PLASTIC-TO-FUEL: A FALSE SOLUTION

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WHY IT MATTERS

Virginia's waterways are under assault by single-use plastic pollution, but **"advanced" or "chemical" recycling**, also known as pyrolysis, gasification, chemical conversion, and chemical depolymerization are not solutions to the plastic pollution crisis. These processes all use chemicals and heat to incinerate plastic waste to create fossil fuels.[1] These processes do not reduce the use of single-use plastics – rather, they incentivize the continued use of plastics as a feedstock for plastics-to-fuel manufacturing. The resulting air pollution and hazardous waste generated from these processes put Virginia's communities and environmental health at risk.

"Chemical recycling" has been touted as the answer to plastic pollution by the plastics industry for more than 35 years.[2] In that time, plastic production and plastic pollution have drastically increased, while the plastic industry has used these failed processes as justification to increase plastic production. "Chemical recycling" incinerates plastic in an oxygen-free environment to render a raw material to create fossil fuel (see graphic to right). Despite plastic industry lobbying, these processes are classified as "incineration" by the U.S. Environmental Protection Agency (EPA).[3] In addition, "chemical recycling" produces more greenhouse gasses and hazardous waste than the production of virgin plastic,[4] while also incentivizing the production of more plastic.

In 2018, when the fuel and feedstock produced from one of these facilities alone was burned, over 49,000 tons of toxins went into our air. Pollution disproportionately burdens communities of color[5,6] and, as a result of this environmental injustice, Black people are three times more likely to die from exposure to air pollutants than white people. Eight of the eleven "chemical recycling" facilities in the United States are located in **environmental justice communities**;[7] this, combined with the fact that these facilities are often out of compliance with EPA hazardous waste regulations,[8] further demonstrates that "chemical recycling" is a false, inequitable solution.

CURRENT LANDSCAPE

The American Chemistry Council has succeeded in convincing 24 state legislatures[9] to pass bills that effectively exempt "chemical recycling" facilities from important waste regulations required of other industries. These bills have passed under false pretense, highlighting the "success" of the Agilyx, Regenx, and Amsty partnership for a polystyrene "chemical recycling" facility. Between 2021-2023, this facility lost $4.5 million and the project was shuttered in early 2024 because it failed to produce a marketable product while generating more than 200 tons of styrene waste from 2018-2022, all of which was burned offsite.[10]

Likewise, the short history of "chemical recycling" facilities in Virginia confirms "chemical recycling" as a false solution to the plastic pollution crisis and a burden to taxpayers. Braven Environmental LLC abruptly canceled its plans to build a facility that would serve as a "solution" to the state's plastic waste problem in Cumberland County[11] after receiving over $200,000 in state grants in 2020.[12] There has been no public acknowledgment of why the facility was canceled or whether the state grant funds have been returned.

OPPORTUNITIES

State solid waste management policy follows the hierarchy: source reduction, reuse, recycling, resource recovery (waste-to-energy), incineration, and landfilling.[13] This hierarchy should be followed when discussing "chemical recycling" because it is considered incineration according to EPA regulations. Solid waste management should continue to focus on reducing single-use plastics in the waste stream and as litter, reusing products where possible, and if recycling is required, elevating solutions that reduce the amount of virgin plastics manufactured. State code should clarify that technologies that turn plastic into fuel are not recycling and should be excluded from **extended producer responsibility** and recycling development programs.

Failed and experimental technologies, such as "chemical recycling", should be robustly evaluated for safety, proof of scalability, and economic viability before being allowed in Virginia. Technologies should be profitable (i.e. not reliant on taxpayer dollars) and proven to achieve goals that advance Virginia's quality of life, such as litter reduction, plastic waste management, and environmental equity. Taxpayer money (loans or grants) should not be used to recruit, retain, or support any private "chemical recycling" businesses.

The "chemical recycling" industry has repeatedly failed for decades due to technology scalability, high volumes of hazardous waste production, energy consumption, and overall inability to turn over a profit. If Virginia is looking to truly tackle the plastic pollution crisis, the Commonwealth should look towards plastic reduction solutions that reduce our reliance on single-use plastic to protect human health, our waterways, the ocean, aquatic animals, and the economy.

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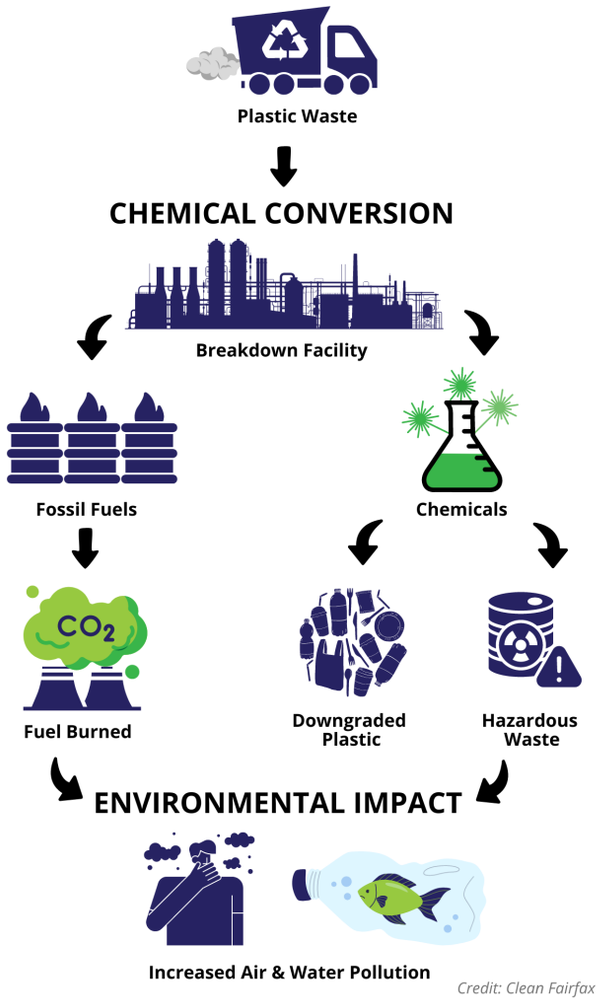
TOP TAKEAWAYS

Chemical recycling produces more greenhouse gasses and hazardous waste than production of virgin material while also incentivizing the production of more plastic.

Burning or melting plastics in any way, including via advanced recycling or waste incineration, is not a solution to the plastic pollution crisis and further exacerbates environmental inequities.

Environmental justice communities are disproportionately impacted by "chemical recycling" facilities, with eight of the eleven US facilities that are often out of compliance with EPA hazardous waste regulations sited in low-income and communities of color.



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