

Presentation for Maryland Delegates



Chemical Recycling and the Plastic Problem

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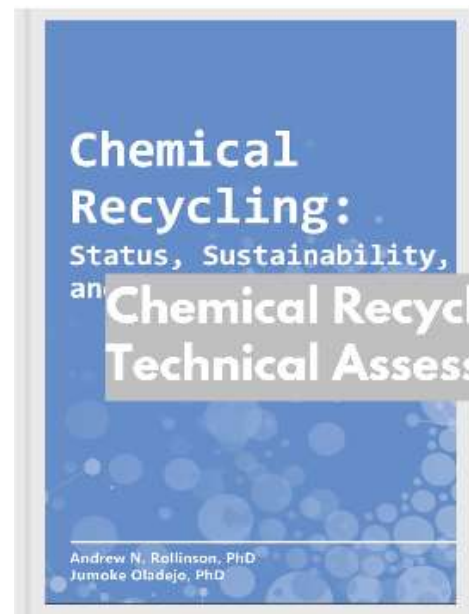
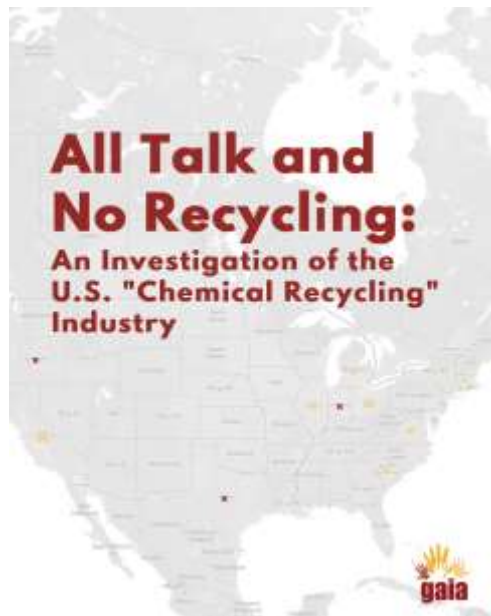
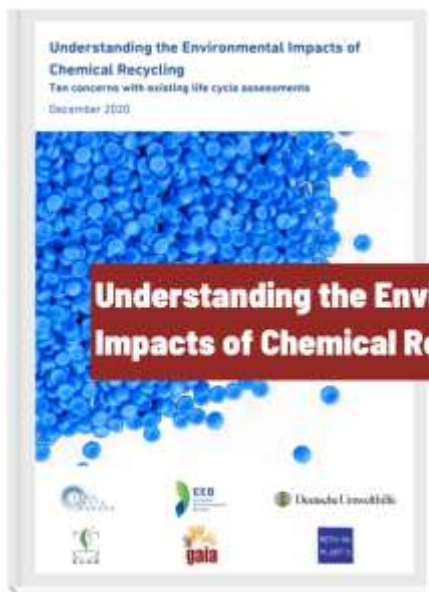


GAIA: A global network of 800 organizations in 90 countries working for a just, toxic-free, zero waste world.

www.no-burn.org



Recent publications on chemical recycling



We have a problem with plastic recycling

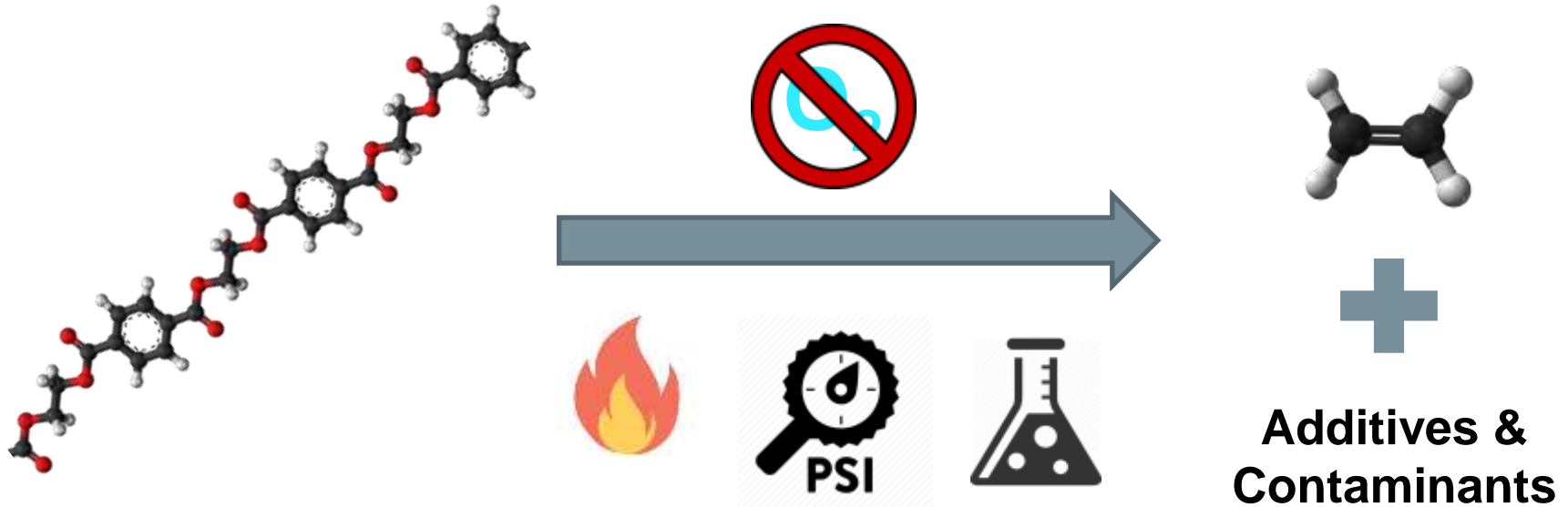


Source: Ellen MacArthur Foundation (2016). A New Plastic Economy.

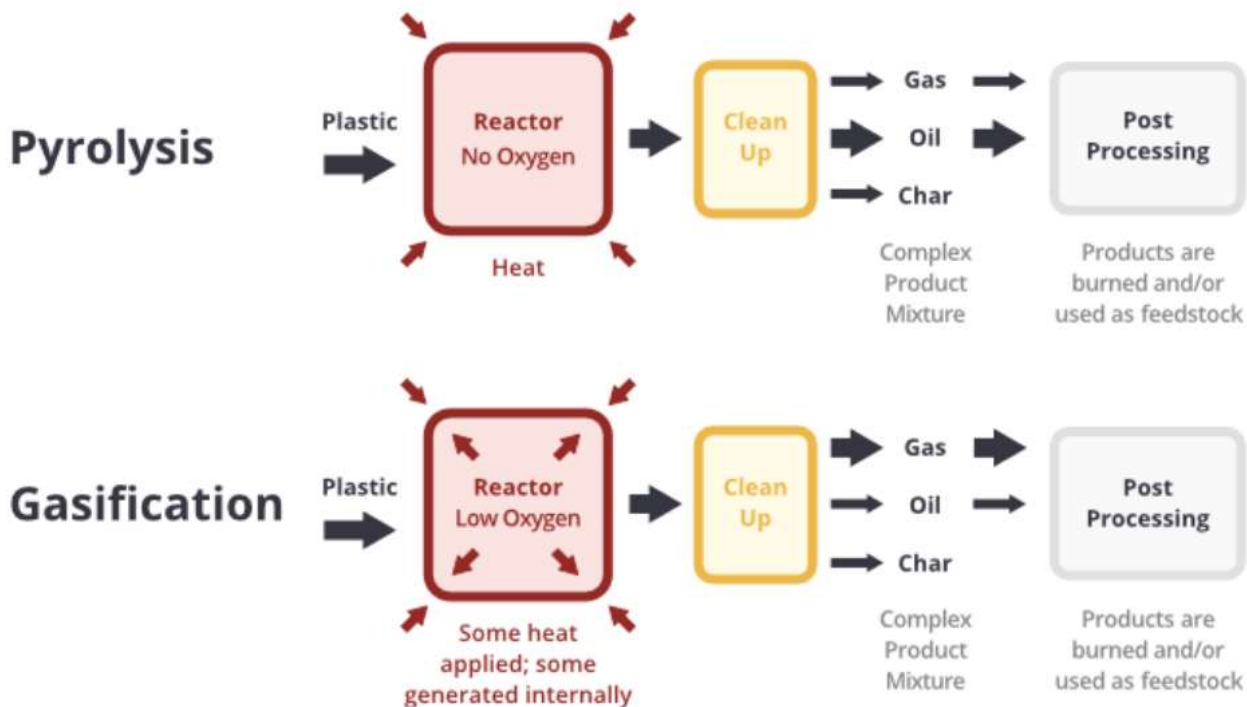
Chemical recycling - what is it?



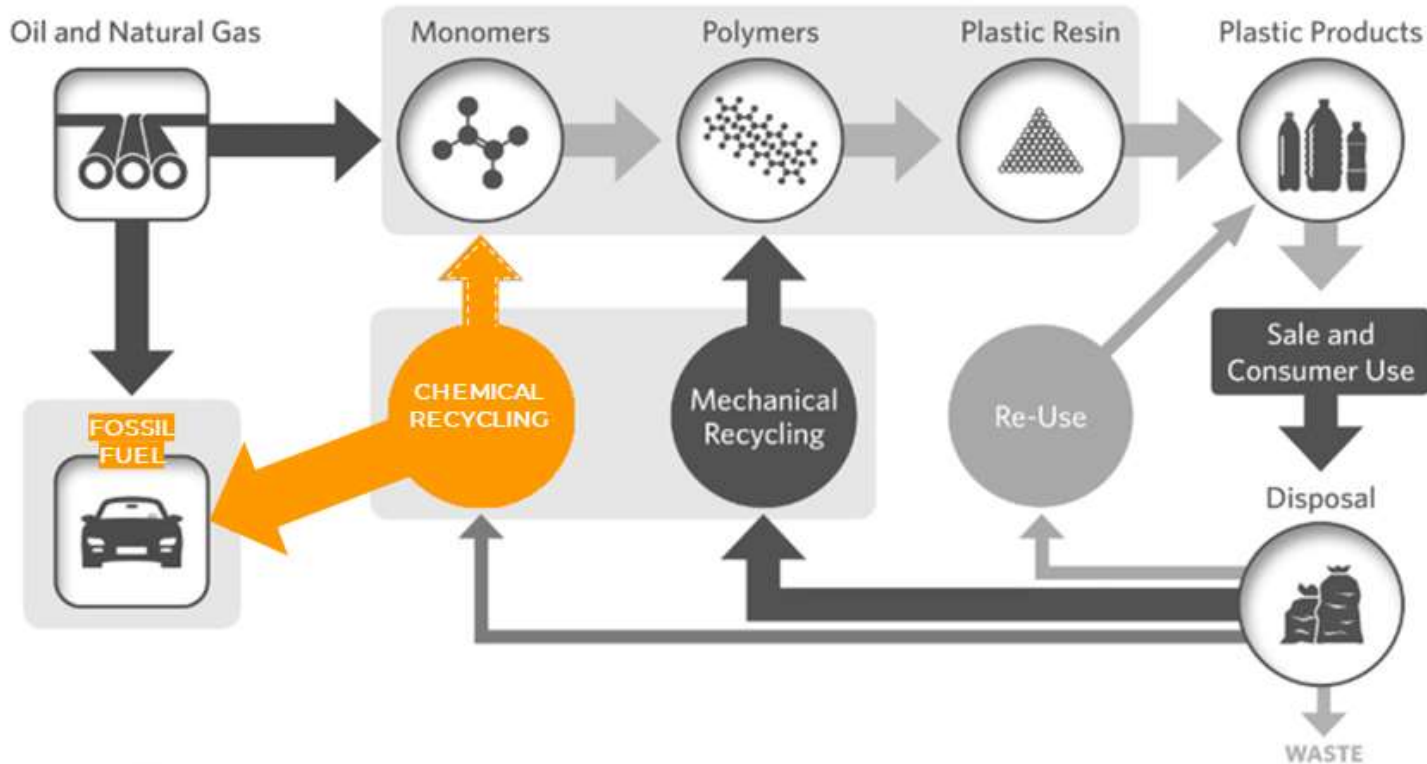
Chemical Recycling breaks plastic down into its chemical components (monomers)



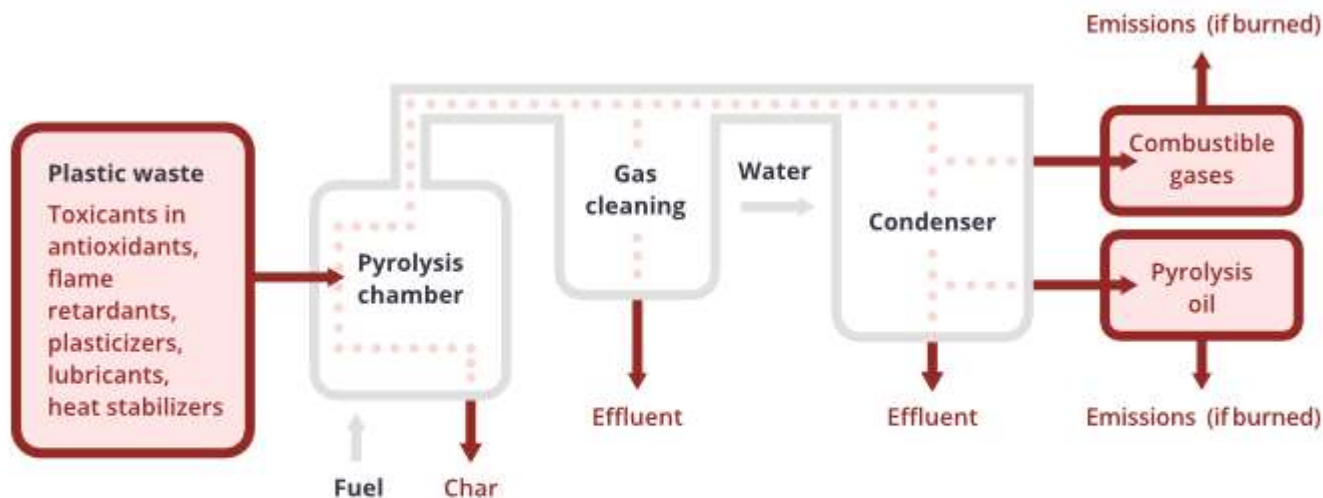
Chemical recycling technology types



Recycling or plastic-to-fuel?



Toxics in, toxics out



Toxicants include: phthalates, BPA, poly-brominated diphenyl ethers, toxic brominated compounds and poly-cyclic aromatic hydrocarbons (PAH), nitrated PAH (N-PAH), oxygenated PAH (O-PAH), and N/S/O – heterocyclic PAHs, As, Sb, Br, Zn, Cu, Hg, Cd, Dioxin, HCN

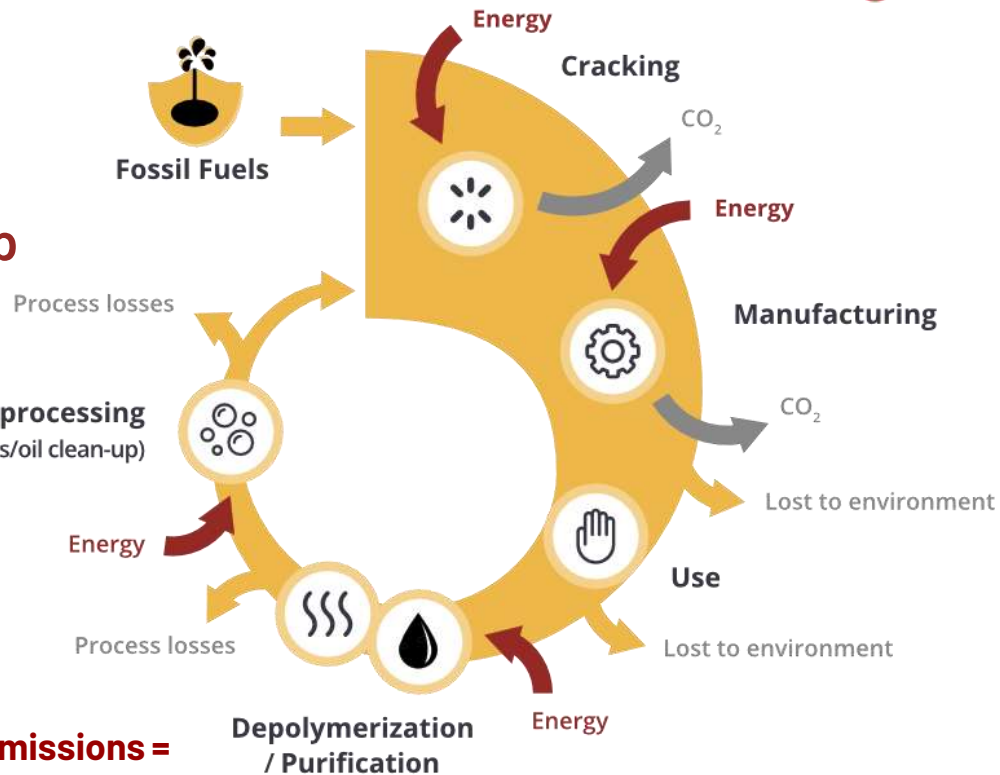
No circular economy in plastic



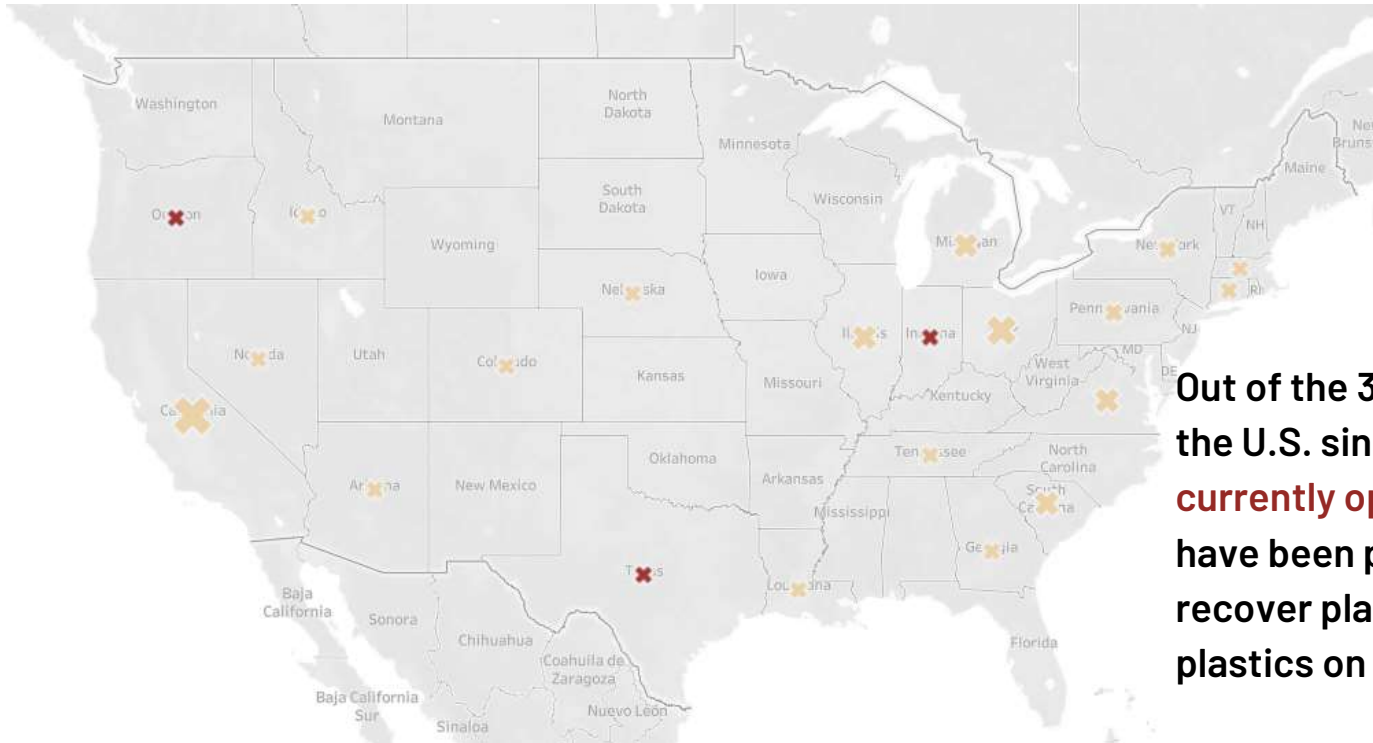
High energy intensity
High carbon emissions
Little plastic makes the round trip

**CO₂ emissions =
40% of input**

**CO₂ emissions =
2.5 x input**

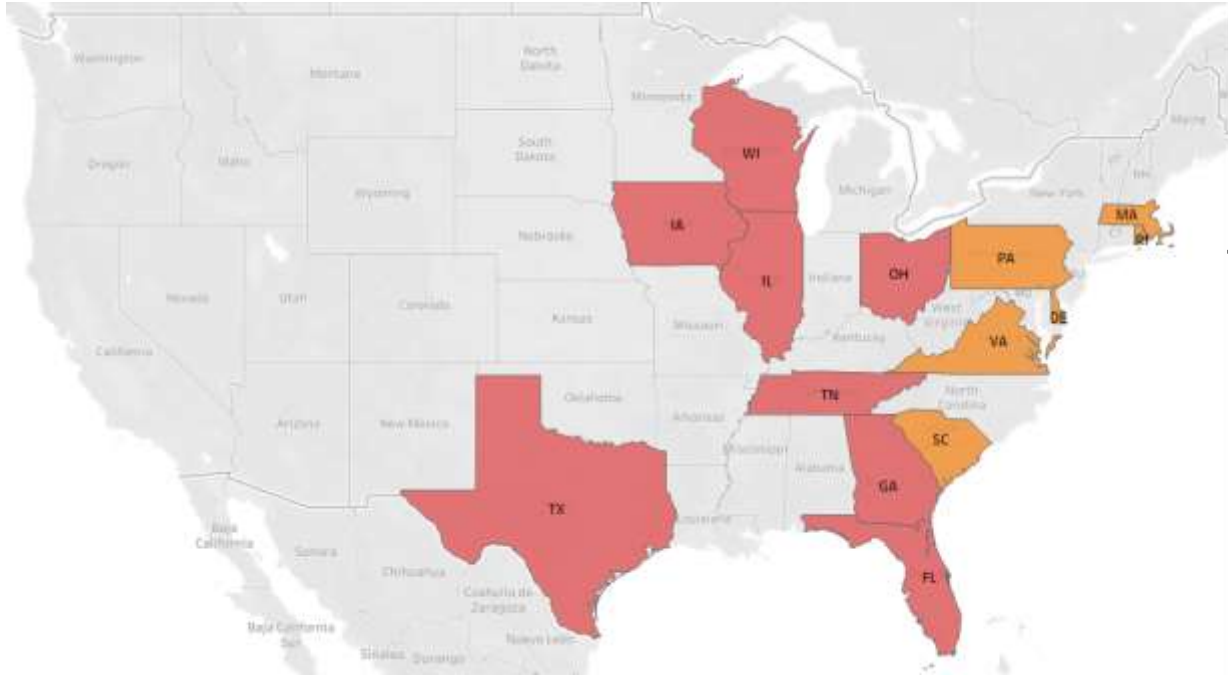


Proposed & existing chemical recycling facilities



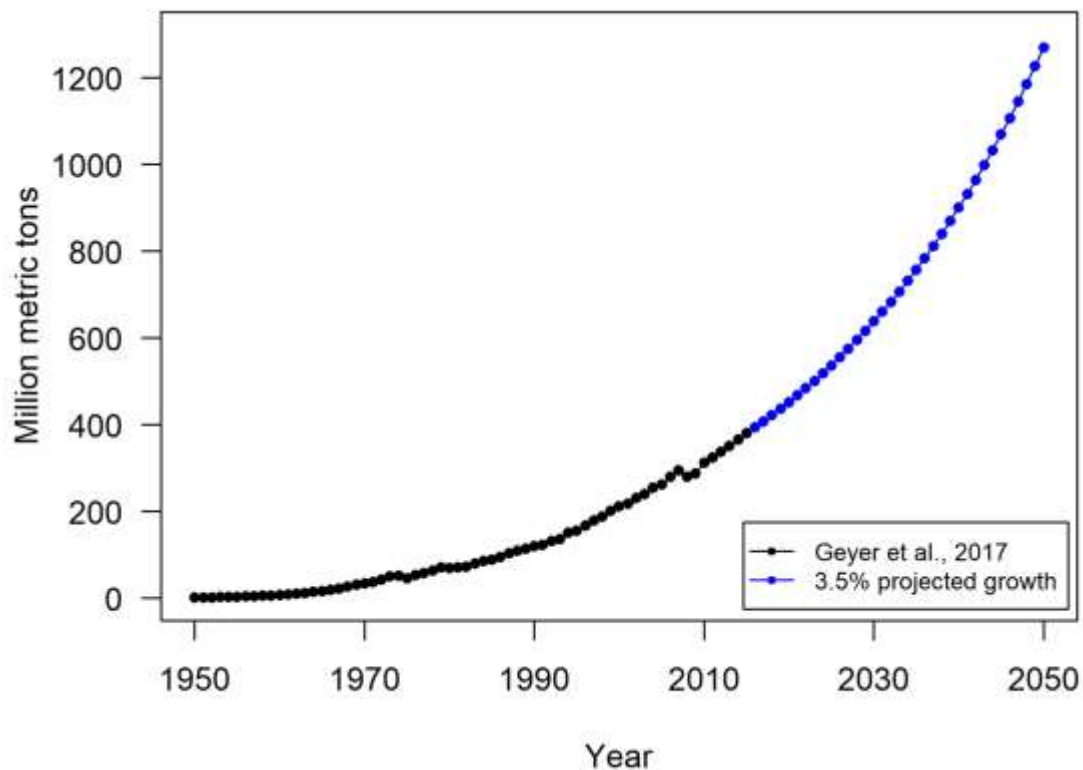
Out of the 37 facilities announced in the U.S. since 2000, **only 3 are currently operational** and none have been proven to successfully recover plastic to make new plastics on a commercial scale.

Industry undermines recycling markets

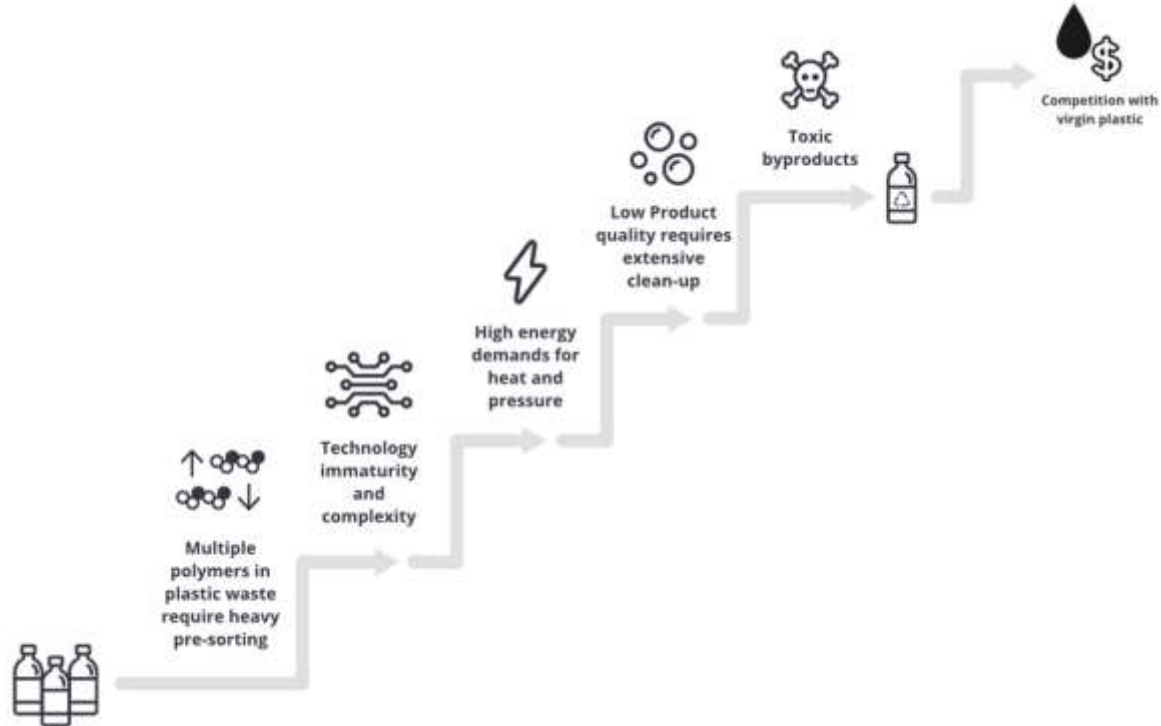


E.U. Recycling definition:
*“Recycling’ means any recovery operation by which waste materials are reprocessed into **products, materials or substances whether for the original or other purposes.** It includes the reprocessing of organic material **but does not include energy recovery and the reprocessing into materials that are to be used as fuels or for backfilling operations”***

Annual global plastic production



Summary: Multiple barriers to sustainability



For more on chemical recycling:
www.no-burn.org/chemical-recycling-resources



The screenshot shows the Gaia website's navigation bar with the logo and menu items: "Who we are", "What we do", "Stories", "Resources", "Get Involved", "Donate", and "Español". Below the navigation is the "Chemical Recycling" section, which contains three resource cards:

- Understanding the Environmental Impacts of Chemical Recycling**
A card with a blue background of small circles. The title is in a red box. Below the image, the text reads: "Understanding the Environmental Impacts of Chemical Recycling – Ten concerns with existing life cycle assessments" and "Dec 9, 2020". The main text begins: "This joint paper presents key findings from a review of some of the most commonly cited chemical recycling and recovery LCAs, which reveal major flaws and weaknesses..."
- False Solutions to the Plastic Pollution Crisis**
A card with a white background and a red title box. Below the image, the text reads: "Fact Sheet: False solutions to the Plastic Pollution Crisis" and "Nov 9, 2020". The main text begins: "Fact Sheet: False solutions to the Plastic Pollution Crisis As the global plastic pollution crisis continues to grow, so does industry hype around techno-fixes, including waste-to-energy incineration and chemical processing of plastic waste. Such..."
- US State Legislation Alert: "Plastic-to-fuel" bills**
A card with a white background and a red title box. Below the image, the text reads: "US Legislation Alert: American Chemistry Council's Effort to Push 'Plastic-to-fuel' Bills" and "Sep 25, 2020". The main text begins: "In 2017-2020, the plastics and chemical industry, represented by the American Chemistry Council (ACC), led an effort to make legislative changes to statewide policies to promote pyrolysis or 'plastic-to-fuel' (PTF). This strategy..."