



LOOPHOLES, INJUSTICE, & THE  
“ADVANCED RECYCLING” MYTH

## The Fossil Fuel Industry Campaign to Keep Us Hooked on Plastics

**WRITTEN BY**

Kevin Budris

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**just  
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# EXECUTIVE SUMMARY

Plastic. It's everywhere. In our homes, our cars, our schools, and our offices. It's wrapped around our food. It's wrapped around our bodies – up to 60% of our clothes are made from plastic.<sup>1</sup> It's in our bodies – most of us eat up to a credit card's worth of plastic every week.<sup>2</sup> In fact, a recent study detected microplastics in the blood of almost 80% of test subjects.<sup>3</sup> And it's choking our oceans and damaging our climate.<sup>4</sup>

So, what do we do about it? The answer seems almost obvious: Stop. Making. So. Much. Plastic.

“Not necessary,” say the billion-dollar corporations – and the lobbyists – that profit off the production of all these plastics. They claim to have a “better” solution: “advanced recycling” – sometimes called “chemical recycling,” or even “molecular recycling.”<sup>a</sup>

These companies and their lobbyists insist that advanced recycling can miraculously solve our plastic woes. That it can create a “circular economy” for plastics where all plastic is reused and recycled, and where no plastic ends up in landfills, incinerators, or the environment.

If that sounds preposterous, it's because it is preposterous.

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a “Advanced recycling,” “chemical recycling,” and “molecular recycling” are often used interchangeably. This report refers to all three – and other technologies that use heat and/or solvents to break down plastic waste – collectively as “advanced recycling.”

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And if that sounds awfully convenient for plastic makers, it's because it is awfully convenient for plastic makers.

Advanced recycling is not the solution fossil fuel and plastic lobbyists make it out to be. This expensive, unreliable, and toxic myth doesn't recycle meaningful amounts of plastic. But industry lobbyists don't care about that. What they care about is tricking lawmakers and the public into believing that this silver bullet will solve our plastic problems.

These lobbyists – primarily the American Chemistry Council – pressure state legislators across the country to create loopholes for advanced recycling. Worse still, these facilities, and the lobbying campaign to make them easier to build, perpetuate environmental injustice.

Here's the truth about advanced recycling:

- **Advanced recycling is a public relations campaign for plastic.** As others have explained, advanced recycling does not recycle much, if any plastic. It is simply the fossil fuel industry's marketing plan to keep us hooked on the polluting cycle of making and burning single-use plastics. Why? Because even though it's toxic for us, it's profitable for them.
- **The fossil fuel industry pushes for loopholes in state laws to make advanced recycling cheaper, easier, and less transparent.** These loopholes exempt advanced recycling facilities from rules and regulations that protect and empower communities through public permitting processes, siting restrictions, public input, and oversight requirements.
- **The fossil fuel industry also wants loopholes in state recycling laws that incentivize and financially support the advanced recycling industry.** Producer responsibility programs and postconsumer recycled content mandates are meant to reduce waste and boost reuse and recycling systems. But the fossil fuel industry wants to use these laws to instead bolster plastic burning technologies and keep us hooked on single-use plastics.
- **Advanced recycling perpetuates injustice and environmental racism.** 76% of advanced recycling facilities in the U.S. are located in communities of color and low-income communities. The fossil fuel industry makes this problem even worse by pushing loopholes that disempower communities.
- **We can stop advanced recycling in its tracks.** All is not lost. States have a variety of tools at their disposal to push back against this toxic, climate-damaging, and unjust lobbying campaign.

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**W**hat is advanced recycling? First and foremost, it's a marketing strategy – public relations for plastics. It's a way for fossil fuel companies to convince us that all the plastics in our lives are sustainable and recyclable. Because fossil fuel companies need to protect their next big revenue stream: plastics production.

Advanced recycling is, in theory, an umbrella term that refers to a group of different technologies – including gasification, pyrolysis, methanolysis, and solvolysis – that use heat and/or solvents to break plastics down into chemical building blocks (along with plenty of contaminants, toxic additives, and waste products).<sup>5</sup>

Industry argues that these building blocks can then be used to manufacture new plastic products. But that isn't how it works in the real world.

In practice, advanced recycling means burning. It amounts to a two-step process that melts and boils plastics down into gases, chemicals, tars, oils, and toxic waste

byproducts, most of which are subsequently burned. It is nothing more than a myth – these facilities don't recycle plastics in any meaningful way.

Of course, the fossil fuel industry doesn't care if advanced recycling facilities "succeed" by recycling plastics. That's not the point. Success, for the fossil fuel industry, is all about convincing lawmakers and the public to believe the myth. Advanced recycling succeeds if the industry protects its plastic production profits.

But for the myth to prevail, the fossil fuel industry needs advanced recycling to look like a prosperous and effective investment. That's not easy. Advanced recycling facilities are



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difficult and expensive to build and operate. Most attempts at advanced recycling have failed. And because these facilities aren't recycling much, if any, plastic, the reality of advanced recycling is inconvenient for the industry.

Never content to let reality get in the way of a profitable myth, the fossil fuel industry is pushing states across the country to create legal loopholes that help protect the advanced recycling "success" story.

These loopholes – the "manufacturing" loophole and the "recycling" loophole – make it easier to build advanced recycling facilities. They eliminate public oversight, transparency, and environmental protections; and they provide financial support to struggling advanced recycling facilities.

This mythmaking, and these loopholes, have real-world consequences. Advanced recycling facilities are toxic and climate-damaging. Most are located in historically marginalized environmental justice communities, including communities of color and low-income communities.

And the industry's push for loopholes only makes the problem worse by deliberately excluding communities from decisions over whether advanced recycling facilities move in next to their homes, schools, and businesses.

But all is not lost. Accurate information about advanced recycling and the fossil fuel industry's insidious lobbying campaign can help support a push for laws that protect, rather than exploit, communities. Together, environmental advocates, concerned residents, and responsible lawmakers can bust the advanced recycling myth.





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## PART I: Advanced Recycling is a Public Relations Campaign for Plastics

If advanced recycling is all about plastic, why the focus on fossil fuels? Because they are one and the same. More than 99% of plastics are made from fossil fuels.<sup>6</sup> And as the world moves away from burning fossil fuels in our cars and homes, the industry increasingly views plastic as its “Plan B” – a lifeline in an uncertain future.<sup>7</sup>

To protect that future, the fossil fuel industry is doubling down on plastics production.<sup>8</sup> According to the International Energy Agency, petrochemicals – primarily plastics – will account for nearly half of the growth in world oil demand by 2050.<sup>9</sup> This collective bet on plastics makes the fossil fuel, petrochemical,

and plastics industries so interdependent that they are best viewed as a single combined industry.<sup>10</sup> This report refers to that collective industry as the “fossil fuel industry.”

One look at the major players in the fossil fuel industry says it all. ExxonMobil, the world’s fourth largest oil and gas company by revenue,<sup>11</sup> is also the world’s largest plastic producer.<sup>12</sup>

Sinopec, the world’s largest oil and gas company,<sup>13</sup> is the world’s second largest plastic producer.<sup>14</sup> In fact, four of the world’s top six plastic producers are also the world’s four largest oil and gas companies.

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The industry spends billions of dollars each year on trade associations<sup>15</sup> and lobbyists working on their behalf, including the American Petroleum Institute.<sup>16</sup> But when it comes to fossil fuel lobbying for petrochemicals and plastics, there's one group that rises above the rest: the American Chemistry Council.

The American Chemistry Council has an annual budget of more than \$100 million,<sup>17</sup> and claims to represent "more than 190 companies" in the combined fossil fuel, petrochemical, and plastics industries.<sup>18</sup> Among its members are some of the world's largest fossil fuel companies, including BP, Chevron Phillips, ExxonMobil, and Shell. Its membership also includes the largest plastic producers<sup>19</sup> in the world – companies like ExxonMobil, Dow,

Indorama Ventures, LyondellBasell, Reliance Industries, and Braskem.<sup>20</sup>

The American Chemistry Council has long worked on behalf of its members to increase fossil fuel extraction,<sup>21</sup> oppose commonsense restrictions on dangerous toxics like PFAS<sup>22</sup> and formaldehyde,<sup>23</sup> and expand plastics production.<sup>24</sup> Its current board of directors<sup>25</sup> includes top executives for Shell Chemicals, Chevron Phillips Chemicals, Chemours (which owes its very existence to DuPont's efforts to escape responsibility for widespread PFAS pollution<sup>26</sup>), Indorama (one of the world's largest plastic producers<sup>27</sup>), and BASF (whose petrochemical plants produce raw materials for plastics and other toxics and have been connected to heightened cancer risks in nearby communities<sup>28</sup>).



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Most important of all, the American Chemistry Council is the leading voice in the advanced recycling public relations campaign.

## **ADVANCED RECYCLING IS PUBLIC RELATIONS FOR PLAN B**

Most of the world supports the obvious solution to the plastic problem:<sup>29</sup> stop making so much plastic.<sup>30</sup> The fossil fuel industry knows that Plan B won't succeed without an effective public relations strategy. That's where advanced recycling comes in. It is the industry's attempt to make plastics seem sustainable, recyclable, and climate friendly.<sup>31</sup> All so that billion-dollar corporations can continue boosting their profits by pumping out as much plastic as possible.

The timing of the industry's push for chemical recycling and advanced recycling says it all. Fossil fuel and petrochemical companies have tried (and failed) to use technologies like pyrolysis and methanolysis to break down plastic waste since at least the 1980s.<sup>32</sup> But none of the companies involved used phrases like chemical recycling or advanced recycling back then. These deliberately deceptive, or greenwashed, terms were not yet born. Nor did these companies bother to claim that boiling plastic into chemicals was a form of recycling. They hadn't come up with that strategy yet, either.

But everything changed in 2018. That year marked a major shift in the public's view of single-use plastics. China's ban on waste

imports (often referred to as the "National Sword" policy) exposed the shortcomings of plastic recycling<sup>33</sup> and led to a growing effort<sup>34</sup> to reduce and eliminate single-use plastics.<sup>35</sup> The fossil fuel industry and its lobbyists needed to protect Plan B and their investments<sup>36</sup> in plastics production infrastructure.<sup>37</sup> They needed a silver bullet to reassure the public that all this plastic could be sustainably managed.

In the face of mounting public pressure to reduce and eliminate single-use plastics, huge companies like McDonald's and Dunkin started announcing plans to abandon polystyrene foam packaging. In response, the American Chemistry Council used the supposed promise of "advances in chemical recycling" to oppose<sup>38</sup> McDonald's decision to abandon that particularly toxic<sup>39</sup> and largely unrecyclable<sup>40</sup> form of plastic.

Once the American Chemistry Council started down the chemical recycling road, there was no turning back. What followed was a blitz of press releases,<sup>41</sup> blog posts,<sup>42</sup> and media appearances<sup>43</sup> touting so-called chemical recycling as an alternative to plastics-reduction efforts. Because, of course, that was always the point. Chemical recycling was a public relations strategy to push back against efforts to reduce plastics production.

And then, in 2019, the industry pivoted from chemical recycling to advanced recycling. This too, was a public relations decision – one that

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underscores the fact that advanced recycling is all about image. There is no meaningful distinction between the two phrases, and yet the American Chemistry Council started to prefer advanced recycling.<sup>44</sup> This change coincided with the lobbying group's increased emphasis on converting plastic waste into new plastic products, rather than breaking plastic waste down into fuels, chemicals and feedstocks.<sup>45</sup> As the public increasingly demanded sustainability, so-called advanced recycling allowed the fossil fuel industry to rebrand technologies that convert plastic waste into polluting fuel into a mythical (and untrue) story about plastics recycling.

Throughout its advanced recycling promotional tour, the fossil fuel industry regularly co-opts talking points about plastic waste and the failures of traditional recycling. The American Chemistry Council claims that advanced recycling means "big, bold steps to address plastic waste."<sup>46</sup> It positions advanced recycling as an answer to the fact that "91%

of plastics still go unrecycled."<sup>47</sup> And so, as part of its promotional tour, Council lobbyists urge state legislators to embrace advanced recycling as the answer to "hard-to-recycle" plastics.<sup>48</sup>

All the while, the American Chemistry Council insists that plastics "help reduce food waste, enable modern health care, and are critical to renewable energy."<sup>49</sup> It's all about selling the fossil fuel industry's vision of a plastic-filled world. Because that plastic-filled world is the only world in which the fossil fuel industry can continue to exist.

## THE FALSE SOLUTION BEHIND THE PUBLIC RELATIONS MYTH

The reality of advanced recycling, however, dramatically contrasts with the myth. Advanced recycling isn't an answer to our plastic woes. It's an expensive, risky, toxic, and climate-damaging process that doesn't improve recycling. And its only purpose is to convince us to deepen our dependence on single-use plastics.



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## **Few Advanced Recycling Facilities are Operational**

The advanced recycling public relations strategy depends on two key strategies: 1) make the world think that new advanced recycling facilities are popping up all the time; and 2) make the world think that these facilities help tackle plastic waste. The fossil fuel industry needs to convince us that advanced recycling is working and profitable.

To that end, the fossil fuel industry and its lobbyists frequently announce large-scale investments in advanced recycling projects.<sup>50</sup> But, they conveniently leave out important details and supporting facts about where, when, and how these projects will be built:

- February 2021 – the American Chemistry Council claims that “64 projects aimed at updating recycling in the U.S. have been announced, valued at \$5.3 billion.”<sup>51</sup>
- September 2021 – Shell declares its “ambition” to recycle one million tons of plastic in its “chemical plants” by 2025, without specifying numbers, locations, or any other details.<sup>52</sup>
- April 2022 – the American Chemistry Council ups its predictions to “\$8.7 billion in investments for 83 new projects in advanced recycling and recovery, as well as mechanical recycling.”<sup>53</sup>
- May 2022 – McKinsey & Company, a consulting firm with deep ties to the fossil fuel industry<sup>54</sup> and a history of making dubious and problematic claims about advanced recycling,<sup>55</sup> puts the number of announced advanced recycling projects at 20.<sup>56</sup>
- July 2022 – Dow Chemical Company vaguely announces plans to build “multiple” advanced recycling facilities in the U.S. and Europe.<sup>57</sup>
- October 2022 – ExxonMobil announces plans for thirteen of its own advanced recycling projects.<sup>58</sup>

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Unsubstantiated announcements about “planned” investments and future facilities are one thing. Advanced recycling facilities operating at commercial scale are another – and there are far fewer of these than the American Chemistry Council or its members let on. According to research from the Natural Resources Defense Council (NRDC), there are only six operational facilities in the U.S. that use advanced recycling technology at a commercial scale to break down plastics.<sup>59</sup>

Why so few, despite the lofty industry claims? Because, in reality, advanced recycling is expensive, risky, and ineffective. Due to high costs, engineering challenges, and technologies that are ill-suited for mixed household plastic waste, most attempts at commercial scale advanced recycling have failed.<sup>60</sup> Those facilities that have “succeeded” differ dramatically from what the fossil fuel industry promotes.

## ***All Currently Operating Facilities Use a Two-Step Burning Process***

In theory, advanced recycling refers to a category of technologies that use heat and/or solvents to break down plastics into monomers (the building blocks of plastic), hydrocarbons, fuels, chemicals, and waste byproducts. These technologies include gasification, pyrolysis, depolymerization, solvolysis, methanolysis, and hydrolysis.<sup>61</sup> According to the American Chemistry Council, the monomers produced by these technologies can be used to manufacture new plastics.

In reality, all six of the advanced recycling facilities operating at commercial scale in the U.S. use pyrolysis – not to recycle plastics, but instead, as part of a two-step plastic-burning process.<sup>62</sup> Pyrolysis is a process in which “feedstock” – in this case, plastic – is heated in the absence of oxygen to produce a mix of gaseous hydrocarbons, liquid tars and oils, and solid waste char.<sup>63</sup> Essentially, these six plastics pyrolysis facilities melt and boil plastics into fuels and chemicals.<sup>64</sup> And that’s just step one.

Step two involves burning those plastic-derived fuels and chemicals.<sup>65</sup> For example, a company called Brightmark operates an advanced recycling facility in Indiana. 70% of the output from that facility is plastic-derived “syngas,” which Brightmark burns onsite.<sup>66</sup> Another 20% of the output is liquid fuel, which Brightmark ships to be burned offsite.<sup>67</sup> The remaining 10% is a “powdery residue,” which Brightmark landfills.<sup>68</sup> During a failed attempt to build another advanced recycling facility in Georgia, Brightmark could not demonstrate that its process recycles any plastic at all.<sup>69</sup>

An advanced recycling facility in Oregon operated by a company called Agilyx follows a similar story. The Agilyx facility uses pyrolysis to boil polystyrene – a plastic often used for food and beverage containers – into its monomer, styrene.<sup>70</sup> Agilyx ships much, if not all, of that styrene to be burned offsite. Between 2019 and 2021, Agilyx reported to the U.S. Environmental Protection Agency

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(EPA) that it shipped more than 340,000 pounds of styrene to be burned for “energy recovery.”<sup>71</sup>

The American Chemistry Council presents a theoretical version of advanced recycling in which the fuels and chemicals produced in step one can be used to create new plastics.<sup>72</sup> And the Council of course argues that advanced recycling doesn’t involve “burning plastics.”<sup>73</sup> But those claims aren’t supported by the facts.

## ***Advanced Recycling Is Toxic and Climate Damaging***

All six of the operational advanced recycling facilities in the U.S. produce dangerous toxics and contribute to climate damage. Air emissions, chemicals, and waste products generated at these facilities can include lead, mercury, chromium, benzene, toluene, arsenic, and dioxins – all of which pose significant risks

to human health and the environment.<sup>74</sup> These toxics can be found throughout the gaseous hydrocarbons, liquid oils and tars, and solid wastes that result from “step one” of the pyrolysis process.<sup>75</sup> “Step two” of the process only magnifies the risk – burning plastic-derived fuels and chemicals releases many of those same toxics into the air.<sup>76</sup>

“Step two” is also climate damaging. Because most plastics are sourced from fossil fuels, burning plastic-derived fuels and chemicals is tantamount to burning fossil fuels (with added toxics) and releases the carbon stored in those fuels.<sup>77</sup> But that’s only part of the overall climate impact. The pyrolysis technologies used by these facilities typically heat plastics to temperatures of 800 degrees Fahrenheit and above.<sup>78</sup> Generating that heat is an energy-intensive process that relies on burning even more fossil fuels.<sup>79</sup>

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The fossil fuel industry predictably argues that both plastics and advanced recycling have a lower carbon footprint than alternatives.<sup>80</sup> These claims, however, rely on flawed lifecycle assessments commissioned by the industry,<sup>81</sup> which paint an inaccurate picture of the toxic and climate-damaging impacts of advanced recycling technologies.<sup>82</sup>

Contrary to the industry's claims, the energy inputs for this process far outweigh the utility of the fuels and chemicals produced. For example, the Agilyx facility in Oregon emits more than three tons of carbon dioxide for every ton of polystyrene that it processes.<sup>83</sup>

Even if advanced recycling lived up to industry claims and could produce new plastics from recycled plastic on a large scale, the energy required to melt and boil plastic waste – and the risks that come with boiling an inherently toxic product<sup>84</sup> – make advanced recycling an unsustainable and dangerous process.

The full impact to our climate is larger even still. Advanced recycling is, after all, a public relations campaign intended to deepen our dependence on single-use plastics. Those plastics are a significant, and growing, source of climate damage.<sup>85</sup>



## A MYTH AND NOTHING MORE

To summarize, none of the American Chemistry Council's promises have panned out. Advanced recycling operations are limited, unsustainable, and don't recycle plastics. Even if the industry's promises came to pass and advanced recycling could produce new plastic products at commercial scale, it would still be a toxic, climate-damaging process that only serves to increase plastics production.

And that's what advanced recycling really is. A false promise. An illusion. A fabricated public relations strategy meant to distract us from the real problem: Plastics production itself.



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## PART II: The “Manufacturing” Loophole – Making Advanced Recycling Cheaper, Riskier, and Less Transparent

The fossil fuel industry knows that the reality of advanced recycling doesn’t match the myth. But the industry can only sell the “promise” of new investments and new facilities for so long. At some point, the American Chemistry Council will need new advanced recycling facilities to point to as plastic “success” stories.

There are, however, two big obstacles in the American Chemistry Council’s path. First, these facilities are expensive to permit, build, and operate; and they frequently

fail.<sup>86</sup> Second, because these facilities aren’t recycling much, if any, plastic, the truth of advanced recycling facilities can be a liability.

So, the fossil fuel industry has decided, as it often does, to change the rules to remove these obstacles. Their strategy? Push states throughout the U.S. to pass laws that 1) make it cheaper and easier to build these facilities, 2) shield these facilities from the probing eye of regulators and the public, and 3) keep the public from objecting to proposed facilities.

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These laws define advanced recycling as “manufacturing,” allowing these facilities to avoid solid waste laws and regulations that they would otherwise be subject to. This helps the fossil fuel industry evade public permitting processes, siting restrictions, public input and oversight, transparency requirements, closure plans, and operating conditions that apply to solid waste facilities, but not manufacturing facilities.

In effect, these laws create an escape hatch. A massive “manufacturing” loophole. A way for advanced recycling facilities to bypass commonsense regulations.

## **FIVE YEARS OF THE MANUFACTURING LOOPHOLE**

In 2017, Florida created the first manufacturing loophole for advanced recycling. The state passed legislation 1) exempting plastics pyrolysis and gasification facilities from the statutory definition of “solid waste facility,” and 2) exempting plastics processed at these facilities from the statutory definition of “solid waste.”<sup>87</sup>

The American Chemistry Council lobbied in support,<sup>88</sup> arguing that the bill ensured that facilities converting plastics into chemicals “are not wrongly classified as solid waste management facilities.”<sup>89</sup>

The American Chemistry Council had found its winning formula and then repeated it, again and again. In 2018 and 2019 the American Chemistry Council successfully lobbied Wisconsin, Georgia, Iowa, Tennessee, Texas,

Illinois, and Ohio to pass similar laws.<sup>90</sup> As in Florida, each of these laws: (1) exclude plastic waste from the statutory definition of solid waste, and (2) exclude gasification and pyrolysis facilities from the definition of “solid waste facility.”<sup>91</sup> And in each state, the American Chemistry Council argued that these laws would allow high-heat plastics facilities to be “properly regulated” as manufacturing facilities.<sup>92</sup>

In 2020, Pennsylvania was the first state to pass the latest version of this law – one that explicitly defines advanced recycling facilities as “manufacturing” facilities, while still excluding plastic waste from the definition of “solid waste.”<sup>93</sup> Eleven more states have since passed essentially the same law as Pennsylvania, meaning that twenty states, listed in the chart below, have now passed manufacturing loopholes for advanced recycling.<sup>94</sup>

The Appendix to this report also lists the bill numbers for each of these manufacturing loophole laws, along with the statutory and regulatory provisions that ordinarily apply to waste facilities in these twenty states.



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## State Waste Rules

that advanced recycling facilities can now avoid thanks to manufacturing loopholes.



STATE	PERMIT PROCESS	SITING RESTRICTIONS	PUBLIC NOTICE	PUBLIC INPUT	PUBLIC BENEFIT	REPORTING	INSPECTIONS	EMERGENCY PLAN	CLOSURE PLAN
AZ	X	X	X	X		X	X		X
AR	X	X	X	X	X	X	X		X
FL	X	X	X			X		X	X
GA	X	X	X	X		X	X		X
IL	X	X	X	X	X	X	X		X
IA	X	X	X	X				X	X
KY	X	X	X	X		X	X		X
LA	X	X	X	X	X	X	X	X	X
MS	X	X	X	X	X	X			
MO	X	X	X	X	X	X			X
NH	X	X	X	X	X	X	X	X	X
OH	X	X	X	X		X	X	X	X
OK	X	X	X	X		X	X		X
PA	X	X	X	X	X	X		X	X
SC	X	X	X	X	X	X	X	X	X
TN	X	X	X	X	X	X	X		X
TX	X	X	X	X		X	X	X	X
VA	X	X	X	X	X	X		X	X
WV	X	X	X	X	X	X	X	X	X
WI	X	X	X	X	X	X	X		X

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### WHY MANUFACTURING?

The American Chemistry Council tries to make these loopholes sound innocuous, insisting that they “appropriately regulate advanced recycling technologies as manufacturing operations.”<sup>95</sup> Council representatives claim that these laws neither deregulate advanced recycling facilities nor allow them to “skirt environmental regulations.”<sup>96</sup> This is disingenuous at best, and outright false at worst.

States subject solid waste facilities to significantly more stringent regulations than manufacturing facilities. And for good reason. Shipping, accepting, dumping, processing, and even recycling waste comes with inherent risks to the environment and surrounding communities. In fact, fires and other safety hazards are common at landfills, incinerators, and facilities that sort recyclables.<sup>97</sup> And plastic is a particularly toxic component of the waste stream.<sup>98</sup> Given these risks, every single U.S. state requires proposed waste facilities to go

through an extensive permitting process before they can start accepting trash. This permitting process often includes siting restrictions, public hearings, opportunities for public comment, and some sort of demonstration that the proposed facility is “necessary.” Most states also require waste facilities to maintain records (including what waste was accepted and how it was managed) and undergo inspections, to prepare emergency plans and closure plans, and to comply with certain operating standards.

The American Chemistry Council wants advanced recycling facilities to be classified as manufacturing facilities precisely because it wants to “skirt” these regulations. Moreover, the Council’s claim that they are not attempting to evade regulation is particularly disingenuous. Especially considering the Council’s multiple attempts to pressure the U.S. Environmental Protection Agency to exempt advanced recycling facilities from regulation under the federal Clean Air Act.<sup>99</sup>

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### THE LOOPHOLE SERVES A PURPOSE

As set out in the above chart, each of the twenty states that have created a manufacturing loophole for advanced recycling requires solid waste facilities to undergo a public permitting process and imposes siting restrictions on those facilities.

Most of these states also require solid waste facilities to maintain records about the waste they take in and what they send to be burned and buried elsewhere. And nearly all require solid waste facilities to maintain closure plans and comply with certain operating conditions.

Importantly, none of these twenty states require manufacturing facilities to undergo the same, or even a comparable, public permitting process. None of these twenty states require a manufacturing facility to maintain the same kind of records as a waste facility, or maintain a closure plan, or comply with operating conditions. All twenty of these states have given advanced recycling a free pass from commonsense and protective rules and regulations.

### CASE STUDY: ARIZONA

In Arizona, anyone wishing to construct and operate a solid waste or recycling facility must first obtain the Arizona Department of Environmental Quality's approval of a "solid waste facility plan."<sup>100</sup> Before approving a proposed solid waste facility plan, the Department must notify the public of the proposed plan and request public comments.<sup>101</sup> If there is "sufficient public interest," the Department must hold a public hearing.<sup>102</sup>

In deciding whether to approve the proposed solid waste facility plan, the Arizona Department of Environmental Quality must consider whether the proposed facility will pose "a substantial endangerment to public health or safety or the environment," whether it will cause "an environmental nuisance," and whether the facility will be able to comply with all applicable laws and rules, including best management practices set by the Department.<sup>103</sup>

The Department cannot approve a proposed plan if the facility would be in a floodplain or wetland,<sup>104</sup> and unless the applicant demonstrates financial responsibility for monitoring and maintenance after the facility closes.<sup>105</sup> If approved, a solid waste facility must maintain operating records<sup>106</sup> and submit to inspections conducted by the Department of Environmental Quality.<sup>107</sup> Because Arizona has created a manufacturing loophole, advanced recycling facilities are now exempt from all these sensible rules.

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Like Arizona, all the states that have created a manufacturing loophole ordinarily require proposed solid waste facilities to go through a permitting process. That process incorporates public notice, as well as some form of public input (either an opportunity to submit comments and/or a public hearing).

**Advanced recycling facilities are now exempt from that permitting process.**

All the states that have created a manufacturing loophole impose siting restrictions on solid waste and recycling facilities. Virginia<sup>108</sup> for example, does not allow solid waste or recycling facilities within 200 feet of a hospital or school. **Advanced recycling facilities are now exempt from these siting restrictions.**

Nineteen of the twenty states require solid waste facilities to maintain operational records. South Carolina, for example, requires solid waste facilities to submit annual reports that list the source, type, and quantity of waste received, explain how that waste was disposed of, and describe how any resulting “end product” was disposed of or distributed.<sup>109</sup> **Advanced recycling facilities no longer have to maintain or file reports describing how much plastic they take in, what they do with it, and what happens to any resulting byproducts.**

Nineteen out of twenty states also require solid waste facilities to either have a closure plan or post financial assurances that they

can afford monitoring and maintenance when the facility closes. Georgia, for example, requires a solid waste facility to submit a final closure plan with its permit application and to maintain a surety bond, trust fund, letter of credit, or other financial instrument to guarantee that it can afford post-closure maintenance.<sup>110</sup> **These states no longer require advanced recycling facilities to plan, and be financially prepared, for closure.**

Twelve of these states require solid waste facilities to obtain local approval, demonstrate compliance with a state or regional solid waste plan, or otherwise demonstrate that it meets a need or provides a public benefit. In New Hampshire, for example, the Department of Environmental Services can only approve a proposed solid waste facility if the facility would provide “a substantial public benefit” and satisfy a waste disposal need, and only if the proposed facility would be economically viable.<sup>111</sup> **These states no longer require advanced recycling facilities to prove that they would provide a public benefit.**



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The fossil fuel industry and the American Chemistry Council view regulations that protect communities as bad for business. Public permitting processes give neighbors and residents an opportunity to object to a proposed plastic-burning facility. The American Chemistry Council does not want neighbors' and residents' concerns and opinions to be heard.

Recordkeeping and inspection requirements provide insight into how little, if any, plastic recycling actually occurs at these plants. The American Chemistry Council would prefer to perpetuate the myth of advanced recycling. Closure plans and financial assurances are risky for an industry with a long history of financial failures.<sup>112</sup> Operating standards and emergency plan requirements . . . well, safety isn't exactly a priority for the plastics industry.<sup>113</sup>

### THE INDUSTRY WON'T STOP AT TWENTY STATES

The fossil fuel lobbying campaign to exempt advanced recycling from commonsense waste regulations shows no signs of slowing down. In 2022 alone, the American Chemistry Council unsuccessfully pushed similar manufacturing loophole bills in seven U.S. states: Alabama,<sup>114</sup> Connecticut,<sup>115</sup> Michigan,<sup>116</sup> Minnesota,<sup>117</sup> New Jersey,<sup>118</sup> New York,<sup>119</sup> and Rhode Island.<sup>120</sup> As with the twenty states in which the American Chemistry Council has already succeeded, manufacturing facilities in these seven states are not subject to the same public permitting processes, records requirements, closure plan requirements, or operating conditions as solid waste facilities.

The fossil fuel industry talks about safety and sustainability, but if it really believed its own stories about advanced recycling, it wouldn't be trying to evade rules and regulations that protect communities and uphold transparency.



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## PART III: “Recycling” Loopholes – Handouts for the Advanced Recycling Myth

The manufacturing loophole isn’t the only trick up the fossil fuel industry’s sleeve. Over the past several years, the American Chemistry Council and other lobbying groups have added a new objective: Loopholes in state recycling laws that allow plastic waste sent to an advanced recycling facility to count as being recycled.

Given the country’s weak plastic recycling rate,<sup>121</sup> these loopholes create an easy out for companies making and distributing plastic packaging – incentivizing them to pay advanced recycling facilities to take their plastic trash. This provides financial support

to the advanced recycling industry. It also helps prop-up the myth that these facilities can actually recycle plastic.

Recycling loopholes come in several forms, most prominently in extended producer responsibility for packaging (or producer responsibility) laws and in post-consumer recycled content laws.

### **EXTENDED PRODUCER RESPONSIBILITY**

Producer responsibility laws, when done right, require consumer brands and packaging companies to hit reduction and recycling standards and take responsibility for the

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end-of-life management of their packaging waste.<sup>122</sup> Loopholes in recent producer responsibility proposals, however, could allow these companies to meet recycling standards through advanced recycling. This incentivizes advanced recycling and allows consumer brands to evade responsibility.

### **Washington (SB 5697)**

In February 2022, the Washington state Senate Committee on Environment, Energy & Technology recommended passage of a producer responsibility bill (SB 5697) that contained a recycling loophole. SB 5697 would have required consumer brands to join “producer responsibility organizations” that, among other responsibilities, would set reuse and recycling targets for the packaging and paper products they sold.<sup>123</sup>

The bill would have allowed these organizations to count plastic sent to advanced recycling facilities toward those reuse and recycling targets if the organizations provided the Washington Department of Ecology with life cycle assessments that examine the impact of advanced recycling.<sup>124</sup> As discussed above, industry-friendly life cycle assessments are easy to come by and notoriously unreliable.<sup>125</sup> SB 5697 did not pass.

### **Connecticut (SB 115)**

Also in February 2022, the Connecticut General Assembly’s Environment Committee considered a producer responsibility bill

(SB 115) that contained a comparable loophole. Like the Washington bill, SB 115 would have required consumer brands, or “stewardship organizations” acting on their behalf, to submit “stewardship plans” that set performance goals for packaging reduction, reuse, and recycling.<sup>126</sup> The bill would have counted plastics boiled into fuels at advanced recycling facilities as having been recycled, as long as those fuels were later “used for the manufacture of new products.”<sup>127</sup>

Although SB 115 excluded “final conversion to a fuel” from the definition of recycling,<sup>128</sup> counting fuels that are “used for the manufacture of new products” is exceedingly broad. Plus, it directly aligns with the American Chemistry Council’s distorted vision of advanced recycling as a hydrocarbon-based manufacturing process.<sup>129</sup> SB 115 did not pass.

### **Colorado (HB 1355)**

The loopholes aren’t always as explicit as those in Washington and Connecticut. In 2022, Colorado passed a producer responsibility law that created loopholes for advanced recycling by simply staying quiet on the subject – a “silent loophole.” Colorado’s law defines “recycling” as “the reprocessing, by means of a manufacturing process, of a used material into a product or a secondary raw material.”<sup>130</sup> The definition excludes “use as a fuel” and does not explicitly include advanced recycling.<sup>131</sup>





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advanced recycling trojan horse. NRDC and Ocean Conservancy, for their part, believe that California’s SB 54 will effectively prohibit advanced recycling from counting as recycling.<sup>135</sup> The American Chemistry Council and other plastic lobbying groups, however, support these weak producer responsibility bills. The Council’s support suggests that advanced recycling proponents see producer responsibility loopholes – even the “silent loopholes” – as a growth opportunity for advanced recycling.

The American Chemistry Council supports loopholes in weak producer responsibility proposals in the hopes that these loopholes will help grow the “front-end supply of plastics” for the advanced recycling market.<sup>136</sup> The Flexible Packaging Association, for its part, has argued for producer responsibility programs to support “investment in advanced recycling infrastructure.”<sup>137</sup>

American Chemistry Council lobbyists have urged states considering loophole-laden producer responsibility bills to add explicit reference to advanced recycling, so as to “create significant economic growth opportunities” and establish “regulatory certainty.”<sup>138</sup> Yet the Council supported SB 54 in California even with its “silent loophole.”<sup>139</sup> In light of its track record and stated objectives for producer responsibility, the American Chemistry Council’s endorsement sends a clear

## LOBBYING DOLLARS

spent by the American Chemistry Council in ten states where it pushed for manufacturing and recycling loopholes in 2021–2022.



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message: vague recycling definitions like those in Colorado and California open the door to advanced recycling.

When the American Chemistry Council and the Flexible Packaging Association invoke “economic growth opportunities” and “investments” in their support for weak producer responsibility proposals, they show what they’re really after: financial support. States that allow shipments to advanced recycling facilities to count as plastics recycling are creating a built-in market for advanced recycling that funnels money to the fossil fuel industry. After all, these facilities are paid for the plastic waste they accept.

Conventional plastics recycling is inefficient, ineffective, and expensive.<sup>140</sup> With loopholes in place, sending plastic waste to advanced recycling facilities becomes an easy way for consumer brands to hit recycling targets – without actually recycling any plastic. This, in turn, allows advanced recycling facilities to charge more to accept that plastic waste. And that props up the advanced recycling industry.

### **POSTCONSUMER RECYCLED CONTENT**

Producer responsibility programs aren’t the only place for the fossil fuel industry to add recycling loopholes. Postconsumer recycled content mandates, which require companies to ensure that their packaging contains a minimum percentage of recycled content, provide yet another opportunity to funnel financial support to advanced recycling.

Given its limitations, it is unlikely that advanced recycling will ever generate enough recycled plastic to help consumer brands satisfy these mandates. But that isn’t really the point. The American Chemistry Council supports these mandates, and then argues that the mandated targets cannot be met without advanced recycling.<sup>141</sup> This provides yet another opportunity to push for deregulation, financial support, and incentives for advanced recycling. All of which props up the myth and keeps the fossil fuel industry’s plastic production plans alive.

New Jersey and Washington both recently passed recycled content mandates. Concerningly, neither define “recycled content” to explicitly exclude “chemical feedstocks” derived from advanced recycling. New Jersey’s law, passed in 2022, sets post-consumer recycled content requirements for rigid plastic containers, plastic carryout bags, and plastic trash bags.<sup>142</sup>

The law defines “postconsumer recycled content” only as “a material or product that has completed its intended end use and product life cycle, and which has been separated from the solid waste stream for the purposes of collection and recycling.”<sup>143</sup> The American Chemistry Council supported New Jersey’s law and used its passage as an opportunity to urge the U.S. to “rapidly scale up its advanced recycling technologies and facilities.”<sup>144</sup>

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Washington’s recycled content mandate, passed in 2021, went one step further by explicitly endorsing advanced recycling. Washington’s law set postconsumer recycled content minimums for beverage containers, plastic trash bags, personal care products, and other packaging.<sup>145</sup> It also created a “stakeholder advisory committee” to consider additional recycled content requirements. That committee must consider information related to “advanced recycling technologies.”<sup>146</sup>

Even broad recycling initiatives – disconnected from either producer responsibility or recycled content – can serve as camouflage for the advanced

recycling industry. In 2022, Louisiana passed Senate Concurrent Resolution No. 13, which directly ties statewide recycling efforts to advanced recycling. The resolution states that a “flourishing plastic recycling effort would further make the construction and operation of advanced recycling facilities . . . economically feasible by supplying constant material.”<sup>147</sup>

And that’s exactly the point. The American Chemistry Council supports these loopholes and faux recycling efforts to funnel money to the fossil fuel industry’s greenwashing efforts. And to keep the myth of sustainable plastics alive.



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## PART IV: Advanced Recycling and Environmental Injustice

Advanced recycling is a myth, but the toxic impacts of these facilities have real-world consequences. As does the fossil fuel industry's campaign to carve out loopholes and disenfranchise concerned residents. Worst of all, these consequences don't fall equally on all communities.

Operational and pre-operational advanced recycling facilities are disproportionately located in communities of color and low-income communities. These, and other historically marginalized communities (referred to as "environmental justice communities"), are all too often targeted as

"sacrifice zones" for polluting industries.<sup>148</sup> In particular, the waste<sup>149</sup> and petrochemical industries<sup>150</sup> have a long history of forcing dangerous, polluting facilities on environmental justice communities while disenfranchising and ignoring the demands of those forced to live nearby.

The American Chemistry Council's push for loopholes for advanced recycling fits right in with this racist and unjust legacy. In particular, exempting advanced recycling facilities from commonsense solid waste regulations deliberately excludes environmental justice communities from the

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decision-making process. It also perpetuates the power imbalances that lie at the heart of injustice and environmental racism.<sup>151</sup>

### **ADVANCED RECYCLING FACILITIES IN ENVIRONMENTAL JUSTICE COMMUNITIES**

To evaluate the extent to which advanced recycling facilities are forced on environmental justice communities, we first need to identify operational and pre-operational facilities in the U.S. Beyond the six operational facilities discussed in Part I, there exists little verifiable information about other planned, permitted, or pre-operational advanced recycling facilities.

Although it touts many “new projects in advanced recycling and recovery,” the American Chemistry Council has not publicly released a full list of planned advanced recycling facilities. In 2020, Greenpeace obtained and evaluated a list of projects that the American Chemistry Council used

to estimate \$4.6 billion worth of investments in advanced recycling.<sup>152</sup> This report relies on Greenpeace’s study,<sup>153</sup> along with a list of operational or near operational pyrolysis and gasification facilities published by the U.S. Environmental Protection Agency in 2021,<sup>154</sup> and publicly available news sources.

From those sources, we have identified 11 pre-operational advanced recycling facilities that (1) plan to take in plastic waste and (2) are far enough along in their planning, development, and permitting that they have a verifiable street address. Proposed or announced facilities without a street address are excluded because without a verified location, the demographics of the surrounding community cannot be ascertained. Facilities that may have previously operated but have since closed are also excluded. The 17 total operational and pre-operational advanced recycling facilities are listed in the chart below.

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## LOCATION OF OPERATIONAL AND PRE-OPERATIONAL "ADVANCED RECYCLING" FACILITIES IN THE UNITED STATES



Population within a 3-mile radius

FACILITY NAME	LOCATION	OPERATING	PEOPLE OF COLOR	LOW INCOME
Agilyx	Marcus Hook, PA	No	53%	45%
Agilyx	Tigard, OR	Yes	23%	19%
Ineos Styrolution	Channahon, IL	No	12%	10%
Alterra Energy	Akron, OH	Yes	32%	47%
AmSty/Agilyx	St James, LA	No	73%	50%
BP Infinia	Naperville, IL	No	27%	13%
Braven Environmental	Zebulon, NC	Yes	51%	41%
Brightmark	Ashley, IN	Yes	5%	33%
Climax Global Energy	Allendale, SC	No	91%	65%
Eastman	Kingsport, TN	No	10%	45%
ExxonMobil	Baytown, TX	No	76%	43%
JBI/Plastic2Oil	Niagara Falls, NY	No	34%	48%
Loop Industries/Indorama	Spartanburg, SC	No	34%	39%
New Hope Energy	Tyler, TX	Yes	73%	53%
Nexus Circular	Atlanta, GA	Yes	92%	50%
PureCycle Technologies	Ironton, OH	No	7%	36%
Refined Plastics	Birdsboro, PA	No	56%	48%

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This report uses U.S. EPA's Enforcement and Compliance History Online database<sup>155</sup> and Environmental Justice Screening and Mapping Tool<sup>156</sup> to evaluate U.S. census data for communities within a three-mile radius of each of these 17 facilities. These data, in turn, were used to determine whether those communities are environmental justice communities.

There is, however, no single definition of "environmental justice community." Several states have set threshold demographic designations, including Colorado, Connecticut, Massachusetts, Michigan, New Jersey, and New York. In considering whether advanced recycling facilities are, or will be, located in environmental justice communities, this report uses New Jersey's definition.

When New Jersey passed its environmental justice law (S. 232) in 2020, many viewed it as a groundbreaking standard, and it has since served as a blueprint for other states.<sup>157</sup> New Jersey defines an environmental justice community, or an "overburdened community," as any census block group in which: "(1) at least 35% of the households qualify as low-income households; (2) at least 40% of the residents identify as minority or as members of a State recognized tribal community; or (3) at least 40% of the households have limited English proficiency."<sup>158</sup>

According to U.S. census data reflected in

the chart above, 13 out of the 17 operational and pre-operational advanced recycling facilities, or 76%, are located in environmental justice communities. Five are in communities in which persons with low income make up more than 35% of the population. An additional eight facilities are in communities in which persons with low income make up more than 35% of the population AND in which persons of color make up more than 40% of the population. The American Chemistry Council has tried to differentiate advanced recycling from traditional solid waste incineration,<sup>159</sup> and yet the inequitable siting of advanced recycling facilities closely resembles that of incinerators. In the U.S., 79% of solid waste incinerators are located in environmental justice communities.<sup>160</sup>

What's more, the inequitable impacts of these facilities extend far beyond communities within a three-mile radius. As with Agilyx's Oregon facility, advanced recycling facilities often send fuels and chemicals offsite to be burned.<sup>161</sup> The petrochemical facilities that take in many of these fuels and chemicals are also disproportionately located in communities of color and low-income communities.<sup>162</sup>

For example, the Nexus Circular advanced recycling facility in Atlanta, Georgia, is located in a community that is 92% persons of color and 50% persons of low income. Nexus Circular uses pyrolysis to break industrial plastic waste down into fuels

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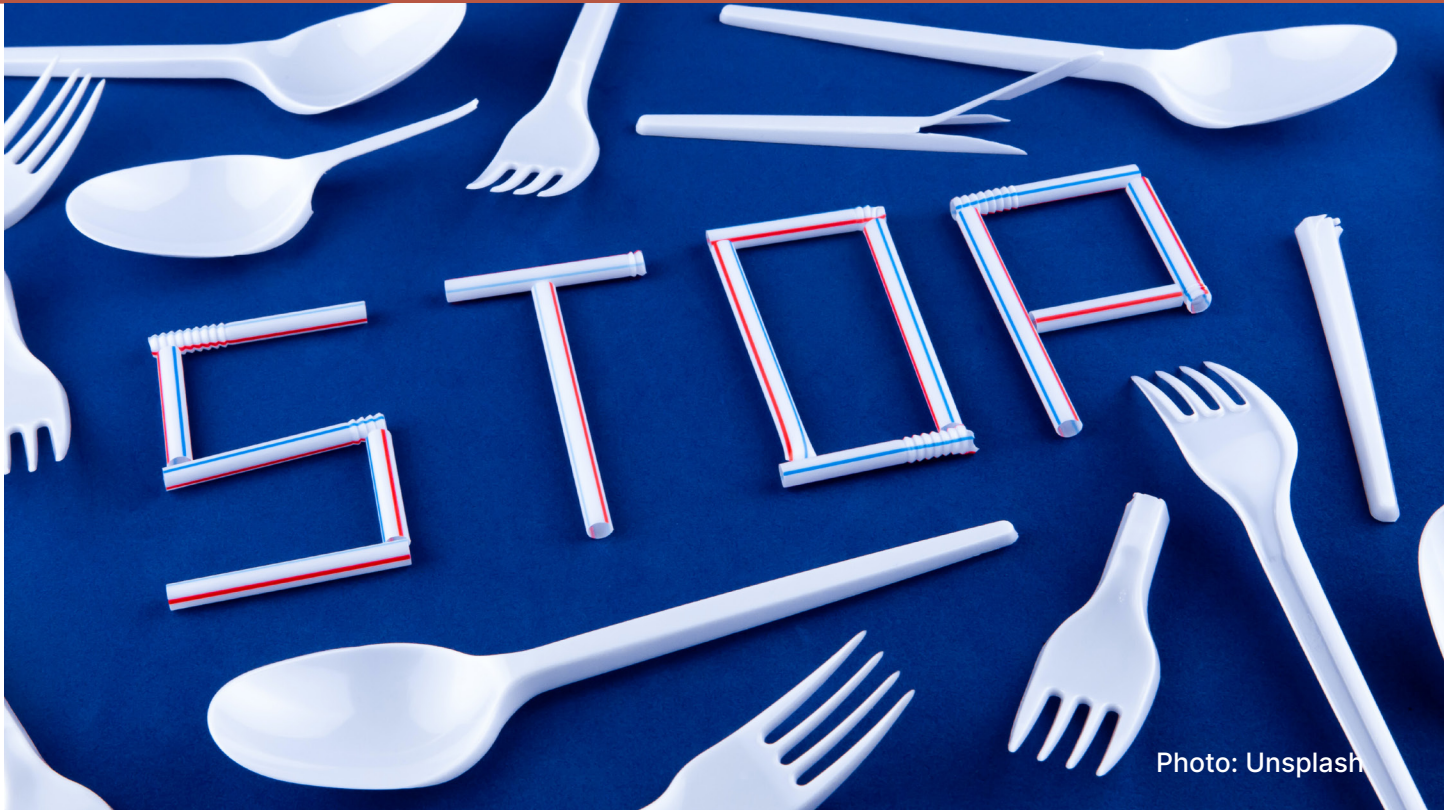


Photo: Unsplash

and chemicals, which it ships to a Shell chemical plant in Norco, Louisiana, and a Chevron Phillips Chemical plant in Baytown, Texas.<sup>163</sup> Both the Shell facility<sup>164</sup> and the Chevron facility<sup>165</sup> have long burdened nearby environmental justice communities with toxic emissions.

The name may be new, but advanced recycling fits right in with a long, toxic history of environmental injustice and environmental racism in the petrochemical and waste industries.

### **COMPOUNDING INJUSTICE AND ENVIRONMENTAL RACISM THROUGH LOOPHOLES**

The American Chemistry Council's push to create loopholes for advanced recycling

facilities closely resembles tactics employed by waste incinerators. As a result of lobbying by incinerator companies, 23 states in the U.S. classify waste incineration as “renewable energy,” allowing incinerators to charge higher prices for electricity generation than they might otherwise be able to.<sup>166</sup> Despite waste incinerators’ well-documented toxic and climate-damaging emissions, these “renewable energy” subsidies prop up incinerators, which are, again, predominantly located in environmental justice communities.<sup>167</sup>

Burning trash is dirty, dangerous, and climate-damaging.<sup>168</sup> And yet, incinerators have hoarded financial support earmarked for renewable energy. Advanced recycling is dirty, dangerous, and climate-damaging,



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and it deepens our dependence on single-use plastics. And yet, advanced recycling proponents seek financial support through recycling loopholes in producer responsibility programs that should be focused on reuse and the reduction of plastics production.

The industry's push to create manufacturing loopholes poses an even greater threat. Manufacturing loopholes disenfranchise and disempower communities by exempting advanced recycling from public permitting processes, state oversight, and public transparency. They allow these facilities to move in next to homes and schools.

This undermines the foundational principles of environmental justice drafted and adopted in 1991 by delegates to the First National People of Color Environmental Leadership Summit.<sup>169</sup> In particular, manufacturing loopholes violate “the fundamental right to political, economic, cultural and environmental self-determination,” and “the right to participate as equal partners at every level of decision-making.”<sup>170</sup>

The discriminatory buildout of advanced recycling facilities forces communities of color and low-income communities to “bear a disproportionate share of the negative environmental consequences” of this polluting industry.<sup>171</sup> Moreover, exempting advanced recycling facilities from state-level public permitting processes deprives impacted communities of the “opportunity

to participate in decisions about activities that may affect their environment and/or health.”<sup>172</sup>

The fossil fuel industry is now taking it one step further and pushing legislation that explicitly targets environmental justice communities. In 2022, the American Chemistry Council backed a manufacturing loophole bill (S 2788A) in Rhode Island that would have restricted advanced recycling facilities to locations within one mile of a “state facility,” which, according to S 2788A, included “Narragansett Bay Commission.” Narragansett Bay Commission is located in the Washington Park area of Providence, which has long been overburdened by industrial pollution and is considered a hotbed of environmental injustice and structural racism.<sup>173</sup>

The American Chemistry Council's support for legislation that handpicks particular environmental justice communities as “sacrifice zones” speaks volumes about the industry's lack of concern for equity and justice.

The American Chemistry Council pretends to “support engagement with local communities” and claims to “believe community voices should be heard.”<sup>174</sup> Yet, its push for loopholes silences those community voices and perpetuates injustice and environmental racism.



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## How We Push Back

Advanced recycling is a public relations campaign with toxic consequences, especially for environmental justice communities. And the American Chemistry Council will continue to spend big to pass laws that create loopholes for advanced recycling and perpetuate injustice and environmental racism. But all is not lost. Their efforts have failed for several years in a row in states like Rhode Island.

Exposing advanced recycling as a myth – and calling out the fossil fuel industry’s lobbying efforts – can help stop these insidious campaigns in their tracks. What’s more, with help from advocates and concerned residents, lawmakers can pass reasonable legislation that prohibits, limits, or properly classifies advanced recycling facilities.

### **SPREAD THE WORD: ADVANCED RECYCLING IS A FALSE SOLUTION**

This public relations campaign – and the loopholes pushed by the American Chemistry Council and other fossil fuel lobbyists –

succeed when lawmakers aren’t armed with accurate information about advanced recycling and plastics. Thankfully, there are accurate, reliable sources of information on these issues, many of which this report has cited. Point lawmakers to reports by NRDC, the Global Alliance for Incinerator Alternatives (GAIA), the Center for International Environmental Law (CIEL), Greenpeace, and Beyond Plastics, among others, to correct the record on advanced recycling.

Most of all, lawmakers need to understand the truth behind the loopholes pushed by

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the fossil fuel industry and the American Chemistry Council. Manufacturing loopholes disenfranchise and disempower residents, perpetuate environmental injustice, and protect a polluting industry from reasonable oversight and transparency. Recycling loopholes funnel money to a toxic and climate-damaging industry. Spread the word.

## LEGISLATION TO STOP ADVANCED RECYCLING IN ITS TRACKS

The American Chemistry Council is pushing legislation to make advanced recycling easier, less transparent, more discriminatory, and more profitable. Instead of just opposing dangerous loophole legislation, advocates and concerned residents can push for legislation that will empower and protect communities from the threat of advanced recycling.

### *Bans on Advanced Recycling and Other High-Heat Facilities*

The easiest way to push back against advanced recycling? Ban it. Pass laws that prohibit, or significantly limit, advanced recycling facilities or any other facility that exposes plastic or other waste to high temperatures.

In 2021, Oregon and Maryland tried exactly that. Oregon House Bill 2811, which did not pass, would have prohibited the state from issuing any permits “for the construction, expansion or modification of any chemical recycling facility.”<sup>175</sup> Maryland House Bill 21, which also did not pass, would have prohibited building any facility that “converts

plastic to fuel or feedstock through: (1) pyrolysis; (2) hydrolysis; (3) methanolysis; (4) gasification; (5) enzymatic breakdown; or (6) a similar chemical conversion process.”<sup>176</sup>

Two other states – New York and Rhode Island – have partially banned other types of high-heat waste facilities. In 2019, New York passed a law that prohibited the state from issuing permits for any incineration facility<sup>177</sup> “within the Oswego River/Finger Lakes Watershed,” within 50 miles of another solid waste facility, or within 10 miles of a “priority waterbody.”<sup>178</sup> In 2021, Rhode Island passed a law that prohibited the state from issuing permits for any “high-heat medical waste processing facility”<sup>179</sup> located within 2,000 feet of any waters, open space, or floodplains; within one mile of a school or assisted living facility; within one mile of any area zoned residential; or within an “environmental justice municipality.”<sup>180</sup>

New York and Rhode Island’s successes, along with Oregon and Maryland’s attempts, provide a helpful roadmap to protect communities from the risks of advanced recycling. Using this roadmap, [Just Zero developed model legislation](#)<sup>181</sup> for communities, advocates, and lawmakers to consult. This model legislation would prohibit states from issuing any permit for the construction or operation of any facility that processes any type of waste, including plastic, using any high-heat technology. It would ban all forms of plastic combustion, incineration, gasification, pyrolysis, hydrolysis, solvolysis, and depolymerization.

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## *Closing the “Recycling” Loophole*

Legislation that excludes advanced recycling from the definition of recycling can also help push back against the fossil fuel industry’s campaign. Such bills effectively close the “recycling” loophole in producer responsibility programs and recycled content laws.

Maryland’s House Bill 21, in addition to prohibiting advanced recycling facilities, would also have excluded “(1) pyrolysis; (2) hydrolysis; (3) methanolysis; (4) gasification; (5) enzymatic breakdown” and similar processes from the state’s definition of recycling.<sup>182</sup> In 2021, Minnesota also introduced a bill, HF 2661, which would have created a Zero Waste grant program and defined recycling to explicitly exclude “incineration or any energy recovery process or depolymerization or a similar process.”<sup>183</sup> Neither of these bills passed, but as with the advanced recycling ban bills, Maryland and Minnesota’s attempts provide a roadmap for protecting recycling programs from loopholes intended to support the advanced recycling industry.

## **IT ALL STARTS WITH PLASTIC – IT CAN ALL END WITH PLASTIC**

The fossil fuel industry’s Plan B – runaway plastic production – is the driving force behind advanced recycling. Without all the unnecessary single-use plastics in our lives, there’s nothing left for the fossil fuel industry to protect, or promote, through advanced recycling. Eliminating these single-use plastics

deprives the fossil fuel industry of its Plan B, its marketing strategy, and the “feedstock” for its advanced recycling facilities.

States across the U.S. continue to make progress toward a world with fewer plastics. Plastic bag bans in states like New Jersey have been a resounding success.<sup>184</sup> Maryland, Maine, Vermont, New York, New Jersey, and Colorado have all passed bans on polystyrene foam. When we reduce plastics production and eliminate plastics pollution at its source,<sup>185</sup> we deprive the fossil fuel industry of its opportunity to force advanced recycling on the world.

If Plan B fails, the toxic, climate-damaging, and unjust advanced recycling campaign fails along with it.

# APPENDIX

STATE	MANUFACTURING LOOPHOLE LEGISLATION	SOLID WASTE LAWS & REGULATIONS
Arizona	SB 1156 (2021)	Ariz. Rev. Stat. Ann. § 49-762 et seq.
Arkansas	HB 1944 (2021)	Ark. Code § 8-6-201 et seq.; 014.00.08 Ark. Code R. § 022 et seq.
Florida	HB 335 (2017)	Fla. Admin. Code § 62-701 et seq.
Georgia	HB 785 (2018)	Ga. Comp. R. & Regs. 391-3-4.01 et seq.
Illinois	HB 2491 (2019)	415 Ill. Comp. Stat. 5/39 et seq.; Ill. Admin. Code tit. 35 § 807.101 et seq.
Iowa	SF 534 (2019)	Iowa Code § 455B.305 et seq.; Iowa Admin. Code r. 567-102.1 et seq.
Kentucky	HB 45 (2022)	401 Ky. Admin. Regs. 47:100, 47:120, 47:140, 48:050; 48:310
Louisiana	SB 97 (2021)	La. Admin. Code tit. 33, § 101 et seq.
Mississippi	HB 1135 (2022)	Miss. Code § 17-17-229; 11 Miss. Admin. Code Pt. 4 Ch. 1 R. § 1.1 et seq.
Missouri	HB 2485 (2022)	Mo. Code Regs. tit. 10, § 80-5.010; Mo. Rev. Stat. § 260.200 et seq.
New Hampshire	SB 367 (2022)	N.H. Rev. Stat. Ann. § 149-M:1 et seq.; N.H. Code Admin. R. Ann. Env-Sw 300 et seq.; N.H. Code Admin. R. Ann. Env-SW 1100 et seq.
Ohio	HB 166 (2019)	Ohio Rev. Code § 3734.01 et seq.; Ohio Admin. Code 3745-27-01 et seq.
Oklahoma	SB 448 (2021)	Okla. Stat. tit. 27A § 2-10-101 et seq.; id. tit. 27A § 2-14-101 et seq.; Okla. Admin. Code § 252:515-1-1 et seq.
Pennsylvania	HB 1808 (2020)	35 Pa. Stat. § 6018.101 et seq.; 25 Pa. Code § 271.1 et seq.; 25 Pa. Code § 287.1 et seq.
South Carolina	SB 525 (2021)	S.C. Code Ann. § 44-96-290; S.C. Code Ann. Regs. 61-107.6; S.C. Code Ann. Regs. 61-107.12; S.C. Code Ann. Regs. 61-107.17
Tennessee	SB 923 (2019)	Tenn. Code Ann. § 68-211-101 et seq.; Tenn. Comp. R. & Regs. 0400-11-01-.01 et seq.
Texas	HB 1953 (2019)	Tex. Admin. Code § 330.1 et seq.
Virginia	SB 1164 (2021)	9 Va. Admin. Code § 20-81-10 et seq.
West Virginia	HB 4084 (2022)	W. Va. Code R. § 33-1-1 et seq.
Wisconsin	AB 789 (2018)	Wis. Stat. § 289.01 et seq.; Wis. Admin. Code NR § 500.01 et seq.; Wis. Admin. Code NR § 502.01 et seq.

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