Submission No 94

INQUIRY INTO PROPOSED ENERGY FROM WASTE FACILITIES

Organisation: Exergy Technologies

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Dear Honorary Members,

NSW Parliament Submission on Waste-to-Energy Policy

I have made it my life's mission to improve the sustainability of human life on Earth. For the past 16 years, I have been planning and building renewable energy plants around the world. I believe we have made significant progress in this area, and it is just a matter of time until we implement low-cost technology to mitigate climate change.

One of the next challenges we face is understanding how the byproducts of our lifestyle interact with the environment, particularly the waste we generate. The primary issue in waste-to-energy is the waste itself, not the energy. The challenge is not significantly related to the small amount of energy generated or consumed in handling that waste. The biggest problem stems from the use of plastics; this relatively new material is extremely difficult to recycle into a form that is completely harmless to life as we know it.

Recently, I have been working on developing a Sustainable Aviation Fuel supply chain using organic waste. At first glance, this seemed like a logical and economically viable idea. Our aim was to extract organic energy in the form of gases and use these gases to synthesize larger molecules, specifically aviation fuel. The nutrients from the residual product could be reused in agriculture.

However, we encountered an issue: any residual plastic that easily finds its way into the organic recycling supply chain might end up as microplastics in the agricultural environment. This poses a risk that is not worth taking. As a result, the only alternative is to incinerate the residue to mitigate this risk as much as possible. Unfortunately, the risk of microplastics also jeopardizes the composting pathway, which is often naively regarded as the current solution for organic waste. Studies on microplastics in composting processes in highly regulated markets compared to those in Australia are already confirming this concern. Thus, we are facing a ticking time bomb, and I hope that regulatory policies can stay ahead of this problem.

In summary, until we eradicate all plastics, we will have no choice but to incinerate everything, even as we work to reduce the quantity of residuals or recycle materials. The potential risk is simply too significant. Consequently, incinerating solid waste has become the only viable option for new industries like ours, due to the fundamental issues posed by plastics.

Essentially, we are compelled to incinerate our waste, and all related value creation opportunities, such as organic recycling, will depend on this process. We are left with no other choice; the incineration of waste is a risk we must take. This should be viewed as an interim solution. Ultimately, the right approach should focus on implementing policies that entirely eliminate non-biodegradable products. I emphasize the need for a complete eradication, as anything less will result in suboptimal solutions. Until then, all organic recycling will hinge on the incineration process, even as we strive for elimination in the long run.

I hope this clarification generates further questions, and I would be happy to participate in any ongoing discussions relevant to this complex but important debate.

Regards

Kurt Drewes

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