

Submission No.2 on The Next Generation Energy from Waste Facility, Eastern Creek

Contact: Jane Bremmer

The Next Generation NSW Pty Ltd (the Applicant) has submitted an amended Environmental Impact Statement (EIS) for the proposed Energy from Waste Facility at Eastern Creek.

Summary

The National Toxics Network (NTN) submits these comments and recommendations to NSW Planning and Environment and once again opposes the project for the following reasons.

Recommendations

- 1. The proponent should be required to undertake a full cross sector, multi-stakeholder, civic engagement process with all updated and revised project information.**
- 2. The proponent must provide a comprehensive ash residue management plan that includes the full characterisation of all ash residues, ongoing monitoring and disposal options for independent assessment.**
- 3. No waste to energy incinerator should be approved in NSW (and Australia) until a full policy framework for sustainable waste management in Australia has been developed that includes all Best Available Techniques (BAT), including non-thermal combustion technologies and Zero Waste strategies.**
- 4. The proponent should provide a thorough and complete emergency and fire action plan approved by state and federal authorities, and released to the host community for inspection, prior to any approval for the project to proceed.**
- 5. No waste to energy incinerator projects should be approved in Australia until adequate and appropriate air quality protection standards have been developed and are legally enforceable by all state authorities to protect human health.**
- 6. The NSW government should invest in strategic, cross sector support for the C&D and C&I sectors to reduce the volumes of residual waste they generate.**
- 7. The NSW government should invest in safer, non-combustion techniques and zero waste strategies to manage municipal residual waste.**
- 8. The Federal government should commits, in both principle and action, to supporting a circular economy, closed loop systems and zero waste, in line with the EU and many other countries around the world, as part of its commitment to the Paris COP to reduce climate pollution and preserve life support systems- air, water and soil.**

1. The project does not have a social license

The proponents amended EIS shows that 71.7% of those making an initial submission on this project outright opposed the project. In fact only one submission was received supporting the project and that was from the WSROC local government organisation, who may now have a different position on the proposal.

Clearly the project does not have broad support and more specifically 'host community' acceptance. Given that the project is to be located so close to residential areas, the host community will essentially be living in an "incinerator sacrifice zone" and their community and real estate will be stigmatized.

Given the level of opposition to the proposal the proponents should be required to redo their community consultation process given that so many significant changes have been made to the project since their previous community consultation. Furthermore, the proponents have not attempted to adequately engage with the NSW environment sector as illustrated in their own documentation showing that only the Total Environment Centre was contacted.

A new community consultation programme is required to explain the significant changes to the project and how these will affect the host community and greater Sydney. In addition there are a number of significant project technical issues that have not been adequately addressed and therefore the proponents should be required to provide detailed responses to these unresolved issues.

Recommendation 1: The proponent should be required to undertake a full cross sector, multi-stakeholder, civic engagement process with all updated and revised project information.

2. Inadequate data to justify the project

The claims and assumptions made by the proponents to justify the establishment of the waste to energy incineration facility in NSW are weak at best and demonstrably false at worse.

2.1 Best Available Technique (BAT)

The proponent has referred to the EU WID BREF document to justify that this project is the best available technology globally. While the proponents may be able to justify this document only in relation to incineration technologies, it must be acknowledged that this not a declaration that waste to energy incineration itself is the BAT for waste management globally.

The fact remains that under the International Stockholm, Basel and Minimata Conventions and the Strategic Alliance for International Chemicals Management (SAICM) to which Australia is a signatory and a participant, Best Available Techniques for a range of materials include, non-thermal combustion technologies and zero waste practices.

It is misleading for the proponent to conflate one BAT with another. The reality is that the BREF refers only to the incineration industry and this document is currently under review and is to be finalised in March 2017. Given that this document will very likely be amended, it is not appropriate for the proponent to rely on this document while it is under a major review and expected to contain significant changes in the very near future.

2.2 *Economically unviable*

The proponents appear to be willing to invest and build what are essentially two incinerators with the first phase to commence with a throughput of 552,500 tonnes but with a capacity to take 1.35 million tonnes annually. Serious questions must be asked as to why any proponent would make such a huge infrastructure investment only to have half of it sit idle. The business model does not make sense.

Furthermore, the proponent has failed to confirm that they have access to the required quantities of waste feedstock needed for the project to be viable. This may risk contractual obligations set for the operators, with obvious potential risks to the state government and LGA's.

Given the non-homogenous nature of residual waste, constantly changing regulatory standards and classifications, and at a time when developed countries are moving towards sustainable patterns of consumption and energy generation, investing in the smallest fraction of our waste stream for energy production that is really surplus to our requirements, does not make good economic sense.

2.3 *Dubious energy production versus hazardous waste generation*

The proponents have stated that of the 1.1 million tonnes of waste they will process, 451 700 tonnes of toxic ash residue will be created. This amounts to more than 41% of the total waste stream processed. State authorities should seriously question the concept of any technology that turns more than 41% of any waste stream into a highly hazardous and toxic ash that will require secure landfill and pose risks to workers, the community and the environment for decades.

This percentage of expected ash suggests that the technology is not in fact as efficient as claimed. If nearly half the through put is turned into a hazardous waste, it could be argued that on balance, creating a relatively small amount of energy that is demonstrably dirtier than coal and gas per unit of energy, and which also will generate unintentional persistent organic pollutants (POPs) into the atmosphere, is not in the best interests of NSW, not for the communities of Western Sydney and for the sustainable management of waste or our global environment and climate crisis.

2.4 *Toxic ash*

The proponent has failed to provide details of the expected contaminant profile of all ash residues. Air Pollution Control (APC) ash residues are well documented globally to contain significant toxic and hazardous substances¹, ². Indeed the proponent often refers to the absence of pollution exiting the stack due to the highly efficient APC technology that will be used but this is not the global experience.

It is also worth noting that the proponent has increased the volumes of expected ash in the revised EIS. The APC residues will contain highly hazardous nano-particles, dioxins, furans, bromines and mercury as has been documented at EU and US incinerators, and yet details about the exact nature and management of this highly toxic incineration by-product has not been provided by the proponent.

Given the serious human health and environmental risks that incinerator APC ash residues pose, the high volumes of this hazardous material expected, plus the lack of any

¹ http://ipen.org/sites/default/files/documents/After_incineration_the_toxic_ash_problem_2015.pdf

² Chen, H.L., *et al.* (2010). "Occupational exposure and DNA strand breakage of workers in bottom ash recovery and fly ash treatment plants." *Journal of Hazardous Materials*, **174** (1-3): 23-27

detailed assessment, monitoring or management plan, it is impossible to see how this proposal could ever be given approval on this factor alone.

Recommendation 2: The proponent must provide a comprehensive ash residue management plan that includes the full characterisation of all ash residues, ongoing monitoring and disposal options for independent assessment.

3. Comparisons with EU are not valid

The proponent has compared this technology to others operating in the EU, relying heavily on the advice of Danish industrial project consultants. What this comparison fails to consider is the underlying and applicable waste management policy context in Europe where such facilities operate. This cannot be compared directly to Australia.

The EU member states all have differing waste management policy frameworks, some with higher reuse, recycling, composting, and renewable energy targets. A straight comparison of technology is not credible when EU states divert comparatively higher volumes of waste from landfill through better source separation, reuse and recycling policies. Therefore, while technologies may be comparable, the residual waste that feeds the plant is not directly comparable, because its characterisation and volume is defined by the relevant waste management policies in those states. This leads to different outcomes for pollution controls.

In addition, the proponents have failed to acknowledge recent and significant waste management policy developments in the EU, which directly impact the future of the waste to energy incineration industry. The European Commission has recently mandated the separation of all organics from the waste stream in recognition that the value of organic waste is better utilised through composting and returning this carbon to the soil rather than putting it into the atmosphere. As it contains little calorific value, it makes no sense to burn organic waste for energy. This decision will see a significant reduction in the quantity of waste going to incinerators.

The EU has decided that investing in source separation, the front end of the waste stream, creates better outcomes than putting money, time and resources into disposing of the ever diminishing and smallest fraction of the waste stream, that is residual waste, upon which this whole project will depend.

The EU has also given its member states clear policy advice on waste management and the waste to energy incinerator industry by recommending that those heavily dependent on landfills should focus on rolling out effective separate collection, focus on organics and, in case they want to extract energy, look primarily at anaerobic digestion. As for those heavily dependent on incineration, they should raise taxes, withdraw government subsidies and credits, decommission old facilities and set up a moratorium for new ones.^{3, 4}

The NSW government should not be under any illusion that the EU supports waste to energy incineration and all suggestions of such by the proponent in this application, should be dismissed.

[Brussels urges countries to stop funding incineration](#)

Susanna Ala-Kurikka, 26 Jan 2017

“The European Commission has urged member states to gradually phase out public

³ http://ec.europa.eu/environment/waste/waste-to-energy.pdf?utm_source=Press+Release+ZWE&utm_campaign=33253f82f5-PR_ENVI_vote1_24_2017&utm_medium=email&utm_term=0_a7b3972a6a-33253f82f5-208785809

⁴ http://zazemiata.org/v1/fileadmin/content/otpaduci/docs/Overcapacity_report_2013.pdf

funding for energy recovery from mixed waste in new non-binding guidelines on waste-to-energy.

Mixed waste used as feedstock in waste-to-energy processes is expected to fall due to higher recycling targets, currently being discussed by the EU institutions, as well as separate collection obligations, the document says. This type of waste accounts for just over half of all waste converted into energy in the EU.

The Commission notes that experience in some member states has indicated a real risk of stranded assets, particularly in incineration. Member states with little incineration capacity and high reliance on landfilling should prioritise new recycling capacity and develop anaerobic digestion to treat biodegradable waste, it says.

Countries with high incineration capacity should ban new facilities while decommissioning old, less efficient ones, the document states. They are also advised to introduce higher incineration taxes for inefficient processes and phase out support schemes.

Presenting the guidelines on Thursday, Commission vice president Frans Timmermans said that creating a market for incineration should be avoided “as much as possible”. “It’s unavoidable for a small part, but only at a stage where recycling is no longer possible – and certainly should not be done before that,” he argued.

The document stresses the importance of the priority order set in the waste hierarchy in ensuring that waste-to-energy capacity does not generate stranded assets.

The Commission seeks to clarify how the hierarchy applies to various waste-to-energy processes, noting that they rank differently in terms of their sustainability.

Anaerobic digestion counts as recycling in the waste hierarchy, which is half-way up the ranking just behind prevention and preparing for reuse, according to the guidelines. Just below, they place waste incineration and co-incineration operators with a high level of energy recovery under ‘other recovery’, together with reprocessed waste used as fuel.

Only waste incineration and co-incineration with limited energy recovery are classed as disposal, the bottom category of the hierarchy, along with gas from landfills. Incineration, co-incineration in kilns and anaerobic digestion provide around 1.5% of the EU’s total final energy consumption.

However, the guidance leaves member states the opportunity to depart from the priority order if they can justify why this achieves “the best environmental outcome”. Potential reasons outlined include technical feasibility, economic viability and environmental protection.

Green group Zero Waste Europe said the recommendations provide clarity on how to implement the waste hierarchy. But it regretted that the Commission had not included its call to phase out subsidies for waste-to-energy in its proposal for a revised Renewable Energy Directive from last November, calling on MEPs and member states to do so during the legislative process.”

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Recommendation 3: No waste to energy incinerator should be approved in NSW (and Australia) until a full policy framework for sustainable waste management in Australia has been developed that includes all Best Available Techniques (BAT), including non- thermal combustion technologies and Zero Waste strategies.

4. Incineration risks and inadequate emergency and fire management plan

The proponents have presented this project as a benign, safe, non-polluting industry. Evidence overseas is to the contrary. It is dishonest that the proponents have not disclosed these real risks to the community and assessment regulators.⁵ Furthermore, the proponent has not provided a complete emergency and fire management plans for the proposed facility.

Recommendation 4: The proponent should provide a thorough and complete emergency and fire action plan approved by state and federal authorities, and released to the host community for inspection, prior to any approval for the project to proceed.

5. Health risks and limited air quality protection standards in Australia

The only ambient air quality protection laws in Australia are the National Environmental Protection Measures (NEPMs) established in 1998 that list a small range of criteria pollutants: Carbon monoxide, Nitrogen Dioxide, Ozone, Sulphur Dioxide, lead, PM 10 and PM 2.5.

Australia has no air quality protection standards for air toxics or hazardous air pollutants. The appalling lack of air quality protection laws afforded to Australian citizens, particularly those living in close proximity to polluting industry, facilitates industrial development ahead of (and often at the expense of) public health protection. This approach is untenable in the long term as the cost of these industry externalities are paid for through our public health system and degraded environment.

Despite decades of government promises, public interest, reviews and submissions, improvements and upgrades to these criteria air pollutants have not occurred and action to establish much needed air toxics standards have not eventuated.

Residents living in close proximity to waste incinerators face disproportionate air pollution impacts and associated health risks as documented internationally. Clearly our governments, at all levels, do not have the necessary public health protection laws to protect our communities from the known and expected air pollution and dust risks associated with this industry.^{6, 7, 8, 9, 10}

⁵ Images and details of waste incinerator accidents

<http://english.arnika.org/photogallery/category/147-waste-incinerators-accidents-in-europe>
<http://english.arnika.org/ipen-cee/waste-incinerators-accidents>
<http://chasecorkharbour.com/huge-explosion-rocks-indaver-flagship-belgian-plant/>
<http://www.nbcwashington.com/news/local/Firefighters-Respond-Blaze-Trash-Disposal-Center--412635913.html>

⁶ *Sarcoma risk and dioxin emissions from incinerators and industrial plants: a population-based case-control study* <https://ehjournal.biomedcentral.com/articles/10.1186/1476-069X-6-19>

⁷ Park, H., et al. (2009). "Dioxin and dioxin-like PCB profiles in the serum of industrial and municipal waste incinerator workers in Korea. *Environment International* 35(3): 580-587

⁸ The Health Effects of Waste Incinerators, 4th Report of the British Society for Ecological Medicine

<http://www.ekokrog.org/wp-content/uploads/2009/08/healtheffectsincinerators.pdf>

⁹ Incineration and Human Health: State of Knowledge of the Impacts of Waste Incinerators on Human Health

<http://www.greenpeace.org/norway/Global/norway/p2/other/report/2001/incineration-and-human-health.pdf>

¹⁰ Briefing: Incineration and Health Issues

https://www.foe.co.uk/sites/default/files/downloads/incineration_health_issues.pdf

Recommendation 5: No waste to energy incinerator projects should be approved in Australia until adequate and appropriate air quality protection standards have been developed and are legally enforceable by all state authorities to protect human health.

6. Zero waste strategies

The NSW government is heading in the wrong direction for sustainable waste management if it approves this massive waste incinerator. The scale of this plant and accompanying community health and environmental risks, as well as the financial and contractual risks, are all out of step with more progressive and effective zero waste management policies being implemented throughout the world.

The EU has signaled a policy redirection towards sustainable zero waste strategies, with some of their member states demonstrating the highest levels of reuse, recycling, composting and waste diversion from landfill without incineration in the world.

Even in less developed countries throughout the Asia Pacific region, many municipalities have developed incredibly effective sustainable zero waste management models without incineration. (eg Philippines, Indonesia, India)

Cities in the USA such as San Francisco, which is comparable to Sydney in terms of demographics, waste profiles and population, have implemented successful zero waste strategies and have avoided the need for both massive landfills and incinerators.¹¹

Waste incineration represents the failure of governments, political leaders and municipalities to invest in the front end of our waste management systems where the most effective and sustainable solutions can deliver a vast reduction in residual waste.

Urgent policy leadership is needed in the construction and demolition (C&D) industries and commercial and industrial (C&I) sectors to improve their systems of source separation and collection of waste to increase reuse, recycling and better value of their waste resources. These two sectors especially have significant increasing waste trajectories, something that is clearly attractive to the waste to energy incinerator industry, an industry that relies on increasing waste volumes at odds with the goal of a circular economy and sustainable materials, closed loop systems.

While communities and municipalities work hard to educate for waste avoidance, reduction, reuse, recycling and composting (all zero waste principles), the C&D and C&I sectors are not receiving the right financial signals and support to reduce their waste generation and ultimately their ecological footprint.

Reducing the volumes of residual waste generated in society should be the first priority of state and local governments, not finding bigger landfills and incinerators to hide it. Zero Waste strategies are proven and comparatively more cost effective and sustainable than both landfill and incineration.

More energy (ghgs) can be saved through zero waste strategies than wasting these finite resources in landfill or incineration even with energy recovery. While residual waste represents the long term design failure of our materials production processes, failing to make products reusable, recyclable or compostable, policy support and government investment is better targeted at educating industry and consumers to make better

¹¹ San Francisco Zero Waste Policies and Programs Preventing Marine Litter <http://www.rona.unep.org/sites/default/files/Regional%20Priorities/Marine%20Debris/Jack%20Macy.pdf>

choices, reduce their waste at source, and to develop a transition plan for residual waste in the short term such as containership and storage.

It is possible to shrink MSW residual quantities to 10% or less with better consumer and industry education, improved source separation and collection systems all of which support downstream industries such as recyclers, composters and the increasing demand for reusable and repairable industries as well as innovative alternative materials production industries.

Residual waste can also be processed through non-combustion technologies such as autoclaving, aerobic and anaerobic digestion, Mechanical Biological Treatment (MBT), Gas Phase Chemical Reduction and other non-combustion technologies. These comparatively safer and more effective options are cheaper and less polluting than incineration leaving no mountains of toxic ash for future generations to deal with, while preserving the value of the finite resources that are contained in the waste stream.¹²

Recommendation 6: The NSW government should invest in strategic, cross sector support for the C&D and C&I sectors to reduce the volumes of residual waste they generate.

Recommendation 7: The NSW government should invest in safer, non-combustion techniques and zero waste strategies to manage the states residual waste.

Recommendation 8: The Federal government should commit, in both principle and action, to supporting a circular economy, closed loop systems and zero waste, in line with the EU and many other countries around the world, as part of its commitment to the Paris COP to reduce climate pollution and preserve our countries life support systems- air, water and soil.

¹² <http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//TEXT+REPORT+A8-2015-0215+0+DOC+XML+V0//EN>
<http://zerowaste.com/images/Comparative-LCAs.pdf>
<http://nrcrecycles.org/mobius/nrcwp-content/uploads/2015/02/Jeffrey-Morris-NRC-SMM-Webinar-Presentation.pdf>
<http://www.ewp.rpi.edu/hartford/~ernesto/S2014/SHWPCE/Papers/SW-Preprocessing-Separation-Recycling/Morris1996-Recycling-vs-Incineration-Energy.pdf>
https://www.ecocycle.org/files/pdfs/best_disposal_option_for_leftovers_on_the_way_to_Zero_Waste.pdf
<https://dakofa.com/element/denmark-without-waste-recycle-more-incinerate-less/>