



Mr John Bradley  
Secretary  
Department of Environment, Land, Water and Planning  
8 Nicholson Street  
MELBOURNE VIC 3000

Attention: Ms Angela Hoefnagels, Director, Programs and High Water

Email: [wastetoenergy@delwp.vic.gov.au](mailto:wastetoenergy@delwp.vic.gov.au)

6 August 2021

Dear Mr Bradley

**Re: Victorian government waste to energy framework**

Thank you for the opportunity to provide feedback on the Victorian government's draft waste to energy framework. The Waste Management and Resource Recovery Association of Australia (WMRR) is the peak national body for all stakeholders in Australia's \$15.5 billion waste and resource recovery (WARR) industry. We have more than 2,000 members across the nation, representing the breadth and depth of the sector, spanning business organisations, the three (3) tiers of government, universities and NGOs. The sector drives jobs – employing up to 50,000 people – and investment in the Australian economy, and WMRR's purpose is to lead the success of this essential industry while ensuring the environment and community are protected through the safe and responsible management of waste and resources.

WMRR is also at the forefront of the ongoing evolution towards a whole-of-system WARR approach and the development of a circular economy. WMRR acknowledges and appreciates the continued engagement with the Victorian government on its policy and regulatory reforms that drive these objectives and notes that in relation to the state's EfW framework, extensive consultation between government and industry has occurred over the last 18 months.

While WMRR's full submission can be found below, there are a number of significant concerns that WMRR is seeking both clarity and resolution to as they remain a severe detriment to driving the outcomes within the adopted waste hierarchy – which in turn, will lead to other negative community, economic, and environmental impacts – and pose serious barriers to investment in the state. In summary, these issues are:

- The EfW cap is a blunt instrument that distorts the waste management hierarchy by preferencing landfilling over higher order use of materials. It is ironic that despite the government promoting resource recovery, it has decided to place a cap on the volume of residual material that can be used in energy recovery with no corresponding requirement on residual materials sent to landfill.

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Victoria currently diverts 65% from landfill, sending 5.3 million tonnes of materials to landfill annually, and has set a diversion target of 72% by 2025. Not only does the government’s EfW policy approach not drive increased recycling or recovery, making it challenging for the state to reach its 2025 target, it will result in a loss of investment and jobs in the state, all while allowing almost four (4) million tonnes to continue being landfilled annually. Notably, and what is so far missed in the government’s thinking around EfW is that - as evidenced in the EU – EfW does play an important role in increasing recycling when there is a systems-based approach to material management within an integrated WARR system with all parts of the hierarchy having a clear role. This is evident from the table below and was covered at length in our letter dated 17 June 2020 (see **Annexure B**).

Municipal waste landfilled, incinerated, recycled and composted in the EU-28, 1995 to 2017

	Municipal waste landfilled, incinerated, recycled and composted in the EU-28																	change (%) 1995-2017							
	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011		2012	2013	2014	2015	2016	2017	
	million tonnes																								
Landfill	145	143	144	141	140	140	138	132	125	118	110	108	107	101	98	93	86	79	73	68	64	60	58	-60	
Incineration	32	32	35	35	36	39	40	41	41	44	48	51	52	55	54	57	60	59	62	64	65	68	68	111	
Recycling	25	28	32	35	40	40	42	46	47	49	52	54	60	60	61	63	64	66	66	68	71	73	74	196	
Composting	14	16	17	18	19	24	24	26	26	28	29	31	32	34	35	35	34	35	36	38	38	41	43	205	
Other	10	14	12	12	12	11	12	12	12	13	16	13	11	11	8	6	6	6	6	6	7	6	6	-43	
	kg per capita																								
Landfill	302	296	299	290	288	288	278	269	255	238	221	220	215	201	195	185	171	156	145	134	126	117	114	-62	
Incineration	67	68	72	73	75	80	82	85	85	90	98	104	104	109	111	114	119	118	122	126	127	134	133	97	
Recycling	52	59	66	72	82	83	88	95	97	99	105	109	119	120	122	124	128	130	128	134	140	143	144	175	
Composting	30	34	36	37	40	43	50	53	54	57	59	62	64	70	68	69	67	70	72	74	75	81	81	175	
Other	22	29	26	24	25	24	24	24	24	27	33	27	22	21	15	12	12	12	12	12	10	12	11	15	-32

Source: Eurostat (online data code: em\_wasmun)

eurostat

- The EfW framework does not include a clear, workable, transparent, or equitable mechanism for allocating the cap; as such, WMRR has developed a proposed solution at **Annexure A** within our submission below.
- The timeframe for implementing this framework is of pressing concern, given that we understand the Waste Authority will administer the cap and this entity has not been created at law yet. It is WMRR’s understanding that even if this framework is adopted by government, it cannot be effected until mid-2022 and only if the Authority is established by that time and has been able to develop and implement the guidelines and mechanisms required to put the framework into practice, indicating that industry will likely only be able to access material within the cap allocation in the second half of 2022 (noting that the EfW policy is to be reviewed in 2023). This timeline and the imminent review pose considerable uncertainty and concern to investors, who may then be forced to preference investment in other jurisdictions.

Beyond the projects that have received planning permits prior to 28 June 2021 and are exempt from the cap, there are, at present, a significant number of well progressed projects under active development in Victoria that have committed significant finance (including some with financial support from government), entered into land agreements (a requisite for planning approvals), as well as some having signed supplier contracts (necessary for capital funding), which are now effectively paused due to policy uncertainty and ongoing delays, including, for example, the Maddingley Energy Precinct that has received Victorian government funding. The significant investment to-date and current as well as future jobs have effectively been stalled, if not blocked by this policy. Further, it is

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likely the cap (and the lack of a clear mechanism) will now be viewed by Victorian industry as a risk that is simply too great for further future investment to occur in this area.

WMRR appreciates the government's willingness to listen to industry's concerns and we would welcome continued engagement to ensure that a robust EfW framework is developed, one that meets government's environmental objectives while future-proofing the state's WARR industry and economy. Please do not hesitate to contact the undersigned if you would like to further discuss WMRR's submission.

Yours sincerely

A handwritten signature in blue ink, appearing to read 'G. Sloan'.

Gayle Sloan

**Chief Executive Officer**

Waste Management and Resource Recovery Association of Australia

**SUBMISSION**

Section	Question	WMRR's response
3. Scope and operation of the cap		
3.1 Defining thermal waste to energy	Are further clarifications to the proposed definition of "thermal waste to energy" for the purposes of the waste to energy cap required?	No further comments.
3.2 Wastes that can be used for thermal waste to energy	<p>What other wastes or processes should be considered to be permitted or banned for the purposes of the waste to energy cap and why?</p> <p>Are there other factors that should be considered when determining which wastes are permitted?</p> <p>What information should waste to energy facility operators need to provide to demonstrate that C&amp;I and C&amp;D waste has no market available for reuse or recycling?</p> <p>Are there other wastes or processes that have a case to be considered exempt from the waste to energy cap, and why?</p> <p>What implementation issues could arise if the proposed permitted, banned and exempt waste categories are adopted?</p>	<p>Against the backdrop of the need for, and in some cases current lack of, both availability and certainty of markets for recycled content, WMRR is seeking clarity and specificity in relation to:</p> <ul style="list-style-type: none"> <li>• What will constitute adequate pre-sorting for C&amp;I materials.</li> <li>• What the process will be to demonstrate "technically, environmentally, and economically practical" (TEEP). WMRR acknowledges and supports proponents demonstrating TEEP but further guidance (and not just definitions) particularly around the qualifiable and quantifiable requirements to meet TEEP is required to provide proponents with certainty.</li> <li>• The reference to "Recyclable MSW" – this should be deleted as there are clearer definitions later in the document and this reference is confusing.</li> <li>• The language used in figure two (2). WMRR requests that the terms "mixed" and homogenous" are replaced with "unsorted" and "sorted" for consistency as the latter two (2) terms are commonly used and accepted in industry.</li> <li>• Figure two (2) – clarification is required in the final document around the bin requirements for MSW, including requirements for source separation via a three (3)-bin system while kerbside reforms are being undertaken, and a four (4) (service)-system when these reforms are completed.</li> </ul>

		<p>WMRR understands that the resource recovery criteria are designed to increase recovery of materials for reuse or recycling as well as to support the overarching principles of the waste management hierarchy; as such, we would urge the government to also apply – sooner rather than later - these criteria to landfills, particularly for C&amp;I and C&amp;D materials.</p>
<p>3.3 Applying for a cap allocation</p> <p>3.4 Allocating space within the cap</p>	<p>Which option (1 or 2) would be most suitable for allocating the waste to energy cap to applicants? Why or why not?</p> <p>What are your views on the proposed methods for modifying cap allocations once they have been granted? What implementation issues could arise?</p>	<p>WMRR asserts that as they stand, neither option is suitable, and both do not address the reality of the market nor place a strategic filter on the need for proposed facilities; there are no details on how these approaches will operate from a financial certainty and risk mitigation perspective (both being imperative to get a project off the ground) as the tonnage allocation is key to a project’s risk profile. While there will be a level of uncertainty in project development, there are no clear indicators as to what the anchor points are that proponents need to pin down to enable progress through the development stage. As such, both proposed options require proponents to invest substantially with little to no certainty of development and cap allocation success.</p> <p>Other questions also remain, including the meaning of competition in the EfW market given contracts are long-term and councils do not move between providers like they may do with other processing facilities, how priority will be given in the on-demand approach in a transparent and equitable manner, and the terms of the cap allocation - taking into account potential factors such as waste market changes in the medium- to long-term, consumer consumption changes, as well as growth of a facility’s operational capacity, noting that these plants define input by multiplying waste quantity with calorific value.</p> <p>Further, WMRR is seeking clarity on the following:</p>

		<ul style="list-style-type: none"> <li>• Can projects be sold with the cap?</li> <li>• If a pre-approved project's cap is not used, can the cap be reallocated?</li> </ul> <p>WMRR is proposing an alternative cap allocation mechanism that industry believes to be a workable solution; this proposal can be found at <b>Annexure A: Victorian EfW cap allocation – when can it be applied?</b></p>
3.5 Reporting and monitoring	How should waste to energy facility operators' compliance with cap allocation conditions be reported and monitored?	WMRR is seeking further details on, and confirmation of, what regular reporting will entail and the frequency of this reporting, and how this will align with other obligations such as license requirements; for example, the goal must be to avoid needless duplication of data provision.
3.6 Reviews of the cap	What considerations should the government include in future reviews of the waste to energy cap?	<p>Considerations that the government should include and clarify are:</p> <ul style="list-style-type: none"> <li>• Frequency of composition analysis.</li> <li>• Changes to licence conditions, if any, should a plant require greater allocation or receives/purchases a transfer.</li> <li>• Where the total cap value is set, particularly relative to the volume of waste going to landfill as well as recycling rates. It is imperative that the modelling undertaken to arrive at the cap be made publicly available.</li> </ul> <p>Further, just as the review is required to look at “likely impacts of current and potential waste to energy infrastructure on waste flows including barriers it poses to avoidance, reuse or recycling”, it should also look at likely impacts of the cap on Victorian waste flows, including barriers it poses to EfW investment and the potential perverse outcomes in supporting volumes of waste to landfill.</p>
<b>4 Roles and responsibilities</b>		
4	Do you agree with the proposed split of responsibilities for the administration and review of the cap?	As noted in Annexure A, until the Waste Authority is established and operating, it is proposed that DELWP will be responsible for the administration of the cap. To reiterate, details are also lacking around



		<p>how the government will ensure that all decision-making processes will be conducted in a fair, transparent and equitable manner and WMRR has proposed a solution to manage this at Annexure A.</p> <p>Additionally, WMRR is seeking clarity on which entity will be responsible for, and the process should a review of the cap allocation decision be required, i.e., an independent review and appeal mechanism is necessary.</p>
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## **ANNEXURE A: Victorian EfW cap allocation – when can it be applied?**

**Goals:** (a) Projects to have visibility on cap allocation as early as possible in the project lifetime. (b) Projects must proceed and utilise the cap in a realistic timely manner and not be able to frustrate other projects. (c) Cap of one (1) million tonnes until 2023.

### **Proposed mechanism approach**

**Step 1. Pre-proposal self assesment to be undertaken by DELWP/Waste Authority:** assessment to potentially be made against the Statewide Waste and Resource Recovery Infrastructure Plan (SWRRIP), addressing Recycle Victoria criteria related to feedstock (location and source), location of facility and area serviced, buffer zones, strategic outcomes met for Victoria, reference sites/proven technology. WMRR also suggests that that information related to where these facilities are proposed to be located are published.

Importantly, WMRR is urging the government to allocate these responsibilities to DELWP until the Waste Authority is established and operating. WMRR would also note that whilst there are two (2) project pathways to delivering such projects (see below), they should in fact be treated in the same manner for cap allocation.

### **Two (2) project pathways – both must be treated the same way:**

- i. Government-led procurement that is directed by the SWRRIP must meet strategic needs (i.e., no new landfills; note that these will arguably be anchored with MSW tonnes from councils). Essentially, a government led-procurement process needs to apply and receive the cap before they can run the process.
- ii. Developer-driven proposal – market-led proposals, often anchored by C&I tonnes.

### **Step 2. Cap Allocation**

Cap to be allocated as part of the Works/ Planning Approval process. The allocation will be a referral to the requisite authority at the time the planning issues are being considered.

### **Test for allocating cap by DELWP/ Authority:**

- Critical analysis of ability to deliver the project.
- Location – is the strategic location aligned to the SWRRIP?
- Where is the feedstock coming from?
- Bankability of the project.
- Proven technology and reference sites.



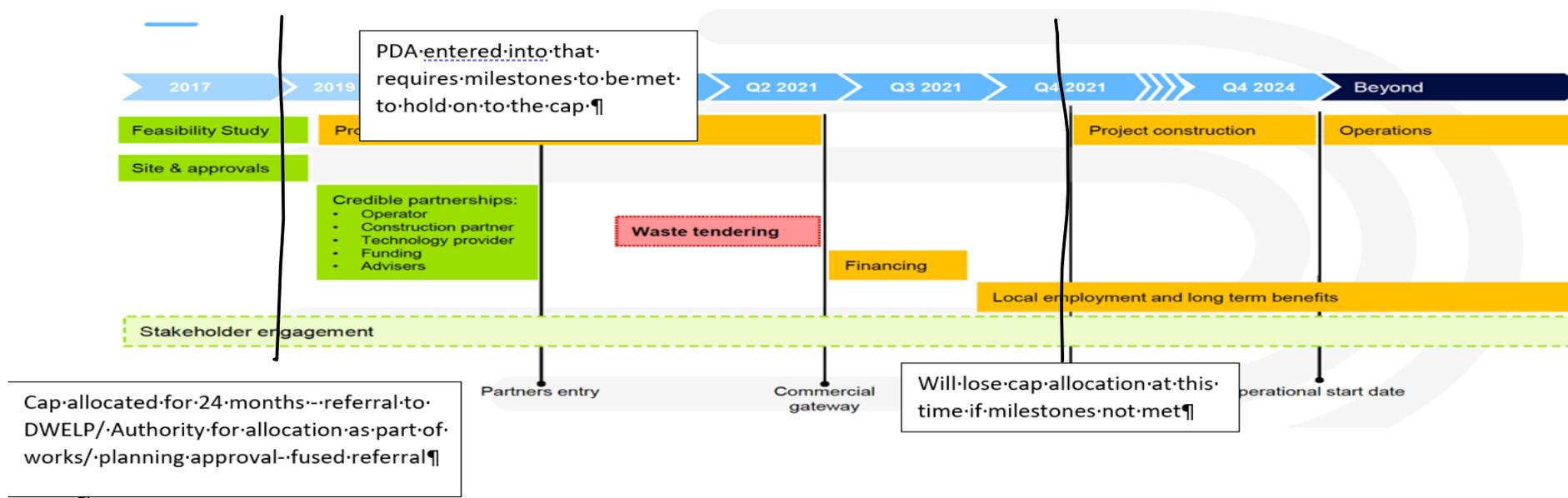
If the cap is approved, a Project Delivery Agreement (PDA) will be entered into with the Authority, which must have critical milestones met within 24 months in order to keep the cap allocation, the intention being that “you use it, or you lose it” for the cap allocation.

**Milestones that must be met within two (2) years for PDA with DELWP/Authority:**

- Contracts for waste.
- Construction contracts.
- Power off-take agreements, grid connection, etc.

\*Cannot sit on cap allocation for five (5) years like the planning approval – there must be demonstrated progress.

**Project timeline: Five years in the making**



## ANNEXURE B



The Hon. Lily D'Ambrosio MP  
Minister for Energy, Environment and Climate Change  
Level 16, 8 Nicholson Street  
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Email: [lily.dambrosio@parliament.vic.gov.au](mailto:lily.dambrosio@parliament.vic.gov.au)

17 June 2020

Dear Minister D'Ambrosio

### **Re: Victoria's proposed cap on thermal Energy from Waste**

I write on behalf of the Waste Management & Resource Recovery Association of Australia (WMRR) in relation to the policy proposed for Energy from Waste (EfW) infrastructure in Victoria, submitted within the Recycling Victoria strategy.

WMRR, the national peak body for all stakeholders in the \$15.5 billion waste and resource recovery industry, is at the forefront of the ongoing evolution towards a whole-of-system waste and resource recovery approach and the development of a circular economy. We will continue to promote and advocate for our essential industry to drive investment, economic and job growth, as well as protection of the community and environment. WMRR wholeheartedly agrees with the statement within the policy that *"waste to energy technologies have a role in an integrated waste and resource recovery system. As Victoria shifts towards a circular economy, and as part of a comprehensive policy approach, waste to energy facilities will divert waste from landfills and use it to create valuable energy. Generating energy from waste is better than sending waste to landfill, once valuable recyclable materials have been removed."*

WMRR strongly advocates that there must be a systems-based approach to managing materials, governed by the waste management hierarchy as we move Australia towards a genuine circular economy that emphasises design, extended producer responsibility and sustainable natural material management. As evidenced in the hierarchy, energy recovery is preferable to landfill disposal. It therefore does not make sense, with Victoria generating more than 12 million tonnes of material per annum (2016/17) of which four (4) million tonnes of residual material is disposed to landfill, to place a seemingly arbitrary number of one (1) million tonnes as a cap on the amount of waste that can be utilised to recover energy, while allowing three (3) times that volume to be landfilled, creating methane and leachate.

WMRR does appreciate and support the fact that there must both be a strong social license for EfW facilities (like all waste and resource recovery facilities), and facilities must work well within communities. We also recognise and support the need for the technology utilised to be international best practice, meet all requirements in relation to pollution and energy efficiency, as well as reduce greenhouse gas emissions. However, we would put to the Victorian Government that there are better, more workable ways to achieve all of these outcomes than the current proposed approach.

These 'workable ways' have surfaced in recent months through the EfW policies recently released in South Australia and Queensland. Both policies, as in Victoria, require that only residual waste can be utilised by these facilities; however, they link material availability to their broader policy documents and objectives. The current approach in Victoria, by default, prioritises disposal (landfill) over recovery (energy recovery), distorting the waste hierarchy. This approach alone, without the deployment of integrated policy levers and particularly with no commensurate limit on landfilling, will do little if anything to drive recovery and re-use of materials.

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WMRR appreciates that the Victorian Government appears to be concerned about the possible over-development of facilities within the recovery sector, which may have, in part, led to this measure. To this end, WMRR would again point to the need to have an integrated system for managing this. We have provided a paper (**attached**) comparing the approach taken by the Netherlands, a global leader in waste management and circular economy, and the approach outlined in the Victorian strategy: “Commentary on the Victorian Government’s waste policy Recycling Victoria, A new economy, by Mr Herman Huisman - Netherlands Waste Management Council”.

WMRR’s concern is that the one (1) million tonne cap is a very blunt instrument that distorts the application of the waste management hierarchy in practice, fails to provide a stable policy setting, and inhibits development in and of industry, all while doing little, if anything, to encourage increased recovery.

Australia is in the fortunate position to be able to learn from international experience and Victoria has the opportunity to align its EfW position with the policies in two (2) other states. Doing so will assist in driving a valuable and necessary national approach to waste management and the circular economy. These existing approaches can also allow Victoria to address concerns that it may have about over-investment in energy recovery without stifling investment.

As all jurisdictions, Victoria included, embark on measures to ensure economic recovery in a post-COVID world, it is vital that policies play a key role in driving, not hampering, investment in essential industries. In turn, this will drive local economies and boost jobs – both being all the more important post-COVID, while continuing to manage the environment and community health and wellbeing.

WMRR appreciates the ongoing and positive engagement with the Victorian Government and is keen to meet and discuss this issue directly with you, as well as possibly discuss alternative measures and approaches. Please feel free to contact me on 0429 076 713 or email: [gayle@wmrr.asn.au](mailto:gayle@wmrr.asn.au) to arrange a suitable time. Stay safe.

Yours sincerely

A handwritten signature in blue ink, appearing to read 'Gayle Sloan'.

Gayle Sloan  
**Chief Executive Officer**  
Waste Management and Resource Recovery Association of Australia

**Commentary on the Victorian Governments waste policy *Recycling Victoria, A new economy*, by Mr Herman Huisman - Netherlands Waste Management Council**

**Recycling Victoria, A new economy**

It is with great interest I read the recently released Victorian plan for waste and recycling, *Recycling Victoria, A new economy* (the **Plan**). I have been asked by the Waste Management and Resource Recovery Association of Australia to comment on the plan, and I have approached this review informed by my experience in the waste sector:

**Mr Herman Huisman biography**

Herman Huisman is an environmental biologist by training who started his professional career in 1978 at the Netherlands Scientific Council for Governmental Policy, a policy development and advisory group to the Prime Minister. In 1985 he assisted in setting up the Netherlands Commission for Environmental Impact Assessment. In 1991 he set up the Netherlands Waste Management Council and was appointed as Deputy Head and later on Director of the Bureau of the Council and Secretary General of the Council. In 2005 the Council merged with a Governmental Agency (RWS). In this position he executed projects and gave lectures and courses in about 60 countries in best practise waste management.

**General remarks**

It is encouraging to see that many of the policy initiatives and instruments within the Plan are the same as those that have been successfully introduced in Europe. In 1975, the European Union played a leadership role in harmonising the targets, standards and policies of the member states in the area of waste management. Most recently, in 2015, the EU introduced policies and targets promoting the Circular Economy. The Netherlands is one of the frontrunners within the EU in implementing these EU directives, and many of the sustainable practices and approaches developed in the Netherlands have been adopted by other countries. Victoria is to be congratulated for introducing targets and policies to encourage source separation, recycling and re-use. Please see below a table highlighting some of the similarities and differences between the approach suggested in the Plan and the Netherlands' experience.

<b>Netherlands' Experience</b>	<b>Recycling Victoria, A new economy</b>
Extended producer responsibility systems	✓ Design to last, repair and recycle, including business support grants and product stewardship
Source separation, recycling and reuse incentives and policies	<ul style="list-style-type: none"> <li>✓ Use products to create more value, including support for councils, banning plastic bags</li> <li>✓ Additional source separation, including container deposit scheme (2022/23) and four bin system with drop off points</li> <li>✓ Halve the volume of organic material going to landfill between 2020 and 2030</li> <li>✓ Ensure every Victorian household has access to food and garden organic waste recycling</li> </ul>
Benchmarking performance	✓ Measure our progress – Expand Victoria's waste data systems
Landfill taxes	✓ Recycle more resources – Fit-for-purpose landfill levies
Moratorium on new landfills and on expansion of existing landfills	✗ Landfills will continue to be part of Victorian waste infrastructure
EU target diverting 90% from landfill	✗ Divert 80 per cent of waste from landfill by 2030
National approach	<ul style="list-style-type: none"> <li>✓ Overseas national waste policy and product stewardship legislation</li> <li>✓ State-wide standardisation, education and behavioural change programmes</li> <li>✗ National standardization of incentives, systems, education etc</li> </ul>
Energy from Waste feedstock cap	? One million tonne cap – further detail below

### **Specific comments on Recycling Victoria, A new economy**

The Plan refers to an EU Communication on the role of waste to energy. This document states: *“Waste-to-energy processes can play a role in the transition to a circular economy provided that the EU waste hierarchy is used as a guiding principle and that choices made do not prevent higher levels of prevention, reuse and recycling”*. EU targets for landfilling are a maximum of 10% by 2030.

However, in the Victorian Plan, this document is referred to as follows: *“Experience in other jurisdictions indicates that over-investment in waste to energy infrastructure could be a disincentive to innovation in reuse and recycling and transitioning to a circular economy (41). Infrastructure Victoria identified the potential risk of over-investing in waste to energy infrastructure, as observed in other jurisdictions like Denmark and the Netherlands (42).”*

Additionally, the Plan concludes: *“The Victorian Government will plan for waste to energy facilities as part of the Victorian Recycling Infrastructure Plan, to provide policy certainty for waste to energy facility proponents. This will include placing a cap of one million tonnes each year until 2040 on the amount of residual waste that can be used in thermal waste to energy facilities.”*

Please note that the potential risk of over investment in waste to energy infrastructure was considered within the Dutch waste management plan. In the next section I discuss the reasoning and approach used.

### **Reflecting on the Netherlands experience (a whole of system approach to waste management and developing a circular economy)**

1. **Adopting a 10-year horizon** - the Netherlands acknowledged the need for medium to long term stable policy and incentives to provide a stable environment encouraging both investment in waste infrastructure and behavioural change. Infrastructure requires at least a 10-year horizon in order to impact change prior to assessing and potentially modifying policy. To this end, the Netherlands adopted a 10-year planning approach.
2. **Setting policy and targets based on data and evidence** - the first 10-year waste management plan was launched in 1992. Capacity targets for waste to energy and landfill aimed to avoid overcapitalisation of energy from waste (EfW) infrastructure. The amount of residual waste suitable for energy from waste was forecast to be 5.2m tonnes per annum based on moderate growth of waste volumes, high recycling targets, high avoidance targets and the reduction of landfilling to a minimum (1-2% of the residential waste production). The targets were supported by a range of legislated policies and incentives designed to encourage behavioural change that promote and support implementation of the waste management hierarchy - avoidance, reuse, repair, recycling. These policies included bans on new landfills, recycling incentives (pay to drop) and infrastructure, data integrity, landfill levies and extended producer responsibility legislation. The plan continued until 2003, with some modifications including a moratorium on expanding landfill capacity. Landfill owners could buy capacity from competitors as long the total capacity was not increased. These policies led to a reduction in landfill from about 13m tonnes per year in 1990 to 3m tonnes in 2005, whilst materially improving recycling rates.
3. **Perception of overcapitalisation in the Netherlands is incorrect** - In order to further improve recycling rates and reduce landfilling, in 2003 the EU agreed to allow cross-border transportation of recyclable materials and waste which was suitable for energy from waste. These products were treated in the same way as other commodities within the EU. Waste which was to be disposed of in landfill was not allowed to be transported across country borders within the EU. In conjunction with the EU change allowing cross-border transportation, the Netherlands government removed the target caps on both energy from waste and recycling. Projects which met the environmental standards (EU Incineration directive and National standards) could apply for a license to operate on their own risk (no governmental safety net). In the period from 2005 to 2010, the capacity of EfW in the Netherlands was expanded from 5.2m to 7.8m tonnes per annum.

After 20 years of policy stability across elements of the waste management hierarchy, landfill was near zero. Of the 60 million tonnes of waste produced in the Netherlands, 2-3% was landfilled, 81% recycled and 17% sent to EfW (including sludge incineration). Energy from waste was now effectively the bottom of the waste hierarchy. At this time, gate fees on energy from waste decreased and threatened to interrupt recycling. As a result, in 2015, a levy was applied on energy from waste ensuring that waste that could be recycled is not

sent to EfW. It was only after landfilling was reduced to near zero that gate fees on EfW were required to prevent diverting waste from recycling.

4. **Reducing, reusing and recycling in the Netherlands continues to improve** – decades of stable policy has allowed the Netherlands to achieve success in waste management, with recycling levels of residential waste now being at 64%, landfill 0% and EfW 36% (compared with Victoria's municipal recovery rate of 41% in 2018). Waste generation per capita is around 500kg per person per year, and this figure continues to drop. The country is targeting 100 kg/person/year of residual residential waste and 75% recycling rates. Excess capacity of waste to energy in the Netherlands has not been a disincentive to innovate in reuse and recycling or transitioning to a circular economy.

#### **Victoria's one million tonne cap on residual waste for thermal waste to energy**

The introduction of a target capacity for energy from waste is sensible and in line with the Dutch experience. However, as in the Netherlands, a broader systems view must be taken in the policies governing the waste and resource recovery sector, in order to meet sector-level targets. It is positive that Victoria is implementing policies improving source separation (container deposit scheme and four bins for municipal waste) and incentives to recycle and reuse materials.

When referencing targeted improvements in landfill diversion rates, the quantum of the thermal energy from waste cap seems to be too low. A cap of 1m tonnes per annum EfW capacity until 2040 will not motivate increased recycling and the transitioning to a circular economy whilst there is no similar limit on landfilling. The cap will ensure that significant amounts of residual waste are consigned to landfill for years to come, restrict investment and drive no real behavioural change. As landfilling is of the lowest order in the waste hierarchy, and a massive producer of greenhouse gasses and leachate, it seems strange to prioritise landfill over energy from waste by placing a cap on material to EfW with no corresponding cap on material to landfill. For example, Victoria might consider phasing out landfill by restricting the licensing of new landfills, placing a moratorium on the expansion of existing landfills and capping landfill to a maximum of 10% (the EU target for 2030).

Infrastructure Victoria's recent advice to government "*Advice on recycling and resource recovery infrastructure*", contains recommendation number three "Provide clarity to the waste-to-energy sector and establish regulatory settings to achieve desired waste-to-energy outcomes." I agree with this recommendation and believe the experiences in the Netherlands can be of use. The Netherlands today sends 5.8mtpa of its own waste to EfW facilities. With a population of 17.3m people, and next to no waste sent to landfill, this equates to approximately 300kg of residual waste per person per year. This can be compared with Victoria's landfilling of 3.5mtpa (MSW and C&I) and population of 6.4m people (in 2017), meaning approximately 550kg of MSW and C&I is landfilled per person per year.

If the Netherlands is approximately 20 years further along its waste management journey than Victoria, then Victoria might hope to achieve similar improvements by 2040. According to ABS estimates, Victoria is expected to have about 9.4m inhabitants in 2040 – at 300kg of residual waste per person, this would require EfW capacity of 2.8mtpa. Factored into these estimates is an expectation that the policies in the Plan will have the effect of reducing residual waste through recycling, reuse and avoidance. This reduction would be moving towards the Dutch experience, where residual waste has reduced by ~62% over the past 30 years. This estimate indicates that a one million tpa cap on waste to EfW will result in significant amounts of residual waste being consigned to landfill.

It would seem sensible to ensure that any cap put on EfW is large enough that landfill is not prioritised in Victoria's waste hierarchy, and that this policy is established well in advance in order to allow the development of waste infrastructure to occur in an orderly manner.

#### **Energy from waste – human health and the environment**

When implementing energy from waste policy, careful consideration should be given to licensing projects, to ensure there are no compromises for the outcomes for emissions, the environment and human health.

1. Ensure that the industry is developed using global best available techniques (Best Available Techniques (BAT) Reference Document for Waste Incineration: Industrial Emissions Directive 2010/75/EU))
2. A framework to ensure that human health and the environment are protected, including using technologies that are proven, well understood and capable of handling the expected variability and type of waste feedstock as source separation and other waste practices continue to improve over time. This must be

demonstrated through reference to fully operational plants using the same technologies, treating similar waste streams.

- a. Flue gas treatment systems use best available techniques to achieve the strictest emissions standards in the world and present no risk to human health.
  - b. Emissions are continuously monitored, with real-time feedback to ensure optimal environmental performance. Emissions from modern facilities are approximately 1,000 times lower than normal levels in the air.
  - c. The average number of particles released from a modern facility would be the same as the emissions released from four modern semi-trailers driving on a motorway.
3. Thermally treating residual waste reduces greenhouse gases in two important ways:
- a. By diverting waste from landfill, which reduces the amount of methane produced by household waste as it breaks down; and
  - b. By generating electricity for the grid, which reduces the amount of energy that coal power plants need to produce to power.

I congratulate you on releasing a world class policy, Victoria's *Recycling Victoria: A new economy*. The policy measures outlined are broadly in line with best practices established in the Netherlands and the EU. However, I would encourage careful consideration to the policies surrounding energy from waste, the one million tonne cap and ensuring proven technology is used for the benefit of Victoria's citizens and the environment.

I would welcome the opportunity to provide any further detail on the experience of the development of the Dutch waste sector.

Yours sincerely

Herman Huisman