

To: Department of Energy, Environment and Climate Action

1 February 2024

Waste to Energy Scheme Regulatory Impact Statement

We appreciate the opportunity to provide feedback on the proposed Waste to Energy (WtE) Scheme regulations and Regulatory Impact Statement (RIS).

Environment Victoria is the leading not-for-profit environmental advocacy organisation in Victoria. With 40 grassroots member groups and over 200,000 individual supporters, we've been representing Victorian communities on environmental matters for over 50 years. Through advocacy, education and empowerment, Environment Victoria seeks significant and enduring solutions that will safeguard the environment and future wellbeing of all Victorians.

In our 2019 submission to the Parliament of Victoria's Inquiry into Recycling and Waste Management (appended), we emphasised the need to avoid waste incineration. WtE destroys materials and removes them from the economy: it is not 'circular'. The fact that WtE provides some energy and can compare favourably to landfill is little consolation, and it is disappointing that the Victorian Government seeks to both expand and entrench WtE.

With regards to this consultation, it is clear that the WtE scheme has been designed in the interests of operators. It has been designed such that all risks are borne by the environment and the public. Furthermore, there are no mechanisms to ensure that any potential benefits to the energy system or the climate can be harnessed.

Data quality and the precautionary principle

The analysis in the RIS incorporates "significant data limitations in the present which require the use of a range of assumptions" and "significant uncertainty about future developments in the waste sector" resulting in analysis that "is imprecise and should be considered indicative of the expected impacts, rather than a precise forecast of the expected impacts".¹ Therefore, at best the government hopes to be 'in the right ballpark' over the life of the cap.

In the absence of sufficient data, the government has a responsibility to err on the side of caution until better decision making is possible. In this case, the risks of poor decision-making are that the WtE scheme will: 1) stifle progress in higher-order waste avoidance and management; 2) create new

¹ DEECA, 'Waste to Energy: Regulatory Impact Statement for Victoria's Waste to Energy Cap and Cap Licensing (Version 2)' (Melbourne: State of Victoria, December 2023), p9.

pollution streams that are then not well managed; 3) work against the clean energy transition; and 4) empower groups with a vested interest in perpetuating waste incineration.

The precautionary principle states that a lack of full scientific certainty should not be used as a reason for postponing a measure to prevent degradation of the environment where there is a threat of serious or irreversible environmental damage. The principle applies where two conditions are met: 1) there is a threat of serious or irreversible environmental harm, and 2) there is a degree of uncertainty about the nature and intensity of that risk.

WtE facilities present environmental threats in the form of toxic air emissions, Scope 1 greenhouse gas emissions and the potential for land or water contamination from leaching residual waste. We know that, even with air pollution control technology, WtE facilities will emit air pollution that is toxic to human health. It is also widely accepted that there is no safe level of exposure to some of the contaminants produced by waste incineration such as particulate matter² (PM₁₀, PM_{2.5} and ultrafine particles), nitrous oxides³, dioxins and furans.⁴ The Scope 1 emissions from the WtE industry may contribute to the serious, and potentially irreversible, impacts of climate change.

Recent Australian meta-analyses of the impacts of WtE facilities highlight the considerable limitations on any finding that WtE is 'safe'.⁵ The existence of other air pollutants, mobility of populations exposed to WtE emissions, and the latent nature of many diseases triggered by exposure to air pollutants create complex challenges in establishing links between WtE and human health impacts. This is not the same as establishing that there are no links.

For these reasons, WtE is a perfect example of an industry for which the precautionary principle has an important role to play in regulation. As long as there are potentially severe human health impacts from WtE and there remains significant uncertainty about how those impacts will play out, the government is obliged to act with caution to protect people and the environment.

Authorising the development of either the 1 million or 2 million tonne cap, on top of the approximately 1 million tonnes already authorised under existing Development Licences, is not consistent with a precautionary approach.

Therefore the best option for the Cap licence level is 500,000 tonnes or lower.

² NSW EPA, 'Regulatory Impact Statement - Proposed Clean Air Regulation 2022' (Sydney: NSW EPA, 2022), 6, https://hdp-au-prod-app-nswepa-yoursay-files.s3.ap-southeast-2.amazonaws.com/3116/5155/5920/Regulatory_Impact_Statement-Proposed_Clean_Air_Reg._2022.pdf.

³ United States Environmental Protection Agency, 'Integrated Science Assessment for Oxides of Nitrogen - Health Criteria' (NC, USA: US EPA, January 2016), https://ofmpub.epa.gov/eims/eimscomm.getfile?p_download_id=526855, refer Chapters 5 and 6.

⁴ World Health Organisation, *Air Quality Guidelines: Global Update 2005 ; Particulate Matter, Ozone, Nitrogen Dioxide and Sulfur Dioxide* (Copenhagen: WHO Regional Office for Europe, 2006), <https://iris.who.int/bitstream/handle/10665/107823/9789289021920-eng.pdf?sequence=1>; Douglas W. Dockery et al., 'An Association between Air Pollution and Mortality in Six U.S. Cities', *New England Journal of Medicine* 329, no. 24 (9 December 1993): 1753–59, <https://doi.org/10.1056/NEJM199312093292401>; D. Krewski et al., 'Reanalysis of the Harvard Six Cities Study, Part I: Validation and Replication', *Inhalation Toxicology* 17, no. 7–8 (2005): 335–42, <https://doi.org/10.1080/08958370590929402>.

⁵ Peter W. Tait et al., 'The Health Impacts of Waste Incineration: A Systematic Review', *Australian and New Zealand Journal of Public Health* 44, no. 1 (February 2020): 40–48, <https://doi.org/10.1111/1753-6405.12939>; Tom Cole-Hunter et al., 'The Health Impacts of Waste-to-Energy Emissions: A Systematic Review of the Literature', *Environmental Research Letters* 15, no. 12 (1 December 2020): 123006, <https://doi.org/10.1088/1748-9326/abae9f>.

In the following paragraphs, we make recommendations for the design of the scheme to address these problems.

Function of the cap

In setting the cap, the government seeks to reduce the amount of waste going to landfill as much as possible without interfering with waste avoidance, minimisation, reuse and recycling. Furthermore, the government seeks to create an attractive investment environment for potential WtE operators.

In reality, despite its name, the cap looks and functions like a target because a license is intended to be fixed for the life of the WtE plant⁶ and because operators are charged a fee to decrease their allowance. This is alarming given that the cap is based on a ballpark estimate at best. The proposed Regulations work against the scheme's ability to "adapt readily to changing market conditions", which is an objective of the Act.⁷

Adaptability requires us to expect businesses will take on some risk, which is reasonable as risk is an inherent and expected part of going into business. Given the proposed design of the cap, one might be forgiven for thinking that providing certainty for WtE was a Regulatory objective of the RIS – but it is not.⁸ The government's role with regards to business is to create conditions where ethical and well-run businesses can thrive, not to guarantee viability regardless of impact.

It must be made clear to WtE operators that their license to burn waste will be subject to review with regard to the public good. The WtE cap must not undermine investment in lowering emissions or circular technologies. The Regulations should require that the cap is reviewed and reset downwards at 5 years (in line with the evaluation plan) and that the cap expires when the Regulations sunset.

Furthermore the Regulations should not impose a fee to decrease the amount of waste processed in WtE facilities.

Improving future decision-making

Evaluation and review will be the most important aspect of the scheme and the plan set out in the RIS appears comprehensive. We would like to see additions made to improve data quality and the ability of community stakeholders to participate in future consultation.

Data provided by WtE operators should be independently audited at the cost of the operator. In the interests of transparency, the Regulations should also require that data arising from all of the evaluation activities are made public within three months of receipt by Recycling Victoria (RV).⁹

⁶ As stated by DEECA at the consultation information session, 17 January 2024.

⁷ s 5(2)(d).

⁸ DEECA, 'Waste to Energy: Regulatory Impact Statement for Victoria's Waste to Energy Cap and Cap Licensing (Version 2)', p24.

⁹ By this we mean all of the evaluation data listed in Table 29 of the RIS.

Consistency with climate targets and the energy transition

The proposed Regulations provide for the expansion of WtE facilities, but take no responsibility for the energy side of the equation. The Background chapter of the RIS spruiks some potential benefits to Victoria's energy system but omits discussion of risks.

A stated aim is that "WtE does not undermine investment in lowering emissions" and "the WtE industry produces useful levels of energy".¹⁰ However, there are considerable flaws in the methods used to estimate the greenhouse gas emission from WtE industry in Victoria.

Firstly, the nature of WtE as a 'baseload' generator has not been considered. WtE usually produces baseload power from steam and must do so continuously in order to minimise toxic air emissions. Inflexible, baseload generators such as incinerators are increasingly displacing genuine renewable power during low or negative pricing events.¹¹ This is a scenario that will increase in frequency.

Victoria is soon to legislate a renewable energy target of 95% by 2035 which means that at times WtE will likely be displacing and forcing the curtailment of renewables. This has not been adequately considered by the Environment Protection Authority (EPA) or DEECA in the estimation of WtE climate impacts. The government should ensure that there are no incentives that cause renewable energy to be curtailed so that WtE plants can burn tyres and plastics.

According to the RIS, WtE could supply between 1.5% and 6% of Victorian electricity consumption¹² which is comparable with gas.¹³ Based on this the Regulations should require WtE generators to be registered participants in the National Energy Market and hence exposed to wholesale prices. This would disincentivise generation that curtails renewables.

Additionally, all three of Victoria's coal fired power stations are set to close during the expected lifespan of any Victorian WtE facility under either the existing Development Licences or the expected Cap Licences. The closure of each coal fired power station (Yallourn in 2028, Loy Yang A in 2035 and Loy Yang B in 2047) will massively alter the carbon intensity of Victorian energy generation. Simultaneously, improvements in the separation of municipal waste are expected to reduce the methane emissions from landfill. This significantly decreases the greenhouse gas 'savings' that the WtE industry claims under scope 2 and 3 emissions.

It is unrealistic to expect that the *Climate Change Act 2017* (Vic) can be relied upon to deal with the greenhouse gas impacts of the WtE industry. Neither the EPA nor Recycling Victoria can be assumed to have the capacity and expertise to fully investigate the climate impacts of an individual licence application in a sector that is characterised by complexity, uncertainty and industry greenwash.

¹⁰ DEECA, 'Waste to Energy: Regulatory Impact Statement for Victoria's Waste to Energy Cap and Cap Licensing (Version 2)', p21.

¹¹ Giles Parkinson, 'Negative Pricing Events Hit Record Levels, and Are Worse in Coal-Fired Grids', RenewEconomy, 4 July 2023, <https://reneweconomy.com.au/negative-pricing-events-hit-record-levels-and-are-worse-in-coal-fired-grids/>; Sophie Vorrath, 'Rooftop Solar Sends Victorian Power Prices to Zero Every Day for Two Months', RenewEconomy, 21 October 2021, <https://reneweconomy.com.au/rooftop-solar-sends-victorian-power-prices-to-zero-every-day-for-two-months/>.

¹² DEECA, 'Waste to Energy: Regulatory Impact Statement for Victoria's Waste to Energy Cap and Cap Licensing (Version 2)', p71.

¹³ 4.8% in 2022, 'Australian Electricity Generation - Fuel Mix Calendar Year 2022 | energy.gov.au', accessed 23 January 2024, <https://www.energy.gov.au/energy-data/australian-energy-statistics/data-charts/australian-electricity-generation-fuel-mix-calendar-year-2022>.

Furthermore, the EPA has a track record of being unwilling to robustly regulate greenhouse gas emissions.¹⁴

It is therefore DEECA's responsibility to create the 'big picture' policy setting and framework for a safe climate. This requires preventing the establishment of an industry which significantly increases in carbon intensity at a time when urgent energy transition is required.

Mandatory Considerations for Recycling Victoria

The Regulations should include mandatory considerations for RV as the body authorised to approve Cap Licences that reflect the precautionary approach and current lack of social licence for the WtE industry. We recommend the following changes to the proposed considerations.

For the consideration that reads:

- *any planned, completed or ongoing engagement activity with:*
 - *the local community*
 - *any relevant traditional owners*

we suggest it be amended to:

- *any planned, completed or ongoing engagement activity with the local and affected communities and relevant Traditional Owners, the degree to which these groups accept the proposal and are willing to take on its risks, and any concerns of the broader Victorian community*

Furthermore, we recommend removing the phrase 'by the Authority' as this would allow for community members, scientists and other affected persons to provide relevant information on environmental impacts to RV:

- *any advice or information provided to the Head, Recycling Victoria by the Authority that indicates, or may indicate, environmental or compliance risks posed by the facility*

We recommend that the following be added as mandatory considerations for RV:

1. Cap Licences should be approved only where the proponent commits to using 'waste arising' contracts for securing waste streams.
2. WtE facilities should not be licenced in areas of existing disproportionate environmental or pollution burden, or where there is significant social, health or economic disadvantage in the local community.
3. The relative carbon intensity of the grid to which the WtE facility will be contributing power for the expected lifespan of the facility and how this impacts the climate benefits or detriments of the proposal.

¹⁴ Environment Victoria, 'Call for Victoria's Climate Laws to Be Fixed Following Supreme Court Decision - Environment Victoria', 21 December 2022, <https://environmentvictoria.org.au/2022/12/21/call-for-victorias-climate-laws-to-be-fixed-following-supreme-court-decision/>.

Closing comments

Our engagement in this process should not be interpreted as acceptance of the WtE concept. Our recommendations are made with the aim of reducing harm, but preferably Victoria would not incinerate waste. Environment Victoria supports measures that will transform our economy into one that is genuinely circular.

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Enc: Environment Victoria (2019), Submission to Parliament of Victoria's Inquiry into Recycling and Waste Management