

## Nicole Armstrong of East Greenwich

submitting Public Testimony in favor of [2021-H 5923](#) for hearing on April 8, 2021 – 3:00 PM

Overstating benefits, negating proven risk factors, advocating “bad science,” downplaying reliance on fossil fuel to transubstantiate waste stock to syngas, heavily relying on public subsidies to turn profit, generating hazardous “forever chemicals” as waste products, and requiring toxic waste remediation upon inevitable default—for these reasons and more—I vigorously support House Bill 5923 - High-Heat Waste Facility Act of 2021. The processing of waste with high-heat, gasification, pyrolysis, incineration and the like is unsustainable, most decidedly not “green,” and—in a word—“*excessively costly*,” as I’ll explain in detail below.

Energy engineer Dr. Andrew Rollinson’s comprehensive review of scientific literature and case studies, published 2019 in the academic journal *Resources, Conservation and Recycling* (<https://www.sciencedirect.com/science/article/abs/pii/S0921344918304117>), reveals predominant “widespread commercial failure” and pronounces that “a pyrolysis plant for self-sustaining Energy from Waste is thermodynamically unproven, practically implausible, and environmentally unsound.” Dr. Rollinson continues his condemnation in the post <https://www.lowimpact.org/pyrolysis-not-solution-plastics-problem/>, noting “[t]he modern notion is to pyrolyse plastic (and other municipal refuse) into a gas or oil which is then useable as a commodity, invariably a ‘fuel’, in its own right. This conveniently ignores the fact that pyrolysis is an energy consuming process: **more energy has to be put in to treat the waste than can actually be recovered. It can never be sustainable.**” Gasification and pyrolysis operations require not only massive energy consumption, but the Conservation Law Foundation also observes that capital expenses on these operations require “**[m]ore than 2x the capital costs of wind and solar.**” (<http://www.rilegislature.gov/commissions/gasification/commdocs/Senate%20Gasification%20Study%20Com'n%20CLF%20presentation%203.11.20.pdf>) *Excessively costly high-heat waste equipment in turn generates excessively costly energy consumption.*

Examining waste gasification/pyrolysis efforts across the US and the EU, in 2017, GAIA reported that, “there are numerous examples of plants that have been forced to shut down due to technical failures and financial failures. Other projects have failed in the proposals stage after raising significant investments due to community opposition and government scrutiny into false and exaggerated claims. Over \$2 billion was invested in the projects listed in this report alone, all of which closed or were canceled before commencing operations. [...] Gasification plants also have **historically sought public subsidies to be profitable** [...] We conclude that **the potential returns on waste gasification are smaller and more uncertain, and the risks much higher, than proponents claim.**” (<http://www.no-burn-org/gasification-pyrolysis-risk-analysis/>) Climate scientist Neil Tangri’s 2021 study finds that “incinerators emit more greenhouse gas emissions per unit of electricity produced than any other power source. They also emit more criteria air pollutants than replacement sources of energy [...while] divert[ing] more than \$40 million in subsidies annually from cleaner energy sources [such as solar, hydro or wind]. As the electric grid decarbonizes, these disparities will only grow.” (<https://eartharxiv.org/repository/view/2050/>) Greenpeace likewise observed that “projects in the United Kingdom, Germany, Australia, United States and Canada have failed due to plants’ inability to meet projected energy generation, revenue generation and emission targets [...] and that **g]asification is also one of the most expensive options to treat waste.**” (<https://www.greenpeace.org/philippines/press/1362/ecogroups-warn-against-plastic-waste-burning/>) *High-heat waste programs can be excessively costly to governmental subsidy programs, coincidentally compounding lost opportunity costs for other green industries, while simultaneously suffering excessively costly failure rates.*

The types of waste treatment protocols outlined in this bill also **generate substantial carbon outputs—at the exact time the legislature is attempting to reach carbon-neutral goals.** One noteworthy example would

be the proposed Medrecycler plant, attempting to site in West Warwick, that “claim[s] that the facility’s emissions would be equivalent to four cars annually. However, [the Conservation Law Foundation] noted that in the [application](#) before DEM it shows that the system would emit 20,000 tons of carbon dioxide, equal to 4,118 cars every year.” (<https://www.ecori.org/composting/2021/2/16/opposition-growing-against-medical-waste-facility>) While proponents of high-heat waste programs may subsequently propose “scrubbing” the exhaust, it is worth noting that “[t]he more **pollutants an air pollution control system removes, the more toxic its fly ash is**. Incineration also generates new toxic chemicals such as dioxins and furans, which can leach into soil and groundwater and accumulate in food chains. ([https://www.no-burn.org/wp-content/uploads/Pollution-Health\\_final-Nov-14-2019.pdf](https://www.no-burn.org/wp-content/uploads/Pollution-Health_final-Nov-14-2019.pdf)) ***High-heat waste facilities cause excessively costly environmental burdens.***

Unfortunately, commercial failure/closure may not eliminate enduring risks. As an APRA request unveiled, regarding the \$17.2 million in tax-exempt bonds that may be granted to Medrecycler from RI Industrial Facilities Corporation (RIIFC), “**the bond issuer (RIIFC) takes title to the project owner’s real property,**” which would leave the state of Rhode Island to decommission equipment and clean up waste should the company default. (<https://eastgreenwichnews.com/medrecycler-to-be-financed-w-17-million-in-r-i-tax-exempt-bonds/>) This is in addition to whatever long-term harm would be caused by toxic pollutants that the high-heat facilities emitted while in operation. A 2017 report found “companies promoting ‘waste-to-energy projects like gasification and pyrolysis have a **30-year track record of failures and unfulfilled promises**. [...] T]he vast majority of proposed plants were never built or were shut down.” [...] ‘It’s important that investors recognize that these processes do not work and set us back on developing real solutions, says report author Monica Wilson.’” (<http://www.no-burn.org/gasification-pyrolysis-risk-analysis/>) ***High-heat waste facilities may prove excessively costly for public entities to deactivate upon the default of commercial enterprises.***

In closing, I would direct you to the short booklet “An Industry Blowing Smoke: 10 Reasons Why Gasification, Pyrolysis & Plasma Incineration are Not ‘Green Solutions’” (<https://www.no-burn.org/wp-content/uploads/BlowingSmokeReport-1.pdf>) which can be best summarized “**waste-to-energy is a waste of energy**” It outlines the risk of permanent damage to the environment and human health, the steady contribution to climate change and other concerns which would interest you as a public servant and policy maker.

I deeply appreciate your time and consideration on this important matter.

Nicole Armstrong, East Greenwich