



DECADES OF DECEPTION: THE PLASTIC INDUSTRY'S RECYCLING MYTH

Mind Your Plastic's Position on the Fraud of Plastics Recycling

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EXECUTIVE SUMMARY

The Report “The Fraud of Plastic Recycling: How Big Oil and the plastics industry deceived the public for decades and caused the plastic waste crisis” was published by the Center for Climate Integrity (CCI) in February 2024. It explores the timeline of the proliferation of single-use plastic waste and how the petrochemical industry has worked to portray plastic recycling as the solution, despite knowing its shortcomings. The authors summarize the technical and economic failings of plastic recycling, the development of a plastics recycling narrative by the petrochemical industry in response to the threat of regulation, and the coordinated public messaging campaigns used to garner support for a largely ineffective waste management system. This report explores five key themes outlined in the report, reflecting on the trends and tactics the petrochemical industry has adopted in the past, and how they closely mirror their opposition to current efforts to reduce plastic waste and pollution.

The five key themes related to the actions of the petrochemical industry are:

1. Using the promise of new infrastructure or distractions to avoid being legislated to reduce plastic waste.
2. Setting arbitrary, ambitious, voluntary public targets, and proceeding to miss the targets without repercussions.
3. Perpetuating consumer confusion as a tool to sell more single-use products and plastics.
4. Assembling front groups and messaging campaigns to manipulate public perceptions of the industry.
5. Repackaging the idea of “advanced recycling” as a solution for plastic waste in order to continue ramping up plastic production.

USING THE PROMISE OF NEW INFRASTRUCTURE OR DISTRACTIONS TO AVOID BEING LEGISLATED TO REDUCE PLASTIC WASTE.

Following the growth and expansion of plastic production in the 1950s and 60s, it quickly became apparent that there was nowhere for the plastic waste to go. Plastic did not go away or degrade and disappear. As plastic began to pile up in landfills and in the environment, becoming more of a concern for the public, it was clear action was required. Public outrage about pollution grew, and the petrochemical industry sought a way to avoid being legislated to reduce plastic production (e.g. banning single-use items). In response, the petrochemical companies decided recycling would be the way they could show the public that plastic could be managed at end-of-life. While these companies invested millions of dollars into recycling facilities and public awareness, the report notes the following sentiment from the industry:

“The industry knew that mechanical recycling was not a viable solution.”

—yet renewed concerns about plastic waste and its impact on the environment meant they needed the public to believe recycling could address their concerns, and the industry was invested in its success.”

The motivation to publicly push mechanical recycling as the solution to plastic waste was ultimately an industry tactic to avoid restrictive regulation. As a result, the plastic industry promised the potential of new recycling infrastructure, knowing it was likely to be inefficient and largely unsuccessful. This method distracted the public and legislators from the real problem at hand— the growing amount of plastic produced— and allowed petrochemical companies free reign to continue expanding their single-use plastic operations.

Similar distractions are deployed by the petrochemical companies and plastic manufacturing brands alike today, as policymakers attempt to adopt upstream solutions that reduce the amount of single-use plastics ending up as pollution. For example, in an effort to continue profiting off of problematic and unnecessary plastics, the The Responsible Plastic Use Coalition has sued the Canadian federal government to overturn the regulatory framework banning six commonly used plastics (checkout bags, cutlery, food serviceware, ring carriers, stir sticks, and straws). Instead of addressing their waste problem, they would prefer to avoid being legislated to make changes that would make a significant impact on the amount of plastic. The federal ban



is estimated to result in a reduction of approximately [1.3 million tonnes](#) of plastic waste in the 10-year period following implementation. This kind of action is also present at the global level, as the petrochemical industry has increased their [lobbying efforts at the Global Plastic Treaty negotiations](#) to avoid reduction measures by outnumbering the representation from Small Island Developing States and scientists combined.

Their commitment to preventing meaningful legislation that stops plastic pollution at the source has been unwavering for the last 70 years.

McDonald's has also attempted to discredit and lobby against progressive policy that promotes reusable packaging by leaning on non-transparent methods and biased lifecycle analyses of materials. Their No Silver Bullet "study" suggests that single-use materials are more circular than a transition to reusables. The report provides no true empirical references to support their claims that reusable packaging has worse environmental impacts than single-use, despite claiming they want solutions that are based on science, facts, and evidence. However, the brand has used the report to amplify their baseless claims and distract from the necessity of the policy that needs to be adopted to address single-use waste.

USING THE PROMISE OF NEW INFRASTRUCTURE OR DISTRACTIONS TO AVOID BEING LEGISLATED TO REDUCE PLASTIC WASTE.

The public often evaluates a company's environmental targets as a proxy for how much work that company is willing to do to prevent ecological damage. What the public does not realize is that **many of these targets are not binding, and are completely arbitrarily set by the companies to portray a sense of action.** It is reported by CCI that the petrochemical companies recognized "in the early 1990s the public focus was very much on targets, and they seemed the most easily explained way

of showing that something was being done." Essentially, targets demonstrated progress to the public, so the companies maximized their opportunity to placate the public by setting ambitious, voluntary targets. However, the reality was that their goals could not be reached with the recycling infrastructure they depended on. Many companies claimed to be able to recycle a variety of plastics, but could only manage to recycle PET and HDPE bottles. As companies began failing their targets-



targets they set for themselves– they developed new methods to present and measure their recycling rates. For example, measuring the recycling rate of bottles only, where a previous target had promised to increase the recycling of all packaging, in order to appear as though the rates had increased more than they had. These goals were all arbitrary. As companies failed to meet their targets, they moved the goal post or deceived the public with confusing reporting, continuing to contribute to the plastic waste crisis.

Instead of addressing these failures and investing in infrastructure to make the necessary system changes, companies have been pivoting to easier to achieve targets that make little difference to plastic pollution outcomes.

Where petrochemical companies such as Exxon Mobil, Dow Chemical, and Chevron Phillips have focused their attention on cleanup efforts to demonstrate their public commitment to plastic pollution, **they still fail to meet their targets.**

After pledging to remove 15 million tonnes of plastic from the environment over five years, their cleanup alliance had collected [only 34,000 tonnes– only 0.2% of their initial target](#). The CEO of the cleanup alliance admitted that the goal was “too ambitious” and the target was abandoned.

All of these deceptions are one big effort to greenwash their operations and their targets, diverting attention —

from real, upstream solutions towards solutions in favour of increasing plastic production.

The world’s biggest consumer brands are on a similar trajectory after pledging that 100% of plastic packaging for many of the top global brands would be reusable, recyclable or compostable by 2025. Brands including Nestle, Mars, and PepsiCo [decreased their percentage of reusable, recyclable, or compostable plastic packaging](#) in the reporting period from 2018 to 2022. It has been announced by the [Ellen MacArthur Foundation](#) that this target will “almost certainly be missed by most organizations,” while others like Coca-Cola have [increased their plastic use with no increase to their reusable packaging portfolio](#).

Brands have also shifted to using broad, non-transparent language in their goal setting to avoid meaningful change.

For example, [PepsiCo](#) has set a company target of “20% of their beverage servings sold through reuse models.” Yet within that goal of reuse, they emphasize that they will be expanding their SodaStream line, which is not the system change implied when reuse is discussed. SodaStream is a refill at home system, which is difficult to measure and track



impact, is still reliant on consumers instead of systemic change required by industry, and SodaStream encourages the purchase of their single-use flavour syrup bottles. By using this broad language, the company can avoid pushback for their lack of investment in real, reusable packaging solutions.

It is clear that voluntary action and target setting has led to minimal change, which is why regulatory

change is necessary to hold companies accountable for their contributions to plastic pollution.

Even with decades of experience in mechanical recycling, recycling rate targets are still not being achieved by petrochemical companies and consumer brands alike. Without mandatory targets, these companies have proven to be unwilling to commit to real action and will continue to set unachievable goals that have no intention of meeting.

PERPETUATING CONSUMER CONFUSION AS A TOOL TO SELL MORE SINGLE-USE PRODUCTS AND PLASTICS.

CCI's report gives the example of the resin code system as an initial tool the petrochemical industry used to confuse the public about the effectiveness of recycling. The resin code labelling system claimed to help consumers sort their plastic waste to ensure plastics could be recycled accurately. However many recycling industry actors believed prior to its adoption that it would be an unsuccessful system. The Vinyl Institute suggested that due to the petrochemical industry's trend towards multi-material packaging, containers would be made of more than one resin, which meant that "efforts to simplify source separation by labeling containers as to their material makeup... are all of limited practicality.



The United States' Environmental Protection Agency claimed that the use of resin codes along with the chasing arrow recycling symbol "constitute a misrepresentation and violation"

of the Federal Trade Commission Act, which is tasked with preventing unfair methods of competition and unfair or deceptive acts or practices.

In 1990, the Connecticut Department of Environmental Conservation



discouraged the state from adopting resin codes, and predicted that the resulting confusion would have a “severe impact on the already marginal economic feasibility of recycling plastics as well as on recycling programs as a whole.”

The consumer confusion surrounding the labeling and recyclability of plastics continues today.

Consumers are still mistaking the presence of resin codes as a symbol of recyclability for packaging and products.

In a study of consumers’ understanding of recycling labels 68 percent of Americans said they assume the presence of symbols for all seven resin codes would mean that the product is recyclable. Further, 73% of the respondents were surprised that only two resin codes are typically accepted in curbside recycling.

The Canadian federal government has even recognized the confusion generated by recycling labels by putting forward a regulatory framework for plastic recyclability labelling rules. The rules proposed a prohibition on the use of resin identification codes that incorporate the “chasing arrows” symbol.

Companies have also been taken to court over their deceptive or inaccurate labelling.

In Canada, Keurig has been sued for

falsely labelling their K-Cup pods as recyclable. Following an investigation by the Competition Bureau, it was found that Keurig made “[false or misleading statements about the recyclability of its K-cup pods](#)” and agreed to pay a \$3 million dollar fine.

Similarly, in the United States, [Colgate-Palmolive faces a lawsuit](#) claiming that they misled customers by labeling their plastic toothpaste tubes as recyclable when they are not accepted at most US recycling facilities. The plaintiffs in the case say that they filed the lawsuit because they purchased the product with the understanding that they could be recycled curbside. They state if they had known the toothpaste tube was not recyclable, they would not have purchased the product.

Misleading and false labelling are a form of greenwashing that plastic companies and brands have adopted to prolong the public myth of the success of recycling.

These types of lawsuits prove that consumers care more than they ever have about the true lifecycle of their materials, and will not settle for confusion or wish cycling.

Petrochemical companies as well as brands have also invested in the production of biodegradable and compostable plastics and have established a new avenue for plastic labelling confusion.



Without restriction on which materials can use the label of compostable, degradable, and biodegradable, many companies have used these labels incorrectly or irresponsibly to promote their plastic products as sustainable. These “compostable” or “biodegradable” plastics also have complicated end-of-life pathways, as most North American municipal composting facilities sort them out of the composting stream.

They do not compost or degrade at the same rate as organics and require very specific temperatures and conditions to decompose. As a result, the plastics are often neither recycled or composted and end up in landfill, where they can [release methane, a potent greenhouse gas](#). While many companies claim these products are a greener alternative to conventional plastics, **this is an additional way to confuse and mislead consumers about the realities of plastic waste.**

ASSEMBLING FRONT GROUPS AND MESSAGING CAMPAIGNS TO MANIPULATE PUBLIC PERCEPTIONS OF THE INDUSTRY.

Petrochemical companies have a history of assembling the industry as well as its supporters into groups that seemingly disguise the company, but continue to promote their interests. These groups are often referred to as **front groups**, which can be defined as “organization[s] that [are] structured to appear independent and purports to represent one agenda but may in reality be controlled by a particular interest, such as a company or industry, whose sponsorship is hidden or not readily apparent.”

According to the CCI report,

Front groups that represent the interests of the petrochemical industry have assisted in validating the myth of recycling plastics, as well as created the “illusion of grassroots support”.

Since it would look suspicious for petrochemical companies to publicly defend their own practices, they often utilized front groups to communicate their deceptive marketing and public education campaigns. The groups would report on the viability of plastic recycling as the solution for plastic waste, despite the industry knowing the opposite was true.

Some of the more prominent front groups in North America over the last 50 years have included, Keep America Beautiful, the Plastics Recycling Foundation, the American Progressive Bag Alliance, and the Alliance to End Plastic Waste. The Alliance to End Plastic Waste has been particularly active recently. They state the [organization’s focus](#) is to develop infrastructure to manage waste and increase recycling, innovate and scale



up recycling technologies, educate and mobilize, and clean up plastic waste from the environment. However, this organization is composed of the largest petrochemical actors in the world— Exxon Mobil, Chevron Phillips Chemical, Shell, NOVA Chemicals, BASF, and more. While these companies directly control global plastic production operations, and have the power to make changes to reduce plastic waste, instead they create initiatives such as [Clean4Change](#) to clean up the pollution they generated all in the name of good publicity and appearing to take action. By focusing on downstream programming, these companies can continue to profit off of plastic production expansion, and point to the cleanup efforts as their attempt to end the plastic pollution crisis.

In Canada, following the federal government's implementation of the Single-Use Prohibition Regulations, the petrochemical industry joined together under the umbrella of the [Responsible Plastic Use Coalition](#) to combat the ban. The group launched a lawsuit against the Government to eliminate the regulatory framework for the prohibition on common single-use plastics.

The decision will be appealed following a ruling in the Coalition's favour in 2023, and the Court has granted [a stay on the regulations](#) allowing them to remain in place in the interim. **It is absurd to even claim these companies are assembling within a coalition for the** responsible

use of plastic," while they are actively **fighting against legislation that would prevent single-use plastics from entering our environment.**

The petrochemical industry has also used education programming as a means to manipulate the public's perception of recycling and single-use plastics.

The CIC report suggests that "[p]erhaps most egregiously, [groups] representing the petrochemical companies developed 'sponsored educational materials' for use in schools."

Industry groups would deliver free curriculum materials on plastic recycling that had been developed by petrochemical companies like Dow Chemical or provide videos that included **false statements about plastic recycling.** Some of these videos were described in 1994 by the Vice President of Communications at the American Plastics Council as "propaganda[,] but the resource management messages are important."

Even within petrochemical companies, it was understood that the messaging about plastic recycling they were sharing with the public, and with schools, was not accurate.

However, education materials sponsored by the industry are not only a method of the past.



The industry continues to develop and fund various programs that promote the production of plastic and the ‘success’ of recycling in schools.

As recent as February 2024, news articles have been published about the influence of the plastics industry in classrooms across North America. The [Washington Post released a story](#) about how the Society of Plastics Engineers Foundation travels from school to school in a “PlastiVan” to educate students about the benefits of plastics. The program is once again sponsored by petrochemical giants such as Chevron Phillips, BASF, and others. The students are instructed through the program that the “plastic pollution crisis could be addressed through stepped up personal responsibility, product innovation,

and improvements in recycling,” according to the article.

This reaffirms that the plastics industry is still committed to shirking responsibility for the pollution problem they created,

by attempting to convince the next generation that individuals can recycle their way out of plastic pollution.

To counteract this type of rhetoric, educational programs like the [Circular Economy Ambassador Program](#) seek to engage students in conversations about the lifecycle and value of our materials, as well as the importance of reduction as a first step in eliminating single-use plastic waste.

REPACKAGING THE IDEA OF “ADVANCED RECYCLING” AS A SOLUTION FOR PLASTIC WASTE TO ALLOW FOR THE CONTINUED EXPANSION OF PLASTIC PRODUCTION.

“Advanced recycling” is a recycling narrative that has been sold to the public as a means to tackle the plastic waste that mechanical recycling is unable to process. The CIC report suggests that advanced recycling is similar to mechanical recycling, as it needs a “pure, high-quality feedstock to create valuable output” that results in plastic-to-plastic outcomes.

The separation of material required to secure these feedstocks is very difficult, and also very expensive - at 1.6 times more costly than virgin resins. Regardless of the excessive costs and technical challenges, the reality presented by the report is that **only 1-14% of the plastic recycled through these processes can be used to manufacture a new plastic product.**



The remainder is converted for energy recovery or fuel, which is [not considered as plastic recycling under the definitions proposed](#) by standards professionals such as CSA Group.

The petrochemical industry has tried to convince the public that advanced or chemical recycling can be a solution for plastic waste

for years by repackaging it under new terminology and under the guise of scientific innovation. Variations of these chemical processes have intrigued the industry since the 1970s, but there has never been evidence that it is capable of scaling up as a viable recycling solution. However, this has not stopped the industry from positioning advanced recycling as the next big recycling innovation in its public campaigns, becoming a new justification for the industry's refusal to reduce plastic production.

The industry has adopted slogans in their messaging campaign that are **undeniably inaccurate**:

- “Advanced recycling is keeping used plastic out of the environment and in the economy.”
- “90% of plastics aren't recycled today. Advanced recycling is changing that.”

Yet, the industry shows no signs of ending their positive messaging and investments in advanced recycling as their silver bullet solution. In fact, through this public campaigning and praise for advanced recycling, the petrochemical industry has been working behind the scenes to change

the policy landscape for waste management. Through advanced recycling, the petrochemical industry has [pushed for new recycling regulations and loopholes that allow fewer restrictions and oversight](#) on recycling practices.

Advanced recycling facilities are lobbying policy makers to change regulations that would define the advanced recycling process not as [waste disposal, but as manufacturing](#).

As manufacturers, recyclers have a less stringent set of environmental standards, regulations, and reporting by which they would need to abide. The reclassification of the operations of advanced recycling facilities may result in the lack a requirements for the companies to [“hold public hearings, accept comments from community members, and disclose the plants' projected pollution,”](#) which is incredibly concerning.

The communities in which these facilities are located, as well as the workers in these facilities will undoubtedly suffer further, as the danger of toxic emissions and risk of workplace incidents increases.

Numerous fires have already been reported in advanced recycling plants across North America, reported to be [“uncontrolled...\[and\] fed by a type of oil made from plastic waste,”](#) while resulting in [injured workers](#). The fires not only pose risk to those on-site at the advanced recycling facilities, but also their surrounding communities. People are often advised to evacuate



from the immediate area of the advanced recycling explosions, as residents are put at risk for [exposure to dioxins and chemicals such as hydrogen cyanide, benzene, chlorine, carbon monoxide, and volatile organic compounds](#) that are known to cause health issues.

Plastic recycling workers and communities where plastic plants are located [exhibit an increased rate of health conditions](#) —

including cardiovascular disease, toxic metal poisoning, neuropathy, lung cancer, asthma, and birth impacts.

CONCLUSION

Plastic pollution is a problem that cannot be solved with recycling, despite what petrochemical companies have publicly declared for decades. They have tried their hardest to convince the public that they can be trusted with managing plastic waste by recycling, and have failed on all accounts.

Due to the deception and confusion caused by their propaganda and lobbying methods to promote recycling, the petrochemical industry has not experienced the consequences of the plastic pollution problem they created. Instead, they continued to increase plastic production, attempting to portray their concern for plastic pollution with ineffective cleanup missions and front groups with hidden agendas.

It is apparent by the lack of progress made to address the plastic pollution problem in the last 50 years, that

recycling is not the answer.

The petrochemical industry knew this all along, and used the rhetoric of the potential of recycling to placate environmental concerns, while profiting off of expanding plastic sales. Under a new circular economy, brands, consumers, and governments must align to prioritize the reduction of plastic production, and end the proliferation of single-use items.

We cannot allow the distraction of arbitrary recycling targets, and false solutions to stall this progress.

The petrochemical industry needs to be held accountable for their years of greenwashing, and the resulting harm they have caused to the environment and communities around the world.

As the Global Plastic Treaty and national policy regulations for problematic plastics evolves, it is essential that upstream solutions take centre stage to address the problem at its source – the petrochemical industry.

