



November 8, 2021

U.S. Environmental Protection Agency
EPA Docket Center, Mail Code 28221T
1200 Pennsylvania Avenue NW Washington, DC 20460

**RE: Comments on Docket ID No. EPA-HQ-OAR-2021-0382
Potential Future Regulation Addressing Pyrolysis and Gasification Units**

Dear Sir/Madam:

The American Forest & Paper Association (AF&PA) is pleased to submit these comments in response to the Environmental Protection Agency's (EPA) Request for Comments on Potential Future Regulation Addressing Pyrolysis and Gasification Units – EPA, Docket ID No. EPA-HQ-OAR-2021-0382.

The American Forest & Paper Association (AF&PA) serves to advance U.S. paper and wood products manufacturers through fact-based public policy and marketplace advocacy. The forest products industry is circular by nature. AF&PA member companies make essential products from renewable and recycle resources, generate renewable bioenergy and are committed to continuous improvement through the industry's sustainability initiative — Better Practices, Better Planet 2030: Sustainable Products for a Sustainable Future. The forest products industry accounts for approximately four percent of the total U.S. manufacturing GDP, manufactures nearly \$300 billion in products annually and employs approximately 950,000 people. The industry meets a payroll of approximately \$60 billion annually and is among the top 10 manufacturing sector employers in 45 states.

AF&PA opposes regulatory action that seeks to conflate the distinction between recycling and energy recovery. In particular, we oppose efforts by the plastics industry to advocate for the expansion of the definition of "recycling" to include pyrolysis and gasification, which is attempting to conflate breaking down post-use polymers into original monomers for use in making new plastic products (chemical recycling) with thermochemical conversion of post-use polymers into fuels for energy production (pyrolysis and gasification). They are not the same and it is important for U.S. EPA to recognize the difference between them.

Using pyrolysis and gasification to convert post-use plastics into fuel for energy production is not “recycling” and should not be defined as such

Pyrolysis and gasification are energy recovery technologies, defined as “Thermochemical Conversion” processes by the U.S. Department of Energy and many state regulatory agencies. The U.S. EPA differentiates energy recovery (through processes like pyrolysis and gasification) from recycling and places it in a separate, less preferable category than recycling on its Waste Management Hierarchy.

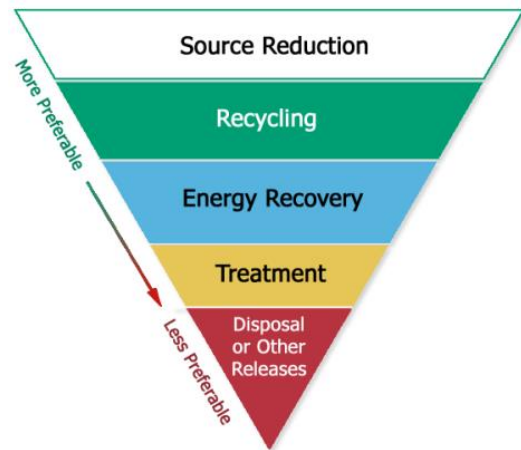
U.S. Department of Energy defines pyrolysis and gasification as “Thermochemical Conversion” processes that create “bioenergy:” <https://www.energy.gov/eere/bioenergy/thermochemical-conversion-processes>

U.S. EPA Waste Management Hierarchy

AF&PA supports the U.S. EPA Waste Management Hierarchy (right).

The Waste Management Hierarchy distinguishes energy recovery technologies such as pyrolysis and gasification from recycling and places energy recovery in a lower, less preferable category on its Waste Management Hierarchy.

According to the U.S. EPA, “[Waste Minimization](#) refers to the use of [source reduction](#) and/or environmentally sound [recycling](#) methods prior to energy recovery, treatment, or disposal of wastes.”



The International Organization for Standardization (ISO) definition of “recycling” in ISO 18604 (2013) specifically excludes energy recovery:

Material recycling – reprocessing, by means of a manufacturing process, of a used packaging material into a product, a component incorporated into a product, or a secondary (recycled) raw material; excluding energy recovery and the use of the product as a fuel.

Recycling process – physical or chemical process which converts collected and sorted used packaging, together in some instances with other material, into secondary (recycled) raw materials, products, or substances, excluding energy recovery and the use of the product as a fuel.

Defining energy recovery as “recycling” creates a competitive advantage for the plastics industry

Allowing the plastics industry to convert their post-use products into fuel for energy production and call it “recycling” has unintended consequences. Many national consumer brands have

recycling goals for their plastic packaging. Would accomplishing those goals now include converting post-use plastic packaging into fuel for energy production?

AF&PA is not saying that the plastics industry can't or shouldn't convert their post-use material into fuels for use in energy production. They just should not be able to call that "recycling" with a stamp of U.S. EPA approval. In fact, some of our recycle mills combust paper recycling residuals for energy recovery but that use is not considered recycling.

Defining energy recovery as "recycling" creates a precedent to use commonly recycled paper for energy recovery and call it "recycling"

AF&PA does not want to see the U.S. EPA create a system that puts combusting paper on par with recycling. If regulations allow converting post-use plastics into fuel for energy production to be defined as "recycling," then what would prevent using pyrolysis and gasification of paper for energy production to also be counted as recycling? It is a problem to do it for one material—it sets a precedent for how other materials should be treated.

Several state environmental protection agencies define pyrolysis and gasification as "thermochemical conversion" technologies, not as "recycling"

California – California Department of Resources Recycling and Recovery (CalRecycle) differentiates recycling from pyrolysis and gasification. It defines pyrolysis and gasification as "Thermomechanical Conversion" processes. <https://www.calrecycle.ca.gov/organics/conversion/pathways/thermochem>

Wisconsin – in its comments to the U.S. EPA on how to calculate the national recycling rate, Wisconsin Department of Natural Resources (WDNR) said, "WDNR would not include these additional pathways for managing materials [pyrolysis, solvolysis, depolymerization, gasification, WTE] into a national recycling rate calculation. While all these methods divert material from landfills, they are not 'recycling' by most state and national definitions of that term."

Washington State – in its comments to the U.S. EPA on how to calculate the national recycling rate, Washington State Department of Ecology said, "Thank you for the opportunity to comment on the draft National Recycling Goal. The Department of Ecology's Solid Waste Management Program has the following comments.

Section 3: Material Management Pathways

- Pyrolysis – Count as recovery, not recycling.
- Solvolysis – Count as recovery, not recycling.
- Depolymerization - Count as recovery, not recycling.
- Gasification – Count as recovery, not recycling.
- Combustion with Energy Recovery (also called Waste-to-Energy) – Do not count as recovery or recycling."

Defining pyrolysis and gasification used for energy recovery as “recycling” is inconsistent with Circular Economy concepts

A circular economy aims to redefine growth, focusing on positive society-wide benefits. It entails gradually decoupling economic activity from the consumption of finite resources and designing waste out of the system. The circular economy model is based on three principles:

- Design out waste and pollution
- Keep products and materials in use
- Regenerate natural systems

When thermochemical conversion technologies like pyrolysis and gasification are used for energy recovery, the materials they convert are consumed in the process and are therefore not kept in use, violating the circular economy concept.

Conclusion

AF&PA seeks to preserve the integrity of the definition of “recycling” and the U.S. EPA Waste Management Hierarchy that prioritizes recycling before energy recovery. To accomplish that, AF&PA urges U.S. EPA to not allow the expansion of the definition of “recycling” to include pyrolysis and gasification used to convert post-use plastics into fuel for energy production.

Doing so will:

- Ensure integrity and consistency in the use of the word “recycling” as it is used in the private sector to develop and measure progress toward sustainability goals.
- Ensure that public sector resources and policies committed to support recycling are not inadvertently diverted to energy recovery projects.
- Prevent pyrolysis and gasification using paper for energy recovery from being counted as recycling.

Please contact me at Brian_Hawkinson@afandpa.org if you have any questions.

Sincerely,



Brian Hawkinson
Executive Director, Recovered Fiber