Submission No 174

INQUIRY INTO PROPOSED ENERGY FROM WASTE FACILITIES

Organisation: NSW Farmers Association

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About NSW Farmers
NSW Farmers is Australia's largest state farming organisation, representing farmers on the issues that matter to them such as the environment, biosecurity, water, animal welfare, economics, trade, workforce and rural affairs.

Agriculture is a vital sector, quite literally feeding the nation. Farming directly employs more than 75,000 people across NSW and underpins rural and regional communities, producing more than $24 billion in food and fibre and making a significant contribution to the state and national economy.

Our aim is to support stronger farming businesses and reach $30 billion in output by 2030. We ensure genuine voices from the paddock identify issues and shape policies, with teams in regional NSW and Sydney. We provide specialist advice and offer partner benefits that deliver excellent value for our members.

Executive Summary
NSW Farmers welcomes the opportunity to provide a submission on proposed energy-from-waste (EfW) facilities in New South Wales. The industrial-scale developments planned for Tarago and Parkes, along with Richmond Valley and West Lithgow, currently identified in the Protection of the *Environment Operations (General) Regulation 2022* (NSW) as areas where thermal treatment of waste is permitted, have generated significant concern in rural communities.[1]

Landholders and regional communities are calling for greater clarity and transparency about the risks posed by pollutants drifting onto paddocks and into rainwater tanks, bores and creeks. These risks carry potential consequences for livestock certification, premium produce markets and community health on prime agricultural land. Residents have the right to demand answers, given the serious complications that can arise from pollution incidents. International examples of waste leaks and regulatory failures have only amplified concerns, highlighting the potentially catastrophic and lasting impacts on agricultural industries if similar incidents were to occur in NSW.

In Parkes and Tarago, locals feel they are being treated as "sacrificial communities," asked to shoulder the burden of processing household, municipal, commercial, industrial, construction and demolition waste, much of it being trucked in from urban centres. Under the *State Environmental Planning Policy (Transport and Infrastructure) Amendment* (Thermal Energy from Waste) *2022* (NSW), EfW infrastructure is prohibited across Greater Sydney in line with the *Protection of the Environment Operations (General)*

[1] NSW Government (2022) *Protection of the Environment Operations (General) Regulation 2022*, Sydney: NSW Government.

Regulation 2022 (NSW).[2] The policy acknowledges that "there is a need to avoid the exposure of high population centres in NSW…Populations can still experience health impacts when emissions are below the national standards and for some common air pollutants, there is no safe threshold of impact."

These statements leave rural communities questioning why they are expected to bear the weight of impacts considered unacceptable for urban centres, particularly when these same regions produce much of the state's food and fibre. They also question whether the energy generation capacity of EfW technologies justifies adding another industrial burden on regional areas that already host large-scale wind, solar and transmission line infrastructure.

These concerns cannot be dismissed as a fear of change. The risks associated with large-scale EfW facilities are undeniable and rural communities deserve clear and comprehensive answers before any development is allowed to proceed.

Performance of the EfW Technology in Rural Conditions

Proponents claim that the proposed facilities will utilise advanced combustion technology, flue gas cleaning and emission controls. However, factors such as dust intrusion, varying waste inputs, seasonal temperature fluctuations, wind turbulence and maintenance issues introduce operational risks.

International experience indicates that full-scale incinerators often operate outside their ideal parameters. A study of industrial waste gases found that variations in waste composition and combustion temperature can significantly increase dioxin production, highlighting some of the vulnerabilities of these developments.[3] This raises concerns about whether they can consistently meet long-term performance promises in rural areas, which are necessary to produce safe food and fibre. This is not only vital for the survival of rural industries but also important for the health of people across NSW who may consume contaminated produce.

International examples have shown that the startup, shutdown or malfunction of these facilities drastically increases the likelihood of exceedances of safe emissions standards. U.S. environmental regulations recognise these phases as periods when emissions can exceed allowable limits by up to 10 times.[4]

Additionally, large-scale solar, wind and new transmission line developments are already placing significant pressure on rural communities. The introduction of EfW facilities risks adding further industrial impacts without delivering equivalent benefits or safeguards. Concerns also extend to the cumulative effects of developments being concentrated in regional areas. NSW Farmers has consistently called for comprehensive regional impact studies to assess these cumulative pressures properly, yet there has been little indication that such essential assessments will be undertaken.

Pollution and Agricultural Production

A primary concern for regional communities regarding the construction of EfW facilities in agricultural areas is that even small amounts of pollutants, such as particulates, heavy metals, dioxins, and furans, can be carried by wind and settle on crops, pastures, soils, and waterways. Once deposited, these

[2] New South Wales Environment Protection Authority (2021) *Energy from Waste Infrastructure Plan*, NSW EPA, Parramatta. Available at: https://www.epa.nsw.gov.au/sites/default/files/21p3261-energy-from-waste-infrastructure-plan.pdf.
[3] Addink, R. and Olie, K. (1995) 'Mechanisms of formation and destruction of polychlorinated dibenzo-p-dioxins and dibenzofurans in heterogeneous systems', *Environmental Science and Technology*, 29(6), pp. 1425-1435.
[4] U.S. Environmental Protection Agency (EPA) (2006) *National Emission Standards for Hazardous Air Pollutants: Standards for Hazardous Waste Combustors*. Washington DC: EPA.

contaminants can accumulate and persist for years, entering plants and livestock and ultimately being consumed by humans.

Research in Europe has found high levels of dioxins, PFAS and heavy metals in soils near incinerators.[5] A study across Spain, France and the Netherlands linked contamination directly to the operations of these facilities, leading to calls for stricter regulation.[6] In China, scientists discovered that metals such as nickel, copper, cadmium and chromium exceeded safe limits in soils near a municipal waste incinerator.[7] Similarly, in Spain, monitoring around a hazardous waste site revealed elevated levels of dioxins in soil, grass and even in resident's blood plasma.[8]

The 2008 Irish pork crisis serves as a stark reminder of how dioxin contamination can devastate agricultural industries. In that case, dioxins entered animal feed, leading to widespread product recalls and the mass destruction of pigs, which severely disrupted Ireland's pork export market.[9] Likewise, the Dublin Waste-to-Energy facility experienced an incident in 2017 where an uncontrolled lime release sent staff to hospital, illustrating how even well-regulated modern facilities can suffer serious operational failures.[10]

If a dioxin contamination event similar to the Irish pork crisis were to occur in Parkes or Tarago, the impact could devastate agricultural supply chains across NSW and cripple local industries for decades. Scientific studies have shown that dioxins can persist in soils for long periods, with half-lives ranging from 7 to 11 years in surface soils and even longer in deeper, less disturbed layers.[11] Because of this persistence, contaminated soils act as a long-term reservoir, gradually transferring pollutants into plants and the wider food chain. Uptake by crops, deposition on leafy vegetables and ingestion of contaminated forage by grazing livestock are well-documented pathways.[12] This means that even small initial releases can continue to pose risks to agricultural production, food safety and human health for generations. If high levels of contamination are detected in meat, it could indicate that the meat producers in the region have their MLA Integrity Systems accreditation possibly at risk. This situation could prevent them from selling their livestock.

The Parkes region is among the most productive agricultural areas in the state, contributing significantly to NSW's wheat, barley, oats, canola and pulse crops. Its mixed farming systems also support substantial sheep grazing for wool and meat. The wider Central West Orana region generated more than AUD 1.77 billion in agricultural production from livestock, broadacre cropping and horticulture in recent reporting periods. Tarago, while smaller, also supports pastoral and mixed farming enterprises that underpin local livelihoods and contribute to a thriving agricultural industry.

[5] Rovira, J. et al. (2010) 'Monitoring of dioxins and metals in soils and vegetation around European incinerators', *Chemosphere*, 80(6), pp. 759-766.
[6] Domingo, J.L. and Schuhmacher, M. (2006) 'Waste incineration and human health', *Environment International*, 32(4), pp. 433-445.
[7] Wang, H. et al. (2009) 'Heavy metals in agricultural soils around a municipal solid waste incinerator in China', *Environmental Monitoring and Assessment*, 148(1–4), pp. 291-298.
[8] Schuhmacher, M. et al. (2004) 'Environmental impact of a hazardous waste incinerator in Catalonia, Spain: monitoring of PCDD/Fs, heavy metals and other organic pollutants', *Chemosphere*, 57(9), pp. 1063-1072.
[9] O'Mahony, P. (2009) *The Irish Pork Dioxin Contamination Incident*. Dublin: Food Safety Authority of Ireland.
[10] Dublin City Council (2017) *Poolbeg Waste-to-Energy Facility Incident Report*. Dublin: Dublin City Council.
[11] World Health Organization (2010) *Persistent Organic Pollutants: Dioxins and their effects on human health*. Geneva: WHO.
[12] Food and Agriculture Organization of the United Nations (2016) *Dioxins in the Food Chain*.

Community Health

In many regional areas, water security depends on rainwater tanks, bores or small surface catchments. Unlike large urban systems, these sources often lack advanced water treatment, increasing the risk of contamination that could pose significant health concerns for rural populations.

Epidemiological studies have linked exposure to incinerator emissions with higher risks of cancers, congenital anomalies, miscarriage and respiratory illnesses. A review by the Australian Public Health Association states that both workers and nearby residents of waste incinerators face potential health hazards.

Residents of Tarago have repeatedly expressed fears about contamination from leaks, odours and emissions. These risks to rural health exemplify how rural communities often feel like the "sacrificial communities" of emerging technologies. This is explicitly acknowledged in the State Environmental Planning Policy (Transport and Infrastructure) Amendment (Thermal Energy from Waste) 2022, which states that "there is a need to avoid the exposure of high population centres in NSW… Populations can still experience health impacts even when emissions are below national standards and for some common air pollutants, there is no safe threshold of impact."

Such concerns are compounded by other instances where rural communities have suffered health consequences from industrial development, such as residents living near mines where high levels of heavy metals have been detected in their bloodstreams.

Regional Investment

Some community members have raised concerns that placing an incinerator in the Parkes Special Activation Precinct conflicts with its goal of attracting investment in advanced agribusiness, food processing and clean tech. They are concerned that this could shift the area's identity from an innovation hub to an industrial zone, potentially deterring the investors the precinct seeks to attract.

Additionally, agritourism is an increasingly popular form of income diversification, serving as a vital lifeline during hardships such as drought. Its appeal is rooted in showcasing rural landscapes, but this could be negatively affected by the presence of an incinerator facility due to concerns over odour, industrial development and pollution fears.

Alternatives to EfW Facilities

Recognising the waste crisis, regional communities often emphasise safer, more sustainable waste processing options that do not threaten local areas. Proven methods like improved recycling, composting, anaerobic digestion and resource recovery offer lower risks and support circular economy goals.

However, the concern is that once incineration facilities are built, contracts and sunk costs can lock regions into decades of waste burning, overshadowing more sustainable alternatives. Making a decision now could limit future choices and lead to long-term emissions impacts on agricultural land for generations.

Recommendations

1. No approval for EfW facilities should be granted unless independent, long-term demonstration projects prove that emissions are negligible and soil, water and community health can be ensured.

2. Adequate buffer zones and conservative modelling must be applied to protect farmland, water catchments and nearby communities.
3. A comprehensive regional cumulative impact study should be conducted to assess the combined pressures of large-scale renewable energy projects, transmission infrastructure, mines, proposed EfW developments and any other industrial developments on regional communities.

Conclusion

EfW facilities could seriously harm agricultural industries if pollution incidents happen. Even minor contamination can stay in soils for decades, jeopardise livestock certifications, harm market trust and endanger community health. Examples from abroad, like the Irish pork crisis and failures at the Dublin Waste-to-Energy plant, illustrate how quickly a contamination or failure can turn into serious economic and health emergencies.

Communities have valid reasons to ask why projects considered unsuitable for Greater Sydney are being forced on rural areas that supply much of the state's food and fibre. They also have reasons to doubt whether the amount of energy generated by EfW facilities justifies the risks, especially since much of the state's energy infrastructure is already located in regional NSW.

Unless long-term, independent research shows minimal emissions and verified safety under actual operation, these facilities should not go ahead. Safer options like recycling, composting, anaerobic digestion, and circular economy practices pose lower risks and better support the protection of agriculture, public health, and regional growth.

If further information is required, please contact Rhiannon Heath, Environmental Policy Advisor by email at

Yours sincerely,

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