

**Submission
No 146**

INQUIRY INTO 'ENERGY FROM WASTE' TECHNOLOGY

Organisation: Randwick City Council

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Portfolio Committee No.6 - Planning and Environment
Energy from Waste technology

Attention Chair: The Hon. Paul Green MLC

Submitted via NSW Parliamentary
website <https://www.parliament.nsw.gov.au/committees/inquiries/Pages/lodge-a-submission.aspx?pk=2436>

Re: Parliamentary Enquiry into the role of 'energy from waste' technology for NSW

Thank you for the opportunity to provide a submission to the Enquiry Committee on the matters raised in the terms of reference.

Randwick City is located to the south-east of the Sydney CBD, extending over 37 square kilometres. Council has a population of 147,000 residents living in 56,000 single and multi-unit dwellings.

Randwick Council residents generate approximately 52,000 tonnes of waste and recyclables per year. Of this total waste generated, Council recycles approximately 11,000 tonnes of comingled recyclables, 7,000 tonnes of garden organics, 250 tonnes of metal and white goods and 50 tonnes of food waste through a food waste recycling trial. Also, Council processes approximately 20,000 tonnes of garbage at an Alternative Waste Treatment Facility under a short-term contract. Currently Council is achieving 57% landfill diversion (NSW target is 75% landfill diversion).

It is evident that kerbside recycling (comingled, garden organics and food waste) alone will not be sufficient enough for Council to achieve the NSW Government target of 75% landfill diversion adopted in the NSW Waste and Resource Recovery (WaRR) Strategy 2013-21. Thermal treatment of the residual waste, after all source separated recycling, appears to provide a significant opportunity to increase Council's landfill diversion to 75% and beyond.

Randwick City Council is addressing the issues raised in terms of reference as follows:

Point (a) current provision of waste disposal and recycling facilities.

Currently there is only one active putrescible landfill - Lucas Heights - in the metropolitan area which has recently received approval for extension for an additional 8.3 million cubic metres of space. With this additional capacity Lucas Heights landfill will be able to receive residual waste from the metropolitan councils for a few more years. The landfill at Woodlawn has a longer term capacity to receive waste from Sydney, however, due to lack of conveniently located transfer stations and limited capacity of existing transfer stations, it is restricted to transporting waste from Sydney.

There are only two Alternative Waste Treatment facilities in metropolitan Sydney – SAWT at Camps Creek and UR-3R at Eastern Creek. These facilities are owned by one company but appear to have limited capacity to service the metropolitan councils.

As far as Material Recovery Facilities for processing of recyclables is concerned, there are three Material Recovery facilities owned by one company. There are a limited number of facilities for processing of garden and food organics available in the metropolitan Sydney area.

In summary, inadequate waste and recycling infrastructure are available in the Sydney metropolitan area. Without NSW Government leadership and initiative, the gap in the need for available waste and recycling infrastructure will not be eliminated in the near future.

Point (b) Role of energy from waste technology in addressing waste disposal needs and the impact on the recycling industry.

The role of 'energy from waste' is to recover embodied energy from materials which cannot be reused or recycled, and would otherwise go to landfill for disposal. Ignoring this step in the hierarchy would in itself represent a 'waste' of the energy resource. It is important to stress that 'energy from waste' is not a means of waste disposal, but rather a means of recovering resources (energy) from wastes which would otherwise go to disposal. Following energy recovery, further resources such as metals can be recovered from the process residues, with the bottom ash processed into an inert material widely used in construction materials, and the remaining residual sent for appropriate disposal in landfill.

In accordance with the waste hierarchy defined in the NSW Waste and Resource Recovery Act (2001) and NSW State Waste and Resource Recovery (WARR) Strategy (2013-21), Randwick Council's preferred approach supports the view that where further recycling is not feasible, it is preferable to recover the energy from the material and feed it back into the economy, rather than disposing of this material into landfill. We appreciate that this must be undertaken in a manner which is acceptable to the community, including managing the risks of harm to human health and the environment.

Recovery of energy from residual waste has an important role to play in NSW that offers a dual benefit of diverting residual waste from landfill and generating renewable energy.

NSW EPA has adopted an 'Energy from Waste Policy' that is designed to achieve the highest level of recycling before any residual waste can be thermally treated at an Energy from Waste facility. The resource recovery criteria set in the policy states that an energy from waste facility can process 100% of residual mixed MSW waste from a council that has separate collection systems for dry recyclables, food and garden waste. A Council with separate collection systems for dry recyclables and garden waste (no food waste) can process 40% of their residual waste, whereas a council without garden and food waste collection systems can process only 25% of their residual waste at an energy from waste facility. The Energy from Waste Policy has embedded in it a strong safe-guard for recycling and the recycling industry.

Point (c) Regulatory standards, guidelines and policy statements overseeing energy from waste

The NSW Energy from Waste Policy statement has set out stringent technical and resource recovery criteria that an Energy from Waste facility must operate under, if and when approval is provided. An Energy from Waste facility will be required to meet the regulatory requirements of the Protection of the Environment Operations (Clean Air) Regulation 2010. Over and above these regulations, further measures are in the policy statement on technology that will ensure destruction of any pollutants and protect recycling and recycling industries.

Also, Energy from Waste Guidelines are currently being developed by NSW EPA and are due in 2017. That will further confirm the emission control and resource recovery requirements.

The equivalent European directives and standards are very stringent on emission control under which hundreds of Energy from Waste facilities are currently operating in Europe. Similar standards are in place in North America and Japan. The technologies that are currently in use in Europe, North America and Japan are highly proven and delivering over and above the stringent standards in relation to environmental and resource recovery criteria. Over the last decade or so energy from waste technology has improved enormously and there are thousands of facilities currently operating in the world using proven technology.

Point (d) Additional factors to be taken into account, within regulatory and other approval processes

It is important that the community is engaged and community approval is obtained in the process of developing an Energy from Waste facility. The NSW Energy from Waste policy Statement requires public consultation and the good neighbour principle used in developing any such facility states:

“Regardless of whether a facility plans to proceed with a proposal under Section 3 or 4 of this policy statement, it will be essential that proponents provide effective information and public consultation about energy from waste proposals. As proposals progress from the concept to detailed development assessment stage, proponents should engage in a genuine dialogue with the community and ensure that planning consent and other approval authorities are provided with accurate and reliable information.

Based on lessons learned from previous large scale infrastructure projects there remains a strong possibility that appropriate levels of community understanding of the basis of energy from waste and in particular technical aspects may be critical to the potential success or failure of this technology being placed within any metropolitan region. The NSW Government may want to facilitate a pre-emptive engagement program with the wider community explaining why there is a need for this technology and the rationale for it as a resource recovery solution ahead of appropriate locations being raised in the future by potentially interested parties.

Future operators of an energy from waste facility will naturally need to be ‘good neighbours’ – particularly if near a residential setting but also where there are workers in other facilities. This would apply to waste deliveries and operating hours, but most importantly with respect to readily available information about emissions and resource recovery outcomes.” This process will help gain the operator’s social licence to establish such a facility.

Point (e) State or Local Government Responsibility for environmental monitoring of facilities

An Energy from Waste facility is likely to represent a state significant development with the Department of Planning as the approval authority for such a development. NSW EPA is responsible for environmental monitoring of all waste facilities under the Protection of Environmental Operations Act (PoEO) 1997. The NSW EPA should retain a direct role for the monitoring of environmental outcomes and making sure that any such facility meets the approval conditions.

Point (f) Opportunities to incorporate future technological advances into an operating facility

As with similar major facilities i.e. Alternative Waste Treatment facilities, Energy from Waste infrastructure will be developed with projections of 15 to 20 years on the life of plant and related infrastructure and related cost efficiencies. While the development of such facilities will be demonstrating the latest in advanced technology at its commencement, it is important that further advances in technology over this long timeframe be readily incorporated into applicable infrastructure. e.g. emission controls, fly ash management, etc.

Point (g)

(i) Risks of future monopolisation in markets

A major barrier to a competitive waste market in NSW is the challenge of gaining approval and investing in long term infrastructure. If it was ‘easy’ to develop new putrescible waste landfills, then Sydney would not be reliant on two facilities as it is currently. High barriers to developing new resource recovery infrastructure have a similar effect of reducing market competition; there are a limited number of organisations with the scale and resources required to develop any waste or recycling infrastructure in NSW.

While there may be a risk of a single or low number of Energy from Waste facilities having a form of monopoly over the short term, it is less probable into the future as at the national and international levels there are a relatively high number of service providers with the capacity and potential for entering into this market. Technologies are available that can run facilities of various sizes. Also, such facilities require smaller physical ‘footprints’ than landfill sites or Mechanical and Biological Treatment facilities. Additionally these new facilities can potentially be co-located with other industries in industrial areas. Smaller viable size facilities would also reduce the risk of monopolisations.

(II) Potential to enable a circular economy

Major contributions can occur to the circular economy from the waste management industry i.e. from reuse and recycling. The role of an Energy from Waste facility starts at the post-recycling stage of waste management and then through the processing of residual waste, which would otherwise be destined to landfill, generating renewable energy. The renewable energy generated can in turn be used within this recycling and manufacturing industry. This is how energy from waste technology can contribute to the circular economy.

From the Randwick City Council perspective, Energy from Waste technologies, if implemented in NSW, will potentially make a substantial contribution to improved waste management in tandem with the related waste avoidance, reuse and recycling required in the NSW EPA's Energy from Waste policy e.g. increased food waste and green waste recovery rates. Energy from Waste technology can help all councils achieve their respective NSW landfill diversion targets which in turn facilitates delivery of NSW Government goals and targets.

In summary, we are of the view that Energy from Waste has an important role to play in NSW waste management through recovery of energy from residual waste that otherwise would be buried in landfill.

Randwick City Council welcomes further discussion about this submission at any point. Please contact
Coordinator Strategic Waste Management on

Yours sincerely,