

Response to the
**Queensland Draft Waste
Management and
Resource Recovery Strategy**

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Attachments

AIEN Communique (October 2018): *'Accelerating the Transition to a Circular Economy: A Blueprint for Action on Plastics and Packaging'*

AIEN Submission (October 2018): *'Updating the 2009 National Waste Policy - Less Waste, More Resources Discussion Paper'*

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.

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 provide feedback regarding the draft *Waste Management and Resource Recovery Strategy* for Queensland. The AIEN congratulates the Queensland Government on its endeavours to produce a single cognisant resource management position document for the State.

The AIEN responded to the *Transforming Queensland's Recycling and Waste Industry Directions Paper* with a submission dated 29th June 2018. It is pleasing that the draft *Waste Management and Resource Recovery Strategy* acknowledges a number of the themes raised within that submission.

Since that time, 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 Queensland draft *Waste Management and Resource Recovery Strategy* 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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Important themes in the AIEN response to the 2018 discussion paper

Encouraging/Fostering a Circular Economy Model in Queensland

The draft *Waste Management and Resource Recovery Strategy* for Queensland includes discussion on each of the important elements required to realise the establishment of a circular economy in Queensland.

It must be understood the basis for the establishment of a circular economy is a simple application of supply and demand principles. In assessing the “waste” model largely in operation within 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. Queensland is the next jurisdiction with 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.

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 the draft *Waste Management and Resource Recovery Strategy* for Queensland includes proposed initiatives in support 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 the draft *Waste Management and Resource Recovery Strategy* for Queensland to work in a sufficiently balanced way toward addressing the critical processing/manufacturing infrastructure and market development prerequisites for a circular economy. There are a number of examples demonstrating where the language and dialogue of the Queensland draft *Waste Management and Resource Recovery Strategy* does not give sufficient emphasis to prerequisite product manufacturing and product marketing issues. These examples include:

Table 2 and Table 3 on Page 10

According to the recycling targets established for 2025, the sum of resources allowed to landfill and mandated for recycling totals 95% overall. The logical conclusion is that at least 5% of all 'waste' stream components will access an alternate fate based upon minimum recycle rates and maximum landfill rates. Once we move forward to later years the sum of resources allowed to landfill and mandated for recycling decreases to 85% meaning up to 15% of all 'waste' stream components will be access an alternate fate. The probable outcome of this policy will be to create further oversupply issues and decrease the likelihood of establishing a 'market pull' environment (and thus a value) for resources.

(The AIEN would request the attached submission to the Federal Government's *Updating the 2009 National Waste Policy - Less Waste, More Resources Discussion Paper* be reference at this point for further information.)

Page 11 contains the following quote

"The Queensland Government recognises that the waste management and resource recovery sector is already an important contributor to the economy. However, there is further potential to grow the sector. The government will work with local government, business, industry and the recycling and resource recovery sector to expand reuse, recycling and recovery capability so that Queensland becomes a highly competitive centre for the remanufacture of waste materials into new products. Fostering sustained growth of the sector and establishing a progressive, stable policy and regulatory framework will provide business and industry with confidence to invest. It will also create new jobs, provide upskilling opportunities for the workforce, build infrastructure capacity and markets in regional areas, and contribute to sustainable growth in Queensland."

The AIEN considers the above quotation summarises the Queensland draft *Waste Management and Resource Recovery Strategy* document. The aims and ideals of the document are good. However, where manifest market failure exists (and surely a market situation where resources have negative value would constitute such a situation) the Governments must coordinate a far more active response. Would such a statement be appropriate in the areas of education, health, utilities or transport? Privatisation may occur later but our education systems, our health systems, our provision of utilities and transport systems would likely **never** have succeeded in the way they have, without Government being highly active in overcoming initial market weaknesses in infrastructure provision and market establishment/development. *'Establishing a progressive, stable policy and regulatory framework'* are understood to be prerequisites to investment by business and industry. However, in like manner to the education, health, utilities and transport systems before it, the circular economy is not likely to magically appear just because Government has correct regulatory and legislative settings. The Government role in seeking to establish a circular economy will need to be far more pro-active. Any reasonable assessment of the early successes in Europe would lead to this inescapable conclusion.

Page 12 contains the following quote regarding working together

"Business and industry, waste generators, product designers, consumers and potential investors in resource recovery and reprocessing technologies and practices have a role to play in rethinking how they innovate and stimulate market demand for recycled content."

The AIEN agrees wholeheartedly with the above premise that working together is an imperative in transitioning to a circular economy and that no group can be allowed to do frustrate the efforts of the other participants. However, the arguments presented in the bullet point immediately above suggest all Australian Governments (including Queensland) must show additional pro-active leadership through taking a role in ensuring:

- Products utilising 'waste' stream components are being manufactured and marketed satisfactorily; and
- That demand for the products is suitably managed to ensure resources previously considered as 'waste' can commence to attract a real value in the economy from the demand side.

Additional quotes from the document that suggest the emphasis on existing market failure and an overly passive approach within the draft include the following:

"The Queensland Government recognises the benefits of transitioning to a circular economy for waste. It will encourage the community, business and industry to manage waste so that its value is retained in the economy for as long as possible. Value can be gained from material otherwise destined for landfill when there are increased options for reuse, recycling and recovery of resources. All Queenslanders can play a role in this transition by adopting purchasing and consumption behaviours that help reduce waste and increase recycling and resource recovery."

This entirely overlooks where the product markets and product manufacturing facilities will appear from. It presumes increased options for reuse will somehow appear leading to more recycling and recovery of resources. All Queenslanders can indeed (and will) play a role, but the role only makes good sense once

there are product markets and manufacturing facilities satisfying those markets. No product markets created for the goods made with recycled content is surely a road that leads ultimately to nowhere.

“Transitioning towards a circular economy for waste....”

This is a faux pas? Surely there is no circular economy for waste. A circular economy is about the optimisation of resource management and use.

“To provide a sustained feedstock for the recycling and resource recovery sector, the Queensland Government will pursue landfill disposal bans on selected waste streams. Such bans will be underpinned by economic modelling and market development plans for the diverted material. The Queensland Government recognises the need to give sufficient time for industry to transition and for infrastructure to be built, so a clear implementation timeframe will be provided prior to bans commencing. The applicability of bans on a regional basis will also be considered. The Queensland Government will continue to explore product stewardship schemes to help drive market development, and will continue to work with the Australian Government to implement them.”

Once again, 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.

“Identifying waste as a potential resource provides opportunities for both the economy and the environment. Materials that would otherwise have been sent to landfill can be reprocessed and remanufactured into new products.”

Another true statement from the top of page 7 and the AIEN is delighted in principle. However, as previously described, the Queensland draft *Waste Management and Resource Recovery Strategy* offers insufficient leadership regarding how the materials are to “be reprocessed and remanufactured into new products”. Seriously political will and leadership will be required to drive this particular step and the draft document fails to declare the pathway for this to eventuate. The AIEN fully supports this statement as a description of a desired destination. We seek the Government of Queensland to be proactive in all aspects of the journey to get there.

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 Queensland to demonstrate leadership, and 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.

Important themes in the AIEN response to the 2018 discussion paper

Learn from the Successes and Shortcomings in Other Jurisdictional Approaches

The Governments of NSW, Victoria and South Australia have historically been active in the seeking improvements in resource management through waste avoidance, minimisation, reuse, recycling, etc. Despite their best efforts individually (and at times collectively) none of them has yet fully succeeded in pointing the way to achieving a circular economy. This should not deter Queensland from seeking that end with an enhanced policy and regulatory program. However, it is useful to reflect upon some of the achievements and the perceived shortcomings inherent within the offerings of those jurisdictions.

New South Wales

The *Waste Less – Recycle More* initiative in NSW has resulted in the collection and expenditure of some hundreds of millions of dollars in waste levy fees in a very genuine attempt to better manage resources. The China Sword landed during the roll-out of the program and a natural question thus arises. Did the expenditure and collective efforts within the *Waste Less – Recycle More* initiative in NSW better position NSW? Was a circular economy closer to being achieved in NSW to cushion it from the full impact of the China Sword being visited upon the other jurisdictions? Despite some clear positive initiatives being implemented (the waste levy and implementation of container deposit legislation (CDL) are standout successes), any fair assessment would suggest that NSW is no closer to a circular economy than the other jurisdictions and was probably impacted about

equally. So why hasn't all that effort and expenditure demonstrably moved NSW into a more favourable position? Reasons why this may be so are numerous and complex. However, some of the short answers may include:

1. NSW has utilised its environmental regulatory arm to oversee a program that must show foresight and pro-active leadership in order to succeed. A regulatory mindset will always be in tension with a program charged with bringing about a massive resource and social revolution. This tension is a good thing and would be especially beneficial were it to be played out publically. Unfortunately, like all individual departments and authorities, there will only be airing of the predominant and prevailing "departmental view" both to Government and to the public. The result being all those healthy tensions, debates and views never arise for discussion outside of the NSW EPA. The NSW EPA is above and beyond all else, a regulator and will always give priority to its regulatory role and function. This is natural but it is well known that despite the very best endeavours of a very dedicated workforce, many a good but challenging idea has perished due to regulatory intransigence.
2. The NSW Office of Environment and Heritage (NSW OEH) should operate as a counter balance to the NSW EPA through being able to reflect the desirable tensions

previously alluded to. Despite international recognition for its efforts in the World Economic Forum Circular Awards in 2015 and 2019, the reality is the NSW OEH is directly funded by the NSW EPA through the waste levy and its funding has been drastically cut each year since around 2012/2013.

3. NSW has spent heavily on separation, segregation, aggregation through its project co-investments with large scale waste industry operatives. In addition, some really good individual projects have doubtlessly been realised through that investment. However, there has been almost no investment in NSW in the marketing of new products made from previous 'waste' stream components through investment in processing facilities that manufacture final products and public education about those products. This particular fact has greatly limited the CDL successes achieved. Cleaned container materials would be better processed domestically. The CDL scheme has succeeded in litter reduction, collection/aggregation efficiency, etc but has done nothing to 'circularise' the management of the resource due to the absence of materials reprocessing facilities and product manufacturing facilities utilising the recycled content.
4. The regulatory role of the NSW EPA almost assures there will be an absence of innovation in the approaches adopted within NSW. Through an overzealous requirement for baseline example plants being operated in other jurisdictions, maintenance of the most robust waste definitions and robust resource diversion protocols known, NSW has unfortunately condemned itself to transiting in the circular economy 'slow lane' for the foreseeable future.

Learn from NSW the following:

- CDL initiatives will reduce littering and are likely to be successful from this perspective. The benefits end there without materials markets that include localised product markets and product manufacturing facilities.
- Waste levies can be very successful in generating revenue that can be very usefully employed in facilitating the transition to a circular economy. The benefit of the revenue will be limited if inadequate resourcing of new product manufacturing facilities (from recycled resources) and inadequate marketing does not occur. Failure to utilise the revenue in a balanced manner will essentially ensure a truly circular economic model will fail to emerge.
- Special protections are required to ensure public discussion about the natural tensions arising from applying adequate safeguards to very socially progressive undertakings.

Victoria

Learn from Victoria the following:

- Victoria has benefitted from the positive outcomes that can be derived through the implementation of a waste levy. The money has been useful in funding SV and other programs in the state.
- Victoria has benefitted greatly from the funding of a strong SV to counterbalance the role of the Vic EPA. The adequately resourcing of SV has meant a better balanced and more transparent result between the competing forces of remaining progressive while minimising non-optimal environmental outcomes.

- Victoria has given insufficient attention to ensuring the adequacy of resource management infrastructure, product production facilities and product markets. The inadequacy of the Victorian capital investment program has led to the current difficulties in resource management. Although the closure of initial separation and segregation facilities (MRFs) is highlighted in the media, had product markets and product manufacturing facilities been in existence, there would have been additional operational MRFs to supply the value adding supply chain.

South Australia

Learn from South Australia the following:

- CDL is a demonstrated success and has been so for decades. In terms of litter avoidance it has a proven track record. The testimony of many South Australians is that they've grown up understanding the value of resources because of the leadership shown in that state.
- South Australia has benefitted greatly from the roles played by the agencies Zero Waste South Australia and subsequently Green Industries South Australia. Proper funding allows societal choices between progressive policies vs conservatism to be made transparently.
- Although still lacking in infrastructure and manufacturing capacity, the SA Gov't has arguably done more regarding supporting manufacturers entry into the state (and into the Tonsley area where car manufacturing has departed) and that much of the support was for green manufacturing in SA. In particular, the SA Gov't support has included support and partnership with circular economy and materials recovery/management initiatives.

Inevitably, a fully functioning circular economy must be based upon national unity. The "pulling markets" will not be respectful of jurisdictional boundaries. The AIEN would encourage the Queensland Government to lead the national debate by taking a fully considered circular economic model/concept to the national MEM meetings.

With regard to the draft *Waste Management and Resource Recovery Strategy for Queensland* there are concerning quotes that some prerequisites for driving the emergence of a circular economy may not be fully appreciated:

"Implementation of the Strategy will be led by the Department of Environment and Science (DES) in partnership with the Department of State Development, Manufacturing, Infrastructure and Planning."

The primacy of DES management/oversight is suggestive of similarities with the methodology as NSW. It is vital for a healthy tension to exist between regulation and the innovation necessary for the collective resource recovery vision to emerge. The emphasis in NSW has been toward concentrating on 'waste' and this undoubtedly holds back a circular economy. Based on the NSW example, the AIEN would be concerned were Queensland to embrace this clear shortcoming.

"The Strategy's policy direction is also guided by principles set out in the Queensland 8Waste Reduction and Recycling Act 2011 and Environmental Protection Act 1994, and national policies and strategies."

See the previous paragraph. Queensland will need to augment the 1994 and 2011 Acts with new directions based upon innovative, contemporary resource management principles.

Strategic priority 2 should be about the circular economy but largely descends into a discussion about 'waste' with the Queensland Government role merely to "*explore scope for industry leadership*"

The AIEN would be concerned the Queensland Government adopting this position would be far too passive with regard to the Government role essential for the emergence of a circular economy. Government policy must be based upon fulfilling the role necessary to overcome the inevitable market failure associated with creating a circular economy. Passivity and 'playing safe' will never realise jurisdictional success. As an absolute minimum, Queensland would do well to adopt a proactive position similar to that of the South Australian Government.

Important themes in the AIEN response to the 2018 discussion paper

Positives - Draft Waste Management and Resource Recovery Strategy

Very positive statements contained within the draft *Waste Management and Resource Recovery Strategy for Queensland* include:

“Identifying waste as a potential resource provides opportunities for both the economy and the environment. Materials that would otherwise have been sent to landfill can be reprocessed and remanufactured into new products.”

This is a very clear and concise statement of objective. The AIEN requests the Queensland Government to always examine/assess the value of any circular economy action/position/initiative back to this statement of objective. By adopting the preceding AIEN recommendations, the objectives will have the maximum chance of being realised.

The stated Strategic priority 3 on pp 23 of the draft *Waste Management and Resource Recovery Strategy* includes the following text:

Government investment in innovation will help identify commercially viable recovery options and uses to help drive market demand. The Queensland Government will consider how both state and local government procurement can stimulate demand for recycled material manufactured in Queensland. It will develop collaborative partnerships with key organisations in the waste management and resource recovery sector to facilitate business opportunities in resource recovery and remanufacturing.

The AIEN fully supports the positive and proactive intent behind this statement. It is considered a shame the draft *Waste Management and Resource Recovery Strategy* for Queensland waits until pp 23 to make such positive overtures.

Important themes in the AIEN response to the 2018 discussion paper

Is the Language of the Draft in any way revealing?

The AIEN requests the Queensland Government consider the emphasis and language to be used in the final version of the *Waste Management and Resource Recovery Strategy* document. Based on a word count and examination of the draft document, the AIEN would point out the following in relation to the existing text.

- The word **'waste'** appears on **282** occasions.
- By contrast, the word **'recovery'** appears on only **81** occasions.
- The words **'innovation'** or **'innovate'** appear on only **7** occasions.
- The word **'landfill'** appears on **41** occasions.
- The word **'avoidance'** appears on only **6** occasions.
- The word **'technology'** appears only **once**.
- The word **'circular'** appears on only **26** occasions.
- The word **'infrastructure'** appears on only **27** occasions.
- The words **'plan'** or **'planning'** appear on **39** occasions.
- The word **'markets'** appears on only **15** occasions.