

To: United States Environmental Protection Agency  
EPA Docket Center,  
Docket ID No. EPA-HQ-OAR-2021-0382,  
Mail Code 28221T,  
1200 Pennsylvania Avenue NW,  
Washington, DC 20460.

December 21, 2021

**Comments by Safer States and Signatories on the United States  
Environmental Protection Agency's Advanced Notice of Proposed Rulemaking  
Regarding Pyrolysis and Gasification Units**

*Submitted Via Email to [a-and-r-docket@epa.gov](mailto:a-and-r-docket@epa.gov) and online at <https://www.regulations.gov/>*

Thank you for the opportunity to comment on the Environmental Protection Agency's (EPA) proposed regulation of pyrolysis and gasification units. Safer States, Alaska Community Action on Toxics, Breast Cancer Prevention Partners, Center for Environmental Health, Center for Progressive Reform, Coalition for a Safe and Healthy Connecticut, Clean and Healthy New York, Coming Clean, Connecticut League of Conservation Voters, Connecticut Zero Waste Coalition, Ecology Center, Environment and Human Health Inc., Green America, Green Education and Legal Fund, Green Party Duval County, Health Care Without Harm, Just Transition Alliance, Merrimack Citizens for Clean Water, Moms for a Nontoxic New York, Until Justice Data Partners, Vermont Conservation Voters and Vermont Public Interest Research Group are organizations and coalitions devoted to protecting people, communities and the environment from toxic chemicals.

We are responding to the EPA's proposal on the regulation of pyrolysis and gasification<sup>1</sup> because of the significant risks that these technologies pose to air quality, the health of frontline communities, and the environment. **It is critical that the EPA regulate these units as incinerators under the Clean Air Act (CAA) in order to best protect neighboring communities from their toxic emissions.** Such action is imperative if the Biden administration is to follow-through on its promises to combat environmental and racial injustice.

**Pyrolysis and Gasification are Incinerators under the Clean Air Act**

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<sup>1</sup> Federal Register/Vol. 86, No. 171/September 8, 2021/"Potential Future Regulation Addressing Pyrolysis and Gasification Units

The CAA was enacted to “to protect and enhance the quality of the Nation's air resources so as to promote the public health and welfare.”<sup>2</sup> Section 129 of the Act directs the EPA to regulate emissions from four categories of solid waste incineration units: municipal solid waste; hospital, medical or infectious waste solid waste; commercial and industrial solid waste; and other solid waste.<sup>3</sup> The EPA has recognized and multiple court rulings have affirmed that the agency has the authority and responsibility to regulate *any and all* solid waste combustors as such under CAA section 129.

Pyrolysis and gasification units and technologies combust solid waste, making them incinerators. The EPA has recognized that such units are “two chamber incinerators” in which the second chamber is used “to complete combustion.”<sup>4</sup> In the first chamber, plastics and other wastes are heated to high temperatures to create hot gases and sludge. The EPA concedes there is, or may be, oxygen present during this process and that in gasification chambers the waste materials “react with oxygen.”<sup>5</sup> That reaction is combustion. In the second chamber, the waste gases are combusted. That process also constitutes the combustion of a solid waste material, as EPA itself has previously recognized.<sup>6</sup> It is clear, therefore, that the Clean Air Act’s incinerator provisions apply to gasification and pyrolysis.

Stringent oversight of pyrolysis and gasification is urgently needed to protect our air and our communities. It is imperative that CAA section 129 apply retroactively to existing pyrolysis and gasification units to limit and monitor emissions from units built prior to rule promulgation. Pollutant control regulation, performance tests, and continuous emissions monitoring should apply to all byproducts from these processes, including air emissions, slag (a form of solid waste residue), fly ash from the air pollution control equipment (requiring special handling due to toxicity), tar, and liquid wastes, and wastewater. Pyrolysis and gasification facilities should also be tracked under the Clean Water Act, in addition to the CAA, due to the effluents and liquid wastes that are created.

Furthermore, we urge the EPA to use its authority under the Clean Air Act to promulgate regulations for additional known toxic emissions produced by incinerators but not specifically listed under Section 129. While the EPA regulates nine<sup>7</sup> important air pollutants (particulate

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<sup>2</sup> 42 U.S.C. § 7401(b)(1)

<sup>3</sup> Environmental Protection Agency. Commercial and Industrial Solid Waste Incineration Units (CISWI). <https://www.epa.gov/stationary-sources-air-pollution/commercial-and-industrial-solid-waste-incineration-units-ciswi-new>

<sup>4</sup> 85 Fed. Reg. 54,178, 54,187 (August 31, 2020) (citing 70 Fed. Reg. 74,870, 74876-74,877 (December 16, 2005)).

<sup>5</sup> 86 Fed. Reg. 50,296, 50,299-50,300 (Sept. 8, 2021).

<sup>6</sup> 60 Fed. Reg. 65,387, 65391 (December 19, 1995) (“Municipal solid waste combustion includes the direct combustion of MSW or the combustion of MSW gases from pyrolysis or gasification.”).

<sup>7</sup> Environmental Protection Agency. Commercial and Industrial Solid Waste Incineration Units (CISWI).

matter, carbon monoxide, dioxins/furans, sulfur dioxide, nitrogen oxides, hydrogen chloride, lead, mercury, and cadmium) emitted by incinerators, there are many more that demand attention. Emissions of other compounds such as arsenic, beryllium, chromium, PCBs, and polycyclic aromatic hydrocarbons, have been recognized by the National Academy of Science to be “compounds of concern” due to “their potential effects on human health and the environment.”<sup>8</sup> These chemicals are linked to cancer, respiratory and cardiovascular disease, endocrine disruption, reproductive harm, and developmental harm; frontline communities deserve and require additional protections.

### **Failure to Act will Increase Environmental Injustice**

The chemical and plastics industries have secured adoption of policy in at least fourteen states that reclassifies pyrolysis and gasification facilities as manufacturing rather than solid waste management, which will leave them subject to weaker regulation. At the same time, we are seeing industry rush to build gasification and pyrolysis incinerators across the country. These trends underscore the importance for the EPA to take action and regulate these units as incinerators under the CAA.

There is strong evidence to indicate that the pollution from gasification and pyrolysis facilities is just as bad, if not worse, than the toxic pollution from conventional incinerators.<sup>9</sup> If the EPA fails to regulate pyrolysis and gasification facilities as incinerators under the CAA, many frontline communities around the country will end up being exposed to higher levels of toxic emissions from these units. Such action would not be in line with the Biden administration’s commitment to promoting environmental justice. Gasification and pyrolysis are being used to combust solid waste and are therefore subject to provisions in the Clean Air Act that requires the EPA to set strict emission standards along with monitoring, reporting, and permitting requirements for all “incinerators.”

### **Conclusion**

Incineration is a dirty technology with significant health and environmental impacts that should be phased out. In the interim, all forms of incineration must be strictly regulated by the EPA.

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<https://www.epa.gov/stationary-sources-air-pollution/commercial-and-industrial-solid-waste-incineration-units-ciswi-new>

<sup>8</sup> National Research Council. 2000. *Waste Incineration and Public Health*. Washington, DC: The National Academies Press.<https://doi.org/10.17226/5803>

<sup>9</sup> Rollinson & Oladejo, *Chemical Recycling: Status, Sustainability, and Environmental Impacts* (2020), at 21; *See* Bell & Takada, *Plastic Waste Management Hazards, Waste-to-Energy, Chemical Recycling, and Plastic Fuels* (2021) (“IPEN Report”) at, 6, 22-29, 52-54.

The Clean Air Act defines incinerator to mean “any facility which combusts any solid waste material.”<sup>10</sup> Gasification and pyrolysis facilities combust at least part of the solid waste fed into them, therefore, they meet the statutory definition of an incinerator and must be regulated under section 129 of the CAA.

EPA must ensure that all incinerators, including gasification and pyrolysis units, are subject to the strictest emission controls, monitoring and reporting required under the Clean Air Act. Given that the vast majority of these facilities are sited near low-income and people of color communities, anything less would constitute a failure of the Biden administration to follow through on its commitments to environmental justice.

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<sup>10</sup> 42 U.S.C. § 7429(g)(1).

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