



Submission on the Draft NSW Energy from Waste Policy Statement

30 April 2021

Emailed to: waste.updates@epa.nsw.gov.au



The Southern Sydney Regional Organisation of Councils (SSROC) welcomes the opportunity to provide feedback on the draft NSW Energy from Waste (EfW) Policy Statement. This submission summarises consolidated feedback from our member councils; it does not represent endorsed positions or recommendations.

SSROC is an association of 11 Sydney councils, including Bayside, Burwood, Canada Bay, Canterbury Bankstown, City of Sydney, Georges River, Inner West, Randwick, Sutherland, Waverley and Woollahra Councils. Together, our member councils cover a population of over 1.7 million, or one-third of Sydney's population, and manages about 20% of all NSW household waste, highlighting the central role that these councils play in waste management and resource recovery.

SSROC understands that the NSW EPA is seeking feedback on 1) whether the revised NSW EfW Policy Statement is clear; and 2) whether it is achievable. While SSROC councils are fully supportive of the intent of the Waste and Resource Recovery (WARR) Act 2001 to ensure that resource management prioritises the highest order of recovery, and are in principle supportive of clean alternative waste treatment technologies that maximise resource recovery and diversion from landfill in line with the waste hierarchy and the highest order of recovery, SSROC has a number of concerns and recommendations about the revised EfW policy statement.

SSROC material flows and infrastructure needs

SSROC councils currently generate 650,000 tonnes per annum (tpa) of municipal solid waste per year, which includes 347,000tpa of putrescible, 103,000tpa of organics, 144,000tpa of commingled recycling, and 52,000tpa of non-putrescible bulky waste. Overall tonnage is expected to grow by 24% to 805,000tpa by 2040. The current average recovery rate across the region is 49% (including Advanced Waste Treatment (AWT)) and 38% (excluding AWT) versus the NSW average of 42%.¹

Currently in NSW, landfill is the only option available for residual waste following revocation of the exemption on Mixed Waste Organic Output (MWOO), which has significantly impacted 8 of 11 SSROC councils, those contracted with AWT operators.

Based on current and forecast data, landfills servicing the metro levy area will be full by 2034.²

SSROC's 20-year longitudinal kerbside waste audits indicate that metro Sydney councils can achieve a maximum 66% diversion of kerbside waste from landfill even with hypothetical full recovery of all recyclables and food and garden organics,³ which will be impossible to achieve without a major shift in policies around single-use plastics and organics, and new technologies to separate materials at MRFs and processing technologies for mixed plastics. Thus, NSW will fall well short of its 80% diversion target without urgent state support for appropriate technologies, including EfW, to process and maximise resource recovery from residual waste after optimal source separation.

¹ Unpublished Arcadis Sydney Waste Data and Infrastructure Planning report (2021) commissioned by SSROC.

² Unpublished Arcadis NSW baseline material flows report (2020) commissioned by DPIE.

³ APC presentation delivered to the SSROC Waste Network Group on 12 August 2020, based on APC's SSROC Kerbside Waste Audit regional reports.



Feedback and recommendations

While most proposed changes in the draft policy are clear, a number of them are either unclear or would benefit from further details to provide more certainty to local government and industry.

Air emissions standards and monitoring

While SSROC supports and acknowledges the importance of best-practice air emissions standards in protecting health and establishing social licence, the proposed changes are significantly stricter than many standards adopted by European reference facilities. Experts on the Waste Management and Resource Recovery Association of Australia (WMRR) EfW working group and Hitachi Zosen Inova Australia Pty Ltd have indicated that this may prohibitively increase operating costs, which would be passed on to councils through processing contracts and also discourage project finance due to the risk of not meeting standards, potentially preventing investment in new facilities.

The WMRR EfW working group has also indicated that requiring air emissions to be monitored hourly would prevent comparability to the data from some 2,000 reference projects as these focus on average emissions over a period of time. It is also not clear what punitive measures would be taken should facilities be found to be in breach of standards for one or two hours during routine maintenance or simple part replacement expected under normal operating conditions – even if the daily or weekly average emissions are in line with standards.

A more practical approach that would also allow comparability with European reference facilities would be a requirement to meet daily or weekly air emissions standards. SSROC defers to the recommendations of the WMRR EfW working group for more technical details.

Resource recovery criteria

The resource recovery criteria for energy recovery facilities in both the existing and updated policies are not clear. While the existing and proposed EfW policies both include objectives that only residuals from resource recovery processes are used for energy recovery, the policy only addresses this by setting limits on the proportion of material at a 'processing facility' that may be sent to waste to energy.

The draft policy does not require that material is pre-processed to remove recyclables, only that the material is received at a facility capable of doing so, and then that a limited proportion of the material is sent to EfW. These limits also only apply to councils that do not undertake separate food collection – there are no resource recovery requirements at all where food is collected separately.

A practical way this could be achieved is by requiring that all household and commercial material received by a processing facility is to be processed for recovery of materials, and only processed residual waste may be sent to landfill.



It is also not clear how specific limit proportions were determined. SSROC recommends clarifying the reasoning behind the proportion limits on EfW facility, including whether specific percentage limits are based on the estimated composition and recoverables of these waste streams, or other evidence base.

The WMRR EfW working group and Hitachi Zosen Inova Australia Pty Ltd have indicated that clear source separation policies for recyclables and organics would be the optimal mechanism to solve this.

Contaminants

Page 10 in the draft policy states: “Waste streams proposed for energy recovery should not contain contaminants such as batteries, light bulbs or other electrical or hazardous wastes.”

While SSROC acknowledges the importance of optimal source separation and pre-processing to maximise resource recovery and remove contaminants, it is unclear how this will be measured, what measures may be imposed should contaminants be discovered, whether the presence of a single contaminant would require the entire load to be landfilled, whether the facility or councils would be subject to fines or other punitive measures, and who will be held responsible. Even with the best source separation, product stewardship, and pre-processing methods in place, no council can guarantee with absolute certainty that there will be no such contaminants.

It is also not clear why, if emissions standards are met, trace contamination in feedstock is an issue, and what the contamination limits are.

A more practical way to manage this would be a requirement for councils to demonstrate they have alternative disposal methods for these materials (such as recycling drop-off events or specialised collections) or a risk-based approach rather than a zero tolerance policy such as that currently applied for asbestos. This would ensure minimal contamination of the waste stream whilst not requiring costly audits, project feasibility risk or impossible zero tolerance requirements.

Regular reviews

SSROC recommends that the NSW EPA conduct a full public review of the EfW Policy Statement, particularly related to establishing clear rules to guide development of these facilities, building community support and social licence to operate (including the NSW Government’s role in this) to ensure the policy is not a barrier to investment and innovation.

SSROC supports the Chief Scientist & Engineer’s recommendations that:

- air emissions limits be reviewed within 3 years and thereafter at five yearly intervals; and that data will be made publicly available through an online portal; and
- operating conditions in any Environment Protection Licence for approved facilities will be updated to include any revisions to air emissions limits identified by the review of the policy statement (if this is the intention).



Social licence and the role of the NSW Government

SSROC believes that social licence to operate and the role of the NSW Government in establishing social licence are crucial to the future development of waste management facilities, particularly those involving thermal treatment of waste. The WA Government have been praised for their proactive and successful efforts to establish government-led social licence for the Kwinana EfW facility.

A recent report by Clayton Utz, commissioned by SSROC, identifying major legislative and regulatory barriers to achieving a circular economy in NSW found that the NSW EfW Policy Statement could be updated to encourage community confidence in the safety of EfW technology, including:

- Acknowledging the critical role of the NSW Government and early stakeholder consultation in establish social licence to operate.
- Supporting proven technologies, best practice emissions standards and feedstock requirements, and reflect the emergence of new technologies.
- Referring to the outcome of any future infrastructure planning indicating the areas where such facilities could be located.⁴

Original research on community perceptions of EfW conducted by SSROC in 2015 highlighted the importance of making available information to the community that details health and environmental impacts of waste treatment facilities. The research also identified a preference for information from independent, trusted scientific sources and regulators.⁵

If EfW is to form part of an integrated waste management and resource recovery solution for NSW, as outlined in the draft policy, the government must make available independently verified information regarding the environmental and health impacts of such facilities. For example, the UK government produced a document that is accessible to the broader community to provide an overview of EfW and links to more detailed technical information.⁶

It is not clear from the draft policy whether the NSW EPA has confidence in EfW technologies and the process for delivery in our state. Consultation with industry anecdotally suggests that in its current form the policy is not achievable. Councils require a strong direction from the state and the regulator regarding the use of residual treatment technologies or regulation to ensure better separation, reuse and recycling of materials. Council officers and elected officials are generally not technical experts and therefore require the state scientists and regulator to provide guidance as to which waste treatment technologies are appropriate and the confidence that they are safe.

Role of EfW in a circular economy

It is not clear how the draft policy fits within the circular economy framework. SSROC recommends that the NSW EPA conduct a review of the resource recovery requirements of

⁴ Unpublished Clayton Utz report, *Legislative and Regulatory Reforms for Achieving a Circular Economy* (2020).

⁵ https://www.dropbox.com/s/ylbtu3vudauquse/Planning%20and%20Infrastructure_7_Hazel%20Storey%20and%20Vicky%20Critchley.pdf?dl=0

⁶ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/284612/pb14130-energy-waste-201402.pdf ⁵



the EfW Policy Statement in line with the circular economy policy objective to maintain the value of products and materials.

A practical way to do this would be to include a chapter in the final EfW Policy Statement explicitly addressing how energy recovery fits within the waste hierarchy and circular economy objectives, and/or consider a full separate process to better incorporate resource recovery into the EfW Policy Statement. This could update the policy to require specific best practice recovery of materials prior to being sent for energy recovery — for example, requiring that resource recovery facilities have processes for extracting metals and recyclable PET, to ensure recycling is prioritised over energy recovery.

The European Commission released a report in 2017 that discusses the role of EfW as part of the circular economy.⁷ It included the following:

- The waste hierarchy broadly reflects the preferred environmental option from a climate perspective: disposal, in landfills or through incineration with little or no energy recovery, is usually the least favourable option for reducing greenhouse gas (GHG) emissions; conversely, waste prevention, reuse and recycling have the highest potential to reduce GHG emissions.
- To support the transition towards a more circular economy, public financing of waste management should be consistent with the goal of shifting upwards in the implementation of the waste hierarchy.
- When reviewing national waste management plans and assessing the need for EfW capacity for the treatment of non-recyclable waste, governments should take a long-term perspective and carefully assess:
 - the impact of existing and proposed separate collection obligations and recycling targets on the availability of feedstock to sustain the operation of new incineration plants over their lifespan (20 -30 years);
 - the available capacity for co-incineration in combustion plants and in cement and lime kilns or in other suitable industrial processes; and
 - planned or existing capacity in neighbouring countries.
- Exporting non-recyclable waste for energy recovery to another country should not necessarily be seen as contradicting the so-called principle of proximity (i.e. using the nearest appropriate facility) where a carbon or lifecycle benefit can be demonstrated.
- Where EfW processes are opted for, there is a need to ensure that the most efficient techniques are used: this maximises their contribution to the state's climate and energy objectives.

The document concludes that EfW processes can play a role in the transition to a circular economy provided that the waste hierarchy is used as a guiding principle and that choices made do not prevent higher levels of prevention, reuse and recycling.

Similarly, the NSW EfW policy statement sets thresholds for the maximum amount of waste that can be treated at an EfW facility from municipal or commercial sources according to the level of source separated recycling systems in place. This is to ensure that where possible all recycling of materials with a valid processing outlet and market can be achieved. It should be noted that access to recycling and reprocessing markets is more restricted in Australia than in Europe.

⁷ <https://eur-lex.europa.eu/legal-content/en/TXT/?uri=CELEX%3A52017DC0034>



Comparable standards between EfW and landfill

The draft NSW EfW Policy Statement for public consultation⁸ states that the “thermal treatment of waste provides an opportunity to recover the embodied EfW, offset the use of non-renewable energy sources, and avoid methane emissions from landfill.”

This can be reasonably understood to mean that the NSW EPA recognises EfW as a preferred residual waste treatment method compared to landfill, yet in practice it appears that landfill facilities are not held to the same environmental standards.

Waste destined for EfW can be processed prior to acceptance and recyclables removed. Emissions and outputs from EfW can be monitored on a continuous basis. Landfill waste on the other hand is not screened prior to disposal to check for non-compliant materials, and there are no requirements for separation attempts to remove recyclable materials.

Waste going to landfill has several negative impacts such as:

- environmental (greenhouse gas emissions, potential contamination of land and groundwater, and harm to flora and fauna)
- amenity (odour, noise, dust, litter)
- encroachment on space (landfills continue to require more space that could be otherwise used for amenity, open space, development etc)
- loss of valuable resources (renewable resources are lost)

The long-term impacts of landfills cannot be guaranteed as liners are never 100% effective and legacy issues can remain for many decades following the closure of a landfill.

The policy statement sets thresholds for the maximum amount of waste that can be treated at an EfW facility from municipal or commercial sources according to the level of source separated recycling systems in place. This is to ensure that where possible all recycling of materials with a valid processing outlet and market can be achieved. No such restrictions are placed on landfill facilities.

SSROC would like to see a more thorough review of existing and future waste treatment capacity, particularly in the Greater Sydney area, by facility type, so that an assessment can be made on whether there is sufficient treatment capacity to better manage waste that currently does not have a resource recovery market alternative.

Innovation versus proven technology

The policy statement refers to scope for innovation as an overarching principle and whilst SSROC councils support the desire for innovation in this space there is also a need for certainty. Truly innovative technologies will most likely bring less certainty and require more flexibility from a policy position. There is also the risk of newer innovative technologies not being able to secure funding. New waste infrastructure that is desperately needed in NSW relies on substantial private financing, which will place heavy reliance on existing reference

⁸ <https://s3.ap-southeast-2.amazonaws.com/hdp.au.prod.app.nswepa-yoursay.files/7816/1698/1743/21p2938-nsw-energy-from-waste-policy-statement.pdf>



facilities to demonstrate the ability to meet requirements to obtain a licence to operate. A deviation from the emissions protocols employed by other jurisdictions will likely impact technology providers' ability to provide like-for-like reference facilities.

In order to make this submission within the timeframe for receiving comments, it has not been possible for it to be reviewed by councils or to be endorsed by SSROC delegates. I will contact you further if any issues arise as it is reviewed.

Thank you for the opportunity to provide feedback on this review. If you have any questions, please do not hesitate to contact me or SSROC Strategic Lead Resource Recovery, Justin Bonsey: ssroc@ssroc.nsw.gov.au or 02 8396 3800.

Yours faithfully,

A handwritten signature in black ink that reads "H Sloan".

Helen Sloan
Acting General Manager
Southern Sydney Regional Organisation of Councils (SSROC), Inc