



16 May 2025

NSW Environment Protection Authority By email: <u>energyfromwaste@epa.nsw.gov.au</u>

# SUBMISSION TO THE NSW ENVIRONMENT PROTECTION AUTHORITY ON NSW ENERGY FROM WASTE OPTIONS PAPER

Infrastructure Partnerships Australia is an independent think tank and executive member network, providing research focused on excellence in social and economic infrastructure. We exist to shape public debate and drive reform for the national interest. As the national voice for infrastructure in Australia, our membership reflects a diverse range of public and private sector entities, including infrastructure owners, operators, financiers, advisers, technology providers and policy makers.

Infrastructure Partnerships Australia draws together the public and private sectors in a genuine partnership to debate the policies and priority projects that will build Australia for the opportunities and challenges ahead.

We have long supported the integration of Energy from Waste (EfW) as a key element of modern, sustainable waste management and energy recovery systems. In our 2020 report *Putting Waste to Work: Developing a role for energy from waste*, we highlighted the dual role EfW can play in reducing landfill dependence and supporting the energy transition by producing reliable, low-emission baseload energy from non-recyclable residual waste.

We welcome the opportunity to provide feedback on the *Energy from Waste Options Paper* (Options Paper) and commend the NSW EPA for progressing the development of its energy from waste framework. We note that the NSW EPA has also recently released the first chapter of its draft *Waste and Circular Infrastructure Plan* for consultation, which highlights the urgency of the challenge in managing residual waste. The Options Paper is an important step in determining what changes are needed to facilitate investment in energy-fromwaste infrastructure and to enable the delivery of facilities required to manage the state's pressing residual waste challenge, in the timelines set by the NSW Government.

### Greater Sydney is forecast to exhaust its landfill capacity by 2030

The role of EfW infrastructure has become increasingly urgent as NSW approaches the forecast exhaustion of landfill capacity in Greater Sydney by 2030, and in several regional areas within the same timeframe. EfW provides a proven, internationally-recognised solution to handle non-recyclable waste streams in a way that maximises resource recovery while reducing greenhouse gas emissions relative to landfill. Our report underscored key benefits of the various EfW technologies, including reducing the volume of waste and hence

the volume requiring disposal in landfill, reducing the biodegradable fraction of waste to zero, and producing a useful commodity – such as electricity, heat and/or fuel – from non-recyclable waste.

An example of EfW's real-world impact is the Kwinana Energy Recovery Facility in Western Australia, which received its first delivery of waste in July 2024, and is designed to divert up to 460,000 tonnes of non-recyclable waste from landfill each year, converting it into 38 megawatts of electricity.<sup>1</sup> Internationally, the United Kingdom has a well-established EfW industry with around 60 energy-from-waste facilities treating 16 million tonnes of waste in 2023, supporting both landfill diversion and energy security objectives.<sup>2</sup>

With NSW generating the most waste in Australia in 2022-23 – 27.5 megatonnes, or 36 per cent of the national total – and only 32 per cent of landfill methane captured for energy in 2021-22, the need for sustainable waste solutions is urgent.<sup>3</sup> With over 5.5 million tonnes of residual waste projected by 2030, EfW facilities present a compelling opportunity in NSW to ease pressure on landfills while providing dispatchable electricity. In addition to waste management and energy benefits, EfW can significantly reduce  $CO_2$ -equivalent emissions, making it a vital component of both state waste policy and emissions reduction strategies.

#### Existing proposals for EfW will not meet NSW residual waste needs

The NSW Waste and Sustainable Materials Strategy 2041 includes the commissioning of at least one largescale regional EfW facility by 2030 and three additional facilities by 2040. To meet these targets, transparent and consistent regulatory and planning frameworks are needed to provide certainty for project proponents and the communities in which they operate.

We support the NSW Government's proposed revisions to the EfW precinct arrangements to enable the delivery of additional EfW facilities, including the redefinition of the West Lithgow precinct and the establishment of a new precinct at Tomago. However, updating precinct boundaries alone will not be sufficient to bring these projects to commissioning.

A clear, consistent framework is essential to help proponents navigate the process with confidence and to ensure the community understands how decisions are made and what outcomes are expected. Crucially, earning and maintaining a social licence will require early and ongoing community engagement. Our report stressed that while social licence is critical, developing it should not be solely the responsibility of project proponents. Instead, governments must play an active role in setting clear expectations, enabling public discussion of the benefits and risks, and ensuring planning processes are transparent.

While a broader national issue, consistency between the regulatory approaches of different jurisdictions remains important to reduce barriers to entry for project proponents and lower the cost and administrative burden of developing projects across the country. Infrastructure Partnerships Australia's report highlighted the need for governments to develop nationally consistent guidelines for the development of EfW projects, including the adoption of emissions standards used by the European Union. This has not yet occurred in a nationally consistent fashion and we would encourage the NSW Government to consider avenues for harmonisation in collaboration with its state and territory peers.

### NSW should draw on the experience of other Australian regions and international jurisdictions that have successfully integrated EfW into their waste strategies

Western Australia has made tangible progress in advancing EfW infrastructure through practical, projectbased action. Most notably, the state has supported the development of two large-scale EfW plants in the Perth metropolitan area: the Kwinana facility, which began receiving waste in 2024, and the East Rockingham facility, which is currently under development. The progression of these projects has been enabled by clear and timely planning approvals under the State Significant Development pathway, strategic site selection within established industrial precincts such as the Kwinana Strategic Industrial Area and Rockingham Industry Zone, and consistent policy support through the Waste Avoidance and Resource Recovery Strategy 2030. Government entities such as the Waste Authority, the Department of Water and Environmental Regulation, and the WA Environmental Protection Authority worked closely with project proponents and local councils to streamline approvals, secure long-term waste supply contracts, and manage environmental licensing.

Internationally, countries such as Germany, the Netherlands, and Sweden have demonstrated strong performance in EfW by combining robust policy frameworks, technological advancements, and public-private partnerships. These nations have adopted long-term, integrated waste management strategies that emphasise the waste hierarchy – prioritising prevention, recycling, and recovery over landfilling. Germany banned the landfilling of untreated municipal waste in 2005 and enforces strict recycling and recovery targets under its Circular Economy Act. The Netherlands operates under its National Waste Management Plan, which mandates recovery for most waste streams and encourages innovation through collaboration between public authorities and private stakeholders. Sweden complements its high recycling rates with a strong district heating network powered by EfW.<sup>4</sup> As a result, all three nations maintain a landfill rate of under two per cent for municipal waste.<sup>5</sup> In the Netherlands, EfW plants generated approximately four terawatt-hours in 2018, accounting for around 18 per cent of the country's renewable energy supply.<sup>6</sup> In Sweden, EfW facilities produce 19.5 terawatt-hours per year – enough to heat nearly 1.5 million apartments or supply electricity to 940,000.

To achieve similar outcomes, NSW should draw on the approaches taken by these jurisdictions by implementing clear and consistent planning frameworks that facilitate and advocate for the timely delivery of EfW projects. Streamlining regulatory processes and fostering early collaboration with private sector stakeholders will help ensure projects progress efficiently from planning to commissioning, while aligning with long-term waste management goals. We note that NSW has made a promising start through the contract award for the delivery of the Parkes Energy Recovery Facility in March. This milestone provides a solid foundation for the Government to leverage similar contractual frameworks to accelerate the rollout of additional EfW facilities across the state.

## Changes to the EfW framework should be finalised as a matter of urgency in the context of the State's residual waste crisis

EfW should be embraced as a critical complement to recycling that secures better environmental and economic outcomes for NSW. We recommend the NSW EPA finalise the changes to the EfW framework to enable proposals within the gazetted precincts to progress in a timely and transparent manner.

Infrastructure Partnerships Australia looks forward to further assisting the NSW EPA on the NSW Energy from Waste framework. If you require additional detail or information, please do not hesitate to contact Ali Nelson-Watt, Head of Policy, on (02) 9152 6000 or <u>ali.nelson-watt@infrastructure.org.au</u>.

Yours Sincerely,

Adrian Dwyer Chief Executive Officer

Attachment A: Infrastructure Partnerships Australia 2020 - Putting Waste to Work: Developing a role for energy from waste

#### Footnotes

- 1. Clean Energy Finance Corporation (2024), <u>Kwinana EfW plant targets household, commercial,</u> <u>industrial waste</u>.
- 2. UK Environmental Services Association (2024), ESA statement on Energy-from-Waste.
- 3. Australian Department of Climate Change, Energy, the Environment and Water (2025), <u>National</u> <u>waste and resource recovery report 2024</u>.
- 4. Swedish Energy Agency (2025), *From Waste to Wealth Sweden's comprehensive approach to* <u>Energy Recovery</u>.
- 5. European Environment Agency (2024), Municipal waste landfill rates in Europe by country.
- 6. Dutch Ministry of Infrastructure and the Environment (2018), <u>Sustainable Waste Management (SWM)</u> in the Netherlands