiative and is fully supportive of the drive for improvement and targets for waste reduction, resource recovery and the diversion of waste from landfill.

The AIEN is committed to the establishment of a full circular economy for the resources currently categorised as 'waste'. The commitment of the AIEN is therefore fully aligned with the objects of the strategy.

The AIEN has a diverse membership numbering in excess of 200 individuals and businesses. Among its membership reside many fine resource recovery examples/case studies demonstrating the circular economy and its principles. However, the membership remains fully aware the current examples are merely case studies and that much effort will be required if we are to achieve the revolution in materials management requisite in ushering in the circular economy as the resource management norm.

To this end, the AIEN It is currently preparing a blueprint for prioritised action with respect to facilitating the circular economy and start the circular economy "flywheel" spinning.

This submission is forwarded at a time when the AIEN circular economy blueprint is nearing completion but remains a work in progress. However, this submission contains the relevant priority elements from the draft AIEN blueprint most directly aligned with the imperative for sympathetic government policy and supporting legislative/regulatory frameworks.

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

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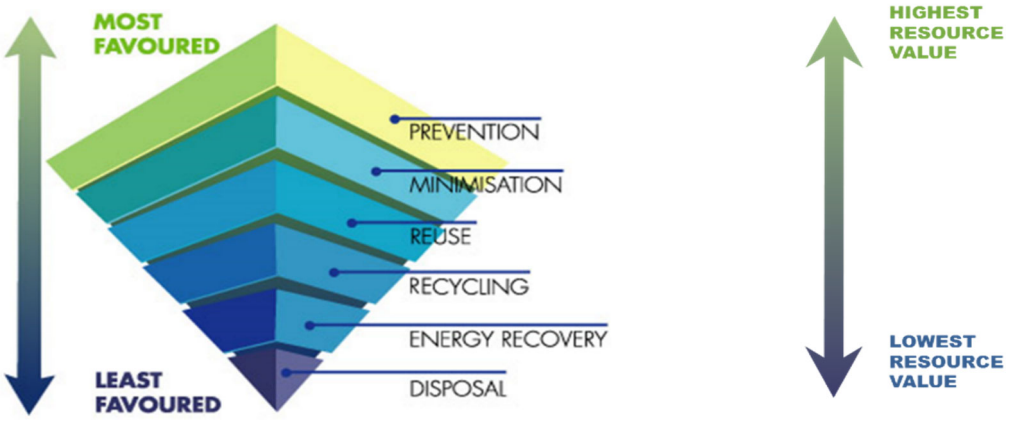
Preamble - Circular Economy

There are existing opportunities available for the recycling/reuse of mixed plastics, rubber, glass, timber, aggregates, etc as valuable resources in higher value add product markets. Further, the AIEN endorses the concept of Highest Net Resource Value (HNRV) as worthy of detailed consideration and promotion. It is a concept enshrined within 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.

The AIEN would urge all governments to more fully consider rewarding outcomes at the market/recycled product end of the resource management spectrum. Proper consideration of the complete resource recovery/management system (with emphasis on the critical role of markets for recycled products and content) will require/necessitate a significant coordination between waste policy, employment and industry policy, regional investment policy, etc being postulated as an element in a larger resource management picture.

Any failure to properly consider the importance of the waste hierarchy and HNRV principles may result in losses in the longer term through stranded investment. When resource availability becomes a constraint, resources will always flow to those who can afford to pay the most for them. This is why overinvestment in energy technologies is not recommended.

In certain circumstances, including remote geographic location, small and highly diffuse resource quantities, etc, there may be valid arguments that energy recovery represents the HNRV achievable

for resources otherwise considered as wastes. However, it would be lazy in the extreme to settle for lower resource values simply for ease and expedience. Energy from waste should only be considered where:

- HNRV alternatives have been fully saturated with the resources they require. This means energy recovery activities are restricted to "residual" resources not required by the higher value adding processes; or
- Where very unusual circumstances are such that energy recovery is the only feasible process for the recovery of economic value from resources that would otherwise be wasted in landfill.

The ambition of Australia's renewed approach to recycling and waste should be to foster the creation of a comprehensive resource management system. The AIEN would be supportive of all policies contributing to that outcome.

The objectives of a holistic circular economy approach to resource management must include:

- Clear obligations upon manufacturers, importers, distributors and other persons in relation to the mechanism by which 'waste' is to be avoided or eliminated from the utilisation of their products. A greater emphasis on product and packaging design is required. The current product stewardship regime is not considered to be adequately driving improvements to product design and packaging design to ensure reuse and recyclability.
- Clear obligations upon manufacturers, importers, distributors and other persons in relation to the mechanism by which 'waste' is to be harnessed as a resource for reuse and or recycling. (These are higher order resource utilisation options than either treatment or disposal.)
- Clear obligations upon manufacturers, importers, distributors and other persons in relation to the mechanism by which 'waste' impacts on the environment are to be minimised or how the overall greenhouse inventory (product creation, use, recycling, treatment, disposal, etc) of products is to be minimised.

Existing policies and resource management frameworks have primarily focussed upon raising awareness and placing obligations upon manufacturers, importers, distributors and other persons in the following important areas:

- Separation and segregation of materials/components so as to avoid contamination;
- Aggregation of post-consumer materials/components; and
- Initial treatment of the post-consumer materials/components (in some cases).

However, the other important pre-requisites for a circular economy include identification and/or establishment of processes and infrastructure to enable the materials/components to be reused and/or recycled and the establishment and support for consumer markets for the reused and/or recycled materials/components.

A holistic Australian approach must incorporate these additional elements in order to successfully move toward a circular economy.

Initiatives promoting circular economy principles will be inadequate, and ultimately fail, where they collectively fail to:

- Sponsor and/or promote resource utilisation facilities and technologies. Product stewardship schemes that can aggregate waste (at least contributing positively to litter reduction) while the materials/resources carefully separated and segregated by others are ultimately destined for landfill due to the underdeveloped nature of local/domestic recycling and resource reuse industries is still considered failure.
- Reward organisations/entities genuinely promoting recycling and reuse industries through their purchasing/procurement decisions.

Principle 1 - Avoid Waste

For comment: *A national target to reduce total waste generated in Australia per capita by 10 per cent by 2030*

Questions for comment:

1.1 Do you agree with the proposed target?

1.2 Is there a different target that should be included?

- should we freeze waste generation at current levels, indexed against population growth?

- should there be a target to reduce waste to landfill instead of a generation target?

- should targets be set separately for municipal solid waste, commercial and industrial waste, and construction and demolition waste?

1.3 Do you agree with strategies 1, 2, and 3 and related proposed milestones? If you suggest others, please explain why.

1.4 What other action is required to meet the target?

1.1 The AIEN is broadly supportive of a national target to reduce the total waste generated per capita.

1.2 More urgent action is required. In short, the proposed target is too modest, and the timeframe suggested is too great. Strong government signals are essential if the current waste and resource recovery issues are to be satisfactorily addressed. The specific areas where strong government signals are required include:

- Stringent packaging design criteria that minimises/eliminates the utilisation of excess packaging and unrecyclable packaging materials. Packaging must be strictly fit-for-purpose only in terms of its primary product safety and product efficacy functions;
- Product design criteria that create an environment where repair and reuse become the predominant end of life options; and
- Education programs for manufacturers and consumers to ensure behaviours are strongly aligned with waste minimisation/avoidance initiatives.

In the absence of clear evidence suggesting economic harm and/or major disruption associated with compliance issues, the AIEN would advocate for more stringent targets than suggested. A 10% reduction in per capita waste by 2030 is considered insufficient. Waste minimisation initiatives related to product design may take time to work through the economy. However, mandated initiatives related to minimisation of packaging quantities, types, etc can be implemented in much shorter timeframes.

1.3 The AIEN fully supports strategies 1, 2 and 3 as presented. The timing and milestones associated with strategies 2 and 3 are considered reasonable. The milestone/target of halving food waste in Australia by 2030 is also supported by the AIEN.

Principle 2 – Improve Resource Recovery

For comment: *A national target of an 80 per cent average recovery rate from all resource recovery streams, following the waste hierarchy, by 2030*

Questions for comment:

2.1 Do you agree with the proposed target?

2.2 Is there a different target that should be included?

- should targets only refer to recycling?

- should there be separate targets for municipal solid waste, commercial and industrial waste and construction and demolition waste?

2.3 Do you agree with strategies 4, 5, 6 and 7, and related proposed milestones? If you suggest others, please explain why.

2.4 What other action is required to meet the target?

2.5 Who should be responsible for implementation?

2.1 The AIEN is fully supportive of a national target to achieve a mean recovery rate of 80% from all resource recovery streams, following the waste hierarchy, by 2030. The AIEN would add the following points to consider in relation to the proposed target:

- The 80% average recovery rate must be a real measure of (otherwise) waste resources being utilised back in the productive economy. The diversion must be verifiable, and the utilisation of the resources at the various levels in the hierarchy must be reported. This will allow follow-up targets in aiming for higher value resource utilisation into the future. It would not be acceptable to the AIEN if the compliant recovery rate was based around high levels of energy recovery without further vision to move to higher levels in the waste hierarchy.
- In seeking to achieve the 80% recovery target, the governments must be cognisant that genuine and fundamental change is required. This genuine and fundamental change will involve new entrants to the recycling/resource reuse markets, new technologies and new marketing/commercial strategies. Simply funding or supporting new infrastructure for large industry incumbents will only result in improved transport, separation and segregation of the resource streams. The circular economy will only be realised where new processing technologies, new products and new markets are developed. Existing industry incumbents have a clear role, but they are **not** best placed to develop new processing technologies, new products and new markets.

- The circular economy can only work once the resource management sector transitions from a supply push market (with rewards driven by gate fees) to a demand driven market with supply chain participants to be rewarded in accordance with the value they add. The circular economy is predicated upon interrelated markets fully functioning as markets. The concept of a gate fee in resource recovery markets is ultimately as distorting to free trade/markets as government subsidies or tariffs in other commodity markets. The policy must accommodate this transition if the circular economy is ever to become a reality.

2.2 The AIEN is fully supportive of a national target to achieve a mean recovery rate of 80% from all resource recovery streams, following the waste hierarchy, by 2030. The AIEN strongly believes the further conditions/criteria for success are as outlined in the answer (to Question 2.1) above.

2.3 The AIEN fully supports strategies 4, 5, 6 and 7 as presented. The timing and milestones associated with the strategies are considered reasonable.

2.4 To reiterate, any action in achieving 80% resource recovery rates (or greater) **must** be predicated upon the development of a genuine domestically based circular economy. It **must not** be based upon interjurisdictional transport arrangements, interjurisdictional waste levy distortions, international disposal masquerading as commodity trading, green washing, long term reliance upon energy from waste strategies, etc. The prerequisites include:

- Introduction of new entrants into the recycling/resource reuse markets, new technologies and new marketing/commercial strategies; and
- Transition to demand pull commodity markets for the reuse of preloved goods, recycled content within new goods and goods made exclusively from recycled content.

2.5 Ultimately, we will all be responsible for the success or failure of the transition to a circular economy. The governments must take responsibility for setting the environment for the natural self-interest of market actors/players to be channelled into positive directions and activities. The setting of the targets, the mandating or banning of certain activities/practices/materials and encouraging development of new entrants/technologies/processes/commodity markets are all initiatives available to government in achieving its desired outcomes.

Principle 3 – Increase use of recycled material and build demand and markets for recycled products

For comment: *A national target of 30 per cent average recycled content across all goods and infrastructure procurement by 2030*

Questions for comment:

3.1 Do you agree with the proposed target?

3.2 Is there a different target that should be included?

3.3 Do you agree with strategies 8 and 9 and related proposed milestones? If you suggest others, please explain why.

3.4 What other action is required to meet the target?

3.5 Who should be responsible for implementation?

3.1 Based upon the answer to Question 2.1 above, the AIEN questions whether an 80% average resource recovery rate is consistent with a 30% average recycled/reused/repurposed content across all goods and infrastructure procurement. If a genuine domestic circular economy is to be realised, there must be a degree of correlation between average resource recovery and average recycled/reused/repurposed content in procured goods and infrastructure across the economy. It is anticipated more ambitious resource utilisation targets are required to achieve this consistency. Detailed analysis of material flows (waste generated, and products purchased) should be undertaken at a sectoral level to determine the most appropriate overall target as well as targets for individual product categories. On this basis, the AIEN does not agree with the proposed 30% target.

3.2 Without consistency between these resource recovery and resource utilisation targets, excess/surplus materials will inevitably arise, market distortions will result, and unwanted consequences will almost inevitably occur.

3.3 The AIEN fully supports the thrust and intent of strategies 8 and 9 as presented. The timing and milestones associated with the strategies are not considered satisfactory where resource recovery and resource utilisation targets lack internal consistency.

3.4 See above answers under Principle 3.

3.5 See response to Question 2.5 under Principle 2.

Principle 4 – Better manage material flows to benefit human health, the environment and the economy

For comment: *national targets to:*

(a) phase out problematic and unnecessary plastics by 2030

(b) halve the volume of organic waste sent to landfill by 2030

Questions for comment:

4.1 Do you agree with the proposed targets?

4.2 Is there a different target that should be included?

4.3 Do you agree with strategies 10, 11 and 12, and related proposed milestones? If you suggest others, please explain why.

4.4 What other action is required to meet the targets?

4.5 Who should be responsible for implementation?

4.1 The AIEN is broadly supportive of national targets to phase out problematic and unnecessary plastics and to halve the volume of organic waste sent to landfill.

4.2 More urgent action is required. The proposed targets are too modest, and the timeframes suggested are too great. Strong government signals are essential if the current waste and resource recovery issues are to be satisfactorily addressed. Within the context of Principle 4 the specific areas where strong government signals are required include:

- There are problematic plastics currently being used that cannot be reliably removed from plastic waste streams with current infrastructure. The presence of these contaminating plastic items is consistently resulting in the diversion **to** landfill of massive quantities of otherwise recyclable plastics. Examples of contaminating plastics are PVC (present in a small proportion of beverage containers) and coloured PET. Even in small quantities, these contaminants destroy the value and markets for large volumes of otherwise recyclable plastics. In line with international trends/actions (e.g. Japan, South Korea, France and California) the AIEN calls upon the Australian jurisdictions to move rapidly toward the banning of PVC, coloured PET in drink containers and other plastic materials that adversely impact upon current domestic recycling systems.
- Given the potential for rapid advent of wider retail fruit and vegetable size acceptance criteria, anaerobic digestion systems, sophisticated high value composting systems, food exchanges, etc, the AIEN would advocate consideration of stronger/quicker organic reduction targets in relation to landfill.

4.3 The AIEN fully supports strategies 10, 11 and 12 as presented. The timing and milestones associated with the strategies are considered reasonable in some instances. Specific areas where more ambitious targets are recommended are included in the answer to Question 4.2 above.

4.4 See above answers under Principle 4.

4.5 Governments must take responsibility for setting the environment for the natural self-interest of market actors/players to be channelled into positive directions and activities.

Principle 5 – Improve information to support innovation, guide investment and enable informed consumer decisions

For comment: *A national target for fit- for-purpose and timely data to be available for individuals, businesses, and governments to make informed decisions*

Questions for comment:

5.1 Do you agree with the proposed target?

5.2 Is there a different target that should be included?

5.3 Do you agree with strategies 13 and 14 and related proposed milestones? If you suggest others, please explain why.

5.4 What other action is required to meet the target?

5.5 Who should be responsible for implementation?

5.1 The AIEN is supportive of a national target to provide fit-for-purpose and timely data for individuals, businesses, and governments in order for them to make informed decisions.

5.2 See above.

5.3 The AIEN fully supports the thrust and intent of strategies 13 and 14 as presented. The timing and milestones associated with the strategies are also considered satisfactory.

5.4 None offered in this submission.

5.5 Governments must take responsibility for setting the environment for the natural self-interest of market actors/players to be channelled into positive directions and activities. This specifically includes the basic information required in order for the desired/requisite behaviours to be demonstrated within the economy. Where government takes specific actions in directing markets that would otherwise fail, additional government responsibility is warranted and must be considered as a natural element of the market intervention.