CONSERVATION COUNCIL ACT REGION

Submission to NSW Government Major Projects

Woodlawn Advanced Energy Recovery Centre

December 2022

The Conservation Council ACT Region is the peak non-government environment organisation for the Canberra region. Since 1981, we have spoken up for a healthy environment and a sustainable future for our region. We harness the collective energy, expertise and experience of our more than 40 member groups to promote sound policy and action on the environment.

We campaign for a safe climate, to protect biodiversity in our urban and natural areas, to protect and enhance our waterways, reduce waste, and promote sustainable transport and planning for our city. Working in the ACT and region to influence governments and build widespread support within the community and business, we put forward evidence-based solutions and innovative ideas for how we can live sustainably.

At a time when we need to reimagine a better future, we understand that the changes we need will only happen with the collective support of our community.

For further information please contact:

Elle Lawless, Executive Director, director@conservationcouncil.org.au.

Introduction

The Conservation Council ACT Region welcomes the opportunity to provide comment on Veolia's proposed Woodlawn Advanced Energy Recovery Centre near Tarago, NSW.

The Council opposes building the proposed facility regardless of where it might be located. The key reasons for opposition are:

1. **Incinerating materials is inconsistent with the waste management hierarchy and the principles of a circular economy;**
2. **Incineration would create air and solid pollution, impacting biodiversity and human health;**
3. **Incineration is not a clean source of energy consistent with addressing climate change; and**
4. **The community does not support the proposal.**

Circularity and waste management

All Australian States and Territories, including NSW, are developing policies and action plans to transition to a circular economy to address pollution, resource scarcity, climate change and sustainability for the future. The principles of a circular economy, which the NSW Government should be familiar with, are:

- Design out waste and pollution
- Keep materials in use at the highest value possible
- Regenerate nature.

NSW's circular economy policy says that "A circular economy is all about valuing our resources, by getting as much use out of products and materials as possible, and reducing the amount of waste we generate." The tagline on the policy statment is "too good to waste".[1]

The waste management hierarchy places avoidance as the "most preferable" action, with disposal of residual wastes at the absolute bottom "least preferable" action.

Within these frameworks, recovery of materials is clearly the priority and incineration is the last resort.

A waste-to-energy facility is a cop-out, an "easy" option to avoid the hard work of actually addressing root causes of waste creation. Once an incinerator is operating and making problematic wastes disappear, there would be little incentive for the NSW Government to direct investment to avoiding the waste in the first instance. Indeed, the opposite becomes true: the scale of the investment required to build an incinerator and the long payback period requires a lock-in of the supply of "feedstocks" to "feed the beast" so as to maintain financial viability and justify the capital investment in the facility. The operator Veolia, as a global waste management company, has no financial interest in eliminating waste at the source, whereas waste

[1] NSW Government, 2019, 'NSW Circular Economy Policy Statement: too good to waste', https://www.epa.nsw.gov.au/-/media/epa/corporate-site/resources/recycling/19p1379-circular-economy-policy-final.pdf

management companies are know to view incinerators as a "money-making machine".[2] Thus, this incinerator project would undermine genuine recycling efforts towards the goal of zero waste and a sustainable circular economy, instead entrenching and perpetuating destructive linear production practices.

In addition to municipal wastes, the need for committed feedstocks could potentially also create or justify demand for native forest biomass, which is not a clean or renewable energy source[3] and which would be detrimental to the health of native forest ecosystems already under pressure from urban development and climate change.[4]

Incineration destroys the embodied energy of materials that might otherwise have been put back into circulation in our economy, also driving consumption of more energy to create new products that the incinerated materials could have been used for.

Incineration facilities also create fewer jobs than materials recovery facilities and stifles innovation in materials recovery and sustainable product development.[5]

Investment should instead be directed to waste avoidance.

What are the particular waste streams or types of waste that would feed the incinerator? Work backwards from there to find specific solutions for each, instead of the catch-all of incineration.

The first priority should be to regulate to prohibit the creation and importation of hazardous wastes and materials for which there are no viable reuse or recycling solutions, such as expanded polystyrene and toxic chemicals.

Legislate targets for incorporating recycled materials into new products. This is the most efficient and cost-effective way to drive demand for recovered materials, investment in recovery and recycling infrastructure and innovation in product design to minimise waste and maximise efficiency.

Implement mandatory product stewardship or extended producer responsibility schemes. NSW's Container Deposit Scheme is an excellent model which should be replicated across as many categories of goods as possible. Such schemes ensure that producers are bearing the costs of the impacts of their goods, but also enable industry collaboration to develop solutions at scale. Paying people for unwanted materials incentivises their return. If industry contributions to the scheme are high enough and tied to the quantity of eligible product they produce, they are incentivised to minimise their waste.

---

[2] Savini, F, 2021, The circular economy of waste: recovery, incineration and urban reuse, *Journal of Environmental Planning and Management*, vol 64 iss 12, pp 2114–32, DOI: 10.1080/09640568.2020.1857226

[3] Chatham House, 2017, Green credentials of burning forest biomass for energy demolished by new, independent Chatham House report, *Renew Economy*, https://reneweconomy.com.au/green-credentials-of-burning-forest-biomass-for-energy-demolished-by-new-independent-chatham-house-report-50128/

[4] Weston, P, 2022, Stop burning trees to make energy, say 650 scientists before Cop15 biodiversity summit, *The Guardian*, 5 December, https://www.theguardian.com/environment/2022/dec/05/stop-burning-trees-scientists-world-leaders-cop15-age-of-extinction-aoe

[5] National Toxics Network, 2013, 10 reasons why burning waste for energy is a bad idea, https://ntn.org.au/wp-content/uploads/2014/10/10-reasons-why-burning-waste-to-make-energy-is-a-bad-idea-1.pdf

Develop streamed waste collection systems to separate different categories of waste for appropriate recycling. Producers don't want and cannot use the murky, contaminated product that comes out of co-mingled recycling streams. Veolia has found that the organic waste transported from Sydney to its Woodlawn composting facility is too contaminated to produce compost that can actually be used as compost for agricultural purposes. The Container Deposit Scheme is again a great example of how a clean, specific waste stream enables production of a clean, high-quality resource for reuse.

Organic wastes play an important role in regenerating nature and building the quality of soils to support food production and the maintenance of our trees and landscapes in a climate challenged future. Biodiverse soils are also critical for carbon sequestration. Thus, organic wastes should be separated at source for composting. The ACT's experience so far with food and organic waste collection is that providing a specific collection service supported by education and compliance measures results in a very low rate of contamination. It produces a high-quality compost suitable and safe for urban gardens and agricultural applications.

Technical nutrients such as plastics, metals, glass, concrete and minerals should be returned to technical cycles to reduce extraction of virgin resources. Invest in research collaborations, such as SMaRT@UNSW and the CSIRO, to develop solutions for complex wastes such as disposable coffee capsules, rubber tyres, electronics, medical wastes and mattresses.

Engage the research community to conduct a complex-systems analysis of the drivers (regulatory, financial, social etc) of a linear take-make-dispose economy and the obstacles to a circular economy. Conduct a gap analysis of solutions for materials for which there are no recycling solutions. Offer research and innovation grants to develop solutions for those materials. Develop policy solutions to flip the paradigm and drivers from linear to circular. Invest in implementing those solutions, including education for behaviour change.

Advocate for all of these actions at a national level to harmonise across the country and drive change globally.

No feedstock from the ACT

The Conservation Council would also oppose any significant quantity of waste being exported from the ACT to the Woodlawn facility on the grounds that the ACT should be dealing with its own waste as far as possible, through measures such as those outlined above. Sending Canberra's waste to Veolia's incinterator would "foster a lifestyle where ACT Government and residents are not dealing with their own waste, alleviating all pressure to reduce system input. Communities and businesses would no longer have an incentive to reconsider high levels of consumerism behaviour.[6] Waste initiatives or education strategies would be rendered unnecessary, due to this 'out of sight, out of mind' situation. Costs and access would also be subject to external decisionmakers such as the NSW Government."

The ACT Government's policy position on waste-to-energy was developed in consultation with the community, which did not give social licence to incineration within the ACT. It would be reasonable to assume that Canberrans would extend this opposition to the ACT Government

[6] de Waal, L, 2015, Options for long-term waste reduction and management in the Australian Capital Territory, Research report, https://conservationcouncil.org.au/wp-content/uploads/Conservation_Council_ACT_Lauren_de_Waal_Research_Report.docx.pdf

allowing the export of waste to any interstate incineration facilities. The ACT is also working towards a ctrcular economy, an approach, as described above, inconsistent with exporting or incinerating wastes.

Air pollution

Language is important. The Woodlawn project is named an “advanced energy recovery facility”. Other descriptors used by waste managers and governments include “thermal treatment”, “gasification”, “pyrolysis” and “waste-to-energy”. All of these sound formal and efficient but are smokescreen euphemisms for burning or incinerating rubbish, terms that attempt to greenwash and justify the process.

However efficient Veolia claims the facility would be, burning waste still results in residual waste products and gases.

Incineration cannot be considered a clean waste management solution, as it produces carcinogenic persistent organic pollutants and toxic heavy metals in both the residual ash and emissions released to the air. This pollution has a real cost impact on public health of between $10–34 per tonne of waste treated.[7]

Quina et. al.[8] describe the main pollutants released during municipal solid waste incineration as follows:

> “The main direct impacts caused by incineration are emissions to air, residues production (bottom ash and APC residues), emissions to water, energy production/consumption, material consumption, noise and vibration, fugitive emissions (including odour mainly from waste storage), storage/handling/processing risks of wastes. Among these, emissions to air are really significant, since the incineration of 1 ton of municipal solid waste produces a huge volume of flue-gas. … Depending on the technology, operating conditions and the composition of waste incinerated, diverse pollutants are formed and emitted in flue gas:
>
> - particulate matter – with a broad distribution size;
> - Acids and other gases – HCl, HF, HBr, HI, SO2, NOx, NH3…;
> - Heavy metals – Hg, Cd, Tl, As, Ni, Pb, Sb, Se, Sn, Zn…;
> - Carbon compounds – CO, VOC, PCDD/PCDF, PCB, PAH.”

The ACT Government evaluated waste-to-energy as a solution for the ACT’s residual wastes and reducing emissions from waste. The Government reached the conclusion that thermal treatment is inconsistent with the waste hierarchy and principles of a circular economy and

[7] Ballinger, A, Shanks, W, Miles, T & Degagny, S, 2022, Greenhouse gas and air quality impacts of incineration and landfill, Eunomia Research & Consulting, https://ntn.org.au/wp-content/uploads/2022/04/Greenhouse-Gas-and-Air-Quality-Impacts-of-Incineration-and-Landfill-v2.2-clean.pdf

[8] Quina, M, Bordado, J & Quinta-Ferreira, R, 2011, ‘Air pollution control in municipal solid waste incinerators’, Chapter 16 in Khallaf, M (ed), 2011, The impact of air pollution on health, economy, environment and agricultural sources, InTech, Croatia, ISBN 978-953-307-528-0

therefore not appropriate. As such, the ACT's policy permits only specific refuse-derived-fuel and anaerobic digestion processes with only non-hazardous residual waste being eligible.[9]

The ACT Government is also developing legislation for human rights to clean environment , the purpose of which is to protect the health of both humans and the natural environment from projects like this.

The ACT's waste-to-energy policy is based on three key principles:

- Waste minimisation that eliminates harm to the environment
- The precautionary principle that lack of full scientific certainty should not be used as a reason to postpone measures to prevent environmental degradation, and
- The inter-generational equity principle of maintaining the environment for the benefit of future generations.

Key outcomes of the policy include that:

- the health of the community and the environment are protected, and the impacts of climate change are minimised, and
- the importation of waste into the ACT and surrounding regions for energy recovery is minimised.

A key concern of Canberra residents, businesses and other stakeholders during the consultation about the waste-to-energy policy was the potential for air pollution from any future waste-to-energy facility.

This project was originally proposed to be located in Sydney but was rejected due to the air pollution potential. The NSW Government says these facilities are unsafe for Sydney, reporting that for some common air pollutants there is no safe threshold of impact. Research concluded that "contamination of food and ingestion of pollutants is a significant risk pathway for both nearby and distant residents".

Emissions modelling of Veolia's proposed Woodlawn incinerator demonstrates that pollutants will spread over a radius of more than 50kms,[10] including across regional NSW towns Tarago, Bungendore, Collector and as far as Queanbeyan and Goulburn, as well as across the city of Canberra.

The NSW Government cannot take an "out of sight, out of mind" approach and simply relocate the incinerator from Sydney to a regional area hoping noone will notice or object, overriding local objections because the population numbers in thousands instead of millions.

If the purpose is waste management, the NSW Government would be better advised to implement all the measures described above to avoid and minimise waste, and then send any residual waste to landfill with pre-treatment and methane gas capture technology. This would result in much lower toxic air pollutants than any form of incineration.

---

[9] ACT Government, 2020, ACT Waste-to-energy policy 2020–25, https://s3.ap-southeast-2.amazonaws.com/hdp.au.prod.app.act-yoursay.files/3815/8509/9072/TCCS_ACT_Waste_to_Energy_Policy.pdf

(Disposal of hazardous, toxic, medical and biological wastes are regulated by the Dangerous Substances Act 2004 and the Animal diseases Act 2005)

[10] Plume Plotter, 2022, Tarago Plume Plotter, https://plumeplotter.com/tarago/
No Waste Incinerator Tarago, 2022, Incinerator toxic air pollution, Factsheet #2, PDF link

Clean energy for climate action

Waste-to-energy through thermal treatment would be an ongoing source of greenhouse gas emissions, inconsistent with the NSW Government's Net Zero Plan to reach net zero emissions by 2050.[11]

Incineration cannot be considered a "green" or low-carbon source of electricity, as the emissions per kWh of energy produced are higher than combined cycle gas turbines, renewables and the likely aggregated future marginal source of electricity in Australia.[12] It is also not either "renewable" or "sustainable", in that it requires a constant source of feedstock that is destroyed in the process.

Advocates of waste-to-energy frequently cite the ubiquity of such facilities in Europe. But, the fact that they are common in Europe does not automatically justify building such facilities in Australia. European incinerators were built in many cities where space for landfill was limited, and they were integrated into electricity generation networks as sources of energy lower in emissions and pollution than coal and cheaper than nuclear, and the urban utility networks are dependent on the energy they produce.[13] But the political economy of waste management and renewable electricity generation in Australia in the third decade of the 21st century is entirely different from that which gave rise to incineration in 20th century Europe, and neither purpose can now be justified in regional NSW.

If the purpose of the Woodlawn facility is to provide clean energy, the money would be far better spent on genuinely sustainable wind, solar, geothermal and pumped hydro power generation and storage projects and upgrades to electricity infrastructure. It is particularly important that these clean sources of energy are developed to replace coal and gas in the race to meet zero emissions targets – we need to be building the cleanest, best-practice energy sources, not just "less bad" or "transitional" sources.

If the purpose is waste management, the NSW Government would be better advised to implement all the measures described above to avoid and minimise waste, and then send the minimised residual waste to landfill with pre-treatment and methane gas capture technology. This would result in much lower greenhouse gas emissions and toxic air pollutants than any form of incineration.

It might be appropriate to replace the "advanced energy recovery" facility with processing into refused-derived fuels only for residual wastes after all other diversion actions have been implemented. This pelletised fuel could then be used to displace fossil fuels in industrial applications where other energy sources cannot easily be substituted. Such a facility should be scalable to the amount of feedstock available to avoid a 'feed-the-beast' commitment or stockpiling of wastes.

---

[11] NSW Government, n.d., Net Zero Plan, https://www.energy.nsw.gov.au/nsw-plans-and-progress/government-strategies-and-frameworks/reaching-net-zero-emissions/net-zero

[12] Ballinger, A, Shanks, W, Miles, T & Degagny, S, 2022, Greenhouse gas and air quality impacts of incineration and landfill, Eunomia Research & Consulting, https://ntn.org.au/wp-content/uploads/2022/04/Greenhouse-Gas-and-Air-Quality-Impacts-of-Incineration-and-Landfill-v2.2-clean.pdf

[13] Savini, F, 2021, The circular economy of waste: recovery, incineration and urban reuse, *Journal of Environmental Planning and Management*, vol 64 iss 12, pp 2114–32, DOI: 10.1080/09640568.2020.1857226

The community does not support waste-to-energy

The NSW Government's Net Zero Plan says that waste-to-energy facilities will only be developed "in locations that have strong community *support*".

There is strong *opposition* to the proposed Woodlawn facility by the residents of Tarago and surrounding villages, plus those residents of the ACT who are aware of the project.[14] The 'Communities against the Tarago incinerator' Facebook page has 1000 members and the campaign has attracted local media attention.

On 2 August 2022, Jo Clay, MLA, lodged a petition in the ACT Legislative Assembly, signed by 919 ACT residents opposing the Woodlawn incinerator.[15] The petition states that "the proposed incinerator jeopardises moves to protect Canberrans from climate change and to ensure that everyone can access clean air, clean water, healthy food and nature". It calls on the Assembly to:

- publicly oppose the proposal;
- ban ACT waste from being used as a feedstock in it;
- call on the ACT government to liaise with the NSW Government to make sure the ACT opposition is heard.

Goulburn-Mulwaree Council also rejected the proposed facility within its local government area. On 29 September 2021, the General Manager of the Council wrote to the Policy and Cabinet Division of the ACT Chief Minister's directorate, advising of the Council's resolution and seeking the ACT Government's support for opposing the development.

In response to Elizabeth Lee MLA's question on the topic in the ACT Legislative Assemby on 22 February 2022, Chief Minister Andrew Barr MLA conceded that although "the ACT would be unlikely to make a submission to a NSW Planning process", the Goulburn-Mulwaree "Council's position is consistent with relevant policies in the ACT".[16] The Conservation Council understands that the ACT Government has since adopted a more proactive stance and is also lodging a submission to NSW Government Major Projects opposing the Woodlawn incinerator.

---

[14] Brewer, P, 2021, Proposed Tarago waste incinerator emissions could reach Canberra, The Canberra Times, 5 December, https://www.canberratimes.com.au/story/7508922/proposed-tarago-waste-incinerator-emissions-could-reach-canberra/?cs=14225

[15] ACT Legislative Assembly, 2022, Hansard, Week 7, 2 August 2022, https://www.hansard.act.gov.au/hansard/10th-assembly/2022/HTML/week07/2101.htm

[16] ACT Legislative Assembly, 2022, Inquiry into Annual and Financial Reports 2020–2021: Answer to question taken on notice, 22 February 2022, https://www.parliament.act.gov.au/__data/assets/pdf_file/0007/1968370/EGEE-QTON-06-ANSWER-CMTEDD-Waste-facility-in-Goulburn-LEE.pdf

Recommendations

The Conservation Council ACT Region recommends that the NSW Government:

- **Reject the Woodlawn Advanced Energy Recovery Facility and place a moratorium on all waste-to-energy projects in NSW**
- Regulate for the elimination of problematic wastes
- Legislate targets for recycled content
- Implement mandatory extended producer responsibility schemes for a broad range of product categories
- Invest in streamed materials recovery systems and education to reduce contamination rates and increase recovery rates
- Engage the research community to conduct systems analysis for drivers of linear production and gap analysis of waste streams.