



## Myths, Facts, and FAQs

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*Myth: The minimum requirements for recycled content are not feasible – the infrastructure doesn't exist.*

**Fact:** The minimum recycled content standards match closely with those proposed in the European Union – the technology exists, but we need to increase our investments in recycling infrastructure. Making producers responsible for their waste will spur investments and encourage innovations to streamline recycling.

*Myth: Plastic bag bans or fees don't work.*

**Fact:** There are [currently 118](#) single-use plastic bag local bans or fees in the US, with the entire state of Hawaii and the District of Columbia covered by these protections. Seven entire states (CA, NY, CT, OR, DE, ME, VT) have voted to ban single-use plastic bags. Plastic bags are particularly harmful to recycling infrastructure because they cause machinery jams, which inhibit recycling productivity and is a waste of money and employees' time. Even if these plastic bags are reused, the vast majority still enter the waste stream.

*Myth: Bottle deposit programs are ineffective.*

**Fact:** Bottle deposit programs have been very effective. Nearly a dozen states with these programs have seen an increase the return of beverage containers. As an added benefit, overall recycling rates for all materials also increase! Evidence shows that bottle deposit programs result in higher returns of materials and less contamination of collected materials: In 2018, Oregon reported [81% of all beverage containers](#) were recycled. New York's redemption rate averaged 73% from 1983-2007 (most recently 67%), and of the beverage containers collected, [nearly all are recycled](#). Reviewing the bottle deposit policies in these states reveals that states with beverage container laws reduced both their beverage container litter and overall litter.

*Myth: Recycled plastics have no value and cost more to make than creating new plastics.*

**Fact:** The price of recycled plastic in comparison to virgin plastic is directly related to the price of feedstock from oil and gas; therefore, it varies considerably with market shifts. With recycled content mandates and expanded recycling infrastructure investments, a flourishing market for recycled plastic can be established.

*Myth: Mechanical recycling works well for hard plastic resin products (PET and HDPE), but not for films, synthetic fibers, and multi-layer packaging, so we need “advanced recycling technology” to account for these materials.*

**Fact:** Poor quality plastics cannot be recycled since the quality continues to diminish with each recycling loop; however, with investments in recycling infrastructure the quality of recycled plastics will increase. Additionally, these market mechanisms may encourage manufacturers to shift their product to higher quality plastics or plastic alternatives.

The concerns with these technologies – pyrolysis, waste-to-fuel – primarily fall into two groups: environmental costs and economic feasibility. Economically, the technologies are currently not implementable without government subsidies, so scaling up to be an effective nationwide waste management approach is not feasible. Environmentally, these processes produce highly toxic air emissions as well as residual solid waste that is extremely toxic to the environment and to people. They are not “clean” solutions. Additionally, these technologies require a constant stream of plastic inputs with no PET or PVC plastic materials, thereby encouraging the continued production of single-use plastic. The sorting process will be a challenge given the diverse mix of municipal waste. Additionally, the need for endless plastic inputs further embeds our society into plastic production and waste rather than breaking the dependence and spurring innovations for new packaging and products.

*Myth: Alternative products to plastic (i.e. plant-based/ bio-based plastics) have a negative environmental impact, and will just create new problems under a ban. Plus – alternative materials are too costly, do not exist, or do not work/perform as well as plastic.*

**Fact:** This bill will help businesses create market-based solutions to the plastic pollution crisis and spur product innovation. Many plastic alternatives are already in use, including the best solution – reusable products. By banning certain products, there will be a new market for innovative products that have a minimal environmental impact, are cost-effective, and perform as well as plastic. With this bill, the United States will join the global efforts to reduce single-use plastic – including the European Union, which voted in 2018 to ban single use plastics by 2021. With these global changes, the economy will adjust to create new, innovative products.

*Myth: People will have to pay more money both through taxes and the price of individual products.*

**Fact:** Alternatives to the products phased out under this legislation already exist. In the long-term, a circular economy will provide an endless, predictable supply of products rather than dependence on other market mechanisms, which in the case of plastics, is often volatile as it is tied directly oil and gas prices. An upfront investment in infrastructure will save money in the long-term, drastically reducing cleanup costs that taxpayers are currently footing the bill for. Taxpayers will save money as the burden for maintaining recycling programs will fall on producers, not state and local governments.

*Myth: A new waste management system will reduce salaries and cost jobs.*

**Fact:** Existing waste management systems will likely benefit from the bill because the private sector will invest in new infrastructure and can maintain existing recycling or waste management systems. The bill should increase jobs by bolstering the recycling and waste management sectors. A [study by the Institute for Local Self-Reliance](#) found that moving to a zero-waste economy focused on recycling and reusing products creates more jobs!

*Myth: Removing plastics will expose food transport to health risks*

**Fact:** This bill will exempt certain food products if there are serious health and preservation concerns. The bill also recognizes the lifesaving function of many plastics used for medical devices, transportation, or medication. In addition, the bill will encourage the food and pharmaceutical industries to transition to more sustainable packaging and practices to reduce the overall waste footprint.

*Myth: The pause on new plastic producing facilities will harm American manufacturers/industry and damage the domestic as well as international economy.*

**Fact:** There are plastic materials already available in the waste stream – rather than creating new plastic products, recycling and reusing plastic will be profitable. If 36% of our waste stream is replaceable packaging then we have over 100 million tons of extra plastic feedstock that is available for other uses in our current production capacity. The temporary pause on the development of any new facilities will not impact current plastic production. Existing facilities have sufficient capacity to meet the need of the market – plus, with additional recycling, we will increase feedstock through our waste management rather than utilize new oil and gas reserves.

Initial research finds that plastic production comes at significant cost to our environment, health, and other industries, like tourism and fishing. In fact, the Asia-Pacific Economic Cooperation [estimated that marine litter alone](#) results in \$1.265 billion dollars of damage to the fishing, shipping, and tourism industries. These costs must also be considered. By imposing a temporary pause on expansion, we can quantify the economic, environmental, and health impacts of plastic production and make fully-informed decisions about the next steps for the plastics economy.

*Myth: The pause on expanding plastic facilities will have a severe impact on plastics available for medical purposes – and therefore harm people!*

**Fact:** According to a [plastics industry report](#), U.S. demand for medical plastics was expected to reach 4.4 billion pounds by 2012. While that may sound like a big number, it equates to [roughly 5% of total plastic production](#) (assuming roughly 85.6 billion pounds of plastic are produced each year). A pause on plastic facility expansion will not harm the availability of medical plastic products. Additionally, the [demand for medical plastic products will decrease](#) as recycling and single-use plastic reduction continues as a cost-saving priority in the healthcare industry.

But while we are on the topic of health and medicine: critically, we don't know how plastic – especially microplastics – is impacting our own bodies and health! Besides the air and water

contaminants that are released into our environment when plastic is manufactured, we are ingesting and breathing in microplastics every day.

We need more research to know – with certainty – how toxins from plastic will affect us, which is why our bill puts a pause on plastic facility expansion to assess the current state of our infrastructure and better understand the impacts of plastic production on our communities’ health and wellbeing.

*Myth: Ocean/marine debris is primarily the fault of Southeast Asian countries.*

**Fact:** This ignores the fact that much of the waste coming from Southeast Asian countries originated from the United States and other developed countries – it was exported to these nations despite their lack of infrastructure and inability to cope with the massive influx of waste. We cannot ignore our outsized role in the greater plastic waste crisis or scapegoat other nations that we have burdened with our problems and lack of domestic management.

Even the research most commonly cited by the plastic manufacturing and producers highlights the need to reduce waste: [Jambeck et al.’s 2015 study](#) (which recognizes its lack of import/export data as a major flaw in its analysis) concludes that “...the rapid growth of synthetic plastics in the waste stream requires a paradigm shift. Long-term solutions will likely include waste reduction and “downstream” waste management strategies such as expanded recovery systems and extended producer responsibility...While such infrastructure is being developed, industrialized countries can take immediate action by reducing waste and curbing the growth of single-use plastics.”

*Myth: This legislation impedes innovations such as waste to energy, chemical recycling, and compostable plastic technologies.*

**Fact:** This legislation will ensure that environmentally harmful mechanisms such as waste-to-fuel processes are no longer allowed in the United States and that items labels as “compostable” or “recyclable” are truly recyclable and compostable, not simply industry catchphrases that contribute to the plastic waste crisis. The waste-to-energy and chemical recycling processes are technologies that the industry can (and already do) pursue independently. Many peer-reviewed scientific studies compare the overall greenhouse gas emission and broader environmental impacts of plastic conversion technologies versus mechanical recycling versus landfilling via life cycle assessments. These studies find that:

- Recycling has the best environmental outcome because there are the fewest toxic air and solid waste emissions as well as no need for new fossil fuel use to produce new plastics
- Plastic conversion technologies encourage the continued extraction and manufacture of wasteful single-use plastics, and they produce highly toxic air emissions and solid waste that are dangerous for human health and contaminate water, soil, and air
- There is significant concern that the environmental justice aspects for any new facilities that would conduct plastic conversion (localized emissions / health impacts)
- Plastic conversion technologies have lower emissions and waste than landfills and traditional combustion approaches to manage solid waste

Critically, these types of facilities require a constant stream of waste to be cost-effective and productive, which further locks us into the loop of plastic production rather than moving toward a true reuse, circular economy.

*Myth: Alternatives to plastic bags (paper bags, cotton bags) harm the environment much more than plastic bags because of production inputs (cutting down trees for paper bags, using lots of water for cotton). It's better for the environment to use a plastic bag.*

**Fact:** Many life cycle assessments (LCA) have been conducted to compare different types of bags. In a LCA analysis, the inputs for the product – from the raw materials to the manufacturing to transportation and end-of-life scenarios – are calculated to estimate the impact of the product (energy use, GHG emissions, water use, etc.). Several studies compare single-use plastic bags, thicker reusable plastic bags, single-use paper bags, and reusable cotton bags. While these analyses find that plastic bags have a lower environmental impact from cradle-to-first use, if the *whole lifetime of a product* is considered then reusable bags (both thicker plastic and cotton bags) come out on top. Plastic bags can't be reused at the same rate and will pollute our planet for thousands of years—something that we have to take into account when we calculate their cost. [\*Reusability is key.\*](#) A study from [California State University Chico](#) also added that if reusable plastic bags are used then it is best that such bags be made from recycled plastics and be as lightweight as possible.

Another factor in the LCA analyses is different carrying capacity of a plastic bag versus a stronger reusable bag. While the capacity of different bags can be calculated, the actual number of bags that individuals use in each grocery visit – how full is each bag stuffed? are groceries ever double-bagged? – potentially adds to the total number of plastic bags used. Reusable bags are more durable with greater potential to carry heavy items. Critically, with all bag use, our choices as consumers is important.

There are other costs associated with plastic bags that are difficult to incorporate into life cycle assessments: (1) the environmental impacts on wildlife and marine creatures and (2) the costs of plastic bags in jamming or disrupting recycling facilities.

In the marine environment, plastic bags are one of the top 5 most damaging types of waste. Other single-use plastics (utensils, packaging, cup, plates and smaller fragments) are [all damaging as well](#). Marine creatures and birds get entangled or ingest the plastic materials. This interaction between plastics and marine wildlife is – more often than not – fatal. And that's just in the ocean! Wildlife on land is also at risk from ingesting or getting entangled in plastic bags. The potential toxicity associated with plastic in rivers and streams is unknown and may have a significant impact on water quality. This is something critically important for desert environments, where water is scarce but plastic is becoming ubiquitous. A study from the Rincon Mountains in the Sonoran Desert of Arizona found that [plastic bags are as common as endangered desert tortoises](#). These studies all point to the reality that plastic waste is a threat to biodiversity – especially critical or endangered species – both on-land and in the ocean.

An additional, though less quantified impact of plastic bags is the burden they place on municipal recycling systems. Plastic bags cannot be recycled in a traditional mixed recycled waste stream and when they are included as waste they often cause significant problems to

the efficient operations of municipal recycling systems. Plastic bags cause jams in recycling machinery and often take hours to repair. In one recycling center in Chicago, an operations manager said that plastic bags and films cause *daily jams that take 5 hours to repair*. The manager estimated the repairs [cost an additional \\$114,000 a year in labor](#), not to mention full repairs if the plastics break the equipment. If plastic bags are jamming the ~850 municipal recycling centers around the U.S., the nationwide annual costs are nearly \$100 million.

*Myth: The solution to the plastic waste crisis is more recycling and recycling infrastructure. This seems like a pretty complex bill...why are there so many components?*

**Fact:** Take a moment to consider how many different forms of plastic you use every day. If you think about where this plastic goes after you use it, you can see that plastic pollutes our environment from a wide variety of sources. The single-use plastic ban, carryout bag fee, and beverage container refund program are three high impact solutions that have already proven successful within the U.S. and across the globe. The other components of the bill – establishing an extended producer responsibility program to handle waste management, setting minimum recycled content mandates for products, and placing a moratorium on the expansion of new plastic-producing facilities – are longer-term solutions that will reshape waste management in the United States and move the plastic industry to an efficient circular economy. By tackling the waste management crisis with this comprehensive approach, the Break Free From Plastic Pollution Act will dramatically reduce the volume of waste while transforming the plastics economy to be based on a model of reuse and recycling.

## FAQs

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*What is extended producer responsibility?*

Extended producer responsibility (EPR) is a strategy to place a shared responsibility for end-of-life product management on producers and manufacturers of a specific product. Essentially, EPR is a producer/manufacturer model of “polluter pays”. EPR allows the costs of the treatment and disposal of a product to be incorporated into its total cost and places the responsibility on the producer – or brand owner – that designs and markets a product. Evidence from around the globe shows that EPR leads to a more streamlined life cycle of a product and minimizes negative impacts on human health and the environment.

*What is the connection between plastics and the fossil fuel industry?*

Plastic is made entirely from fossil fuels (oil and gas), so the two industries are essentially one in the same. Consequently, plastics are a major contributor to greenhouse gas emissions and climate change. A [recent study estimates](#) that plastics contributed nearly 4% of CO<sub>2</sub> emissions in 2015 and, if plastic production continues to increase at its current rate, may contribute as much as 15% of global CO<sub>2</sub> emissions by 2050. A [different study](#) puts the 2050 contribution at 20%. As our global community seeks to curb greenhouse gas emissions, reducing *new* plastic production is critical. Recycling and reuse of our waste is an essential component of any climate strategy.

*How does plastic end up in our environment and our bodies?*

The figure below from the [World Health Organization](#) gives a good visual for how this happens.

When plastics enter our environment they breakdown into tiny fragments called microplastics.

These microplastics are particularly concerning because they end up in the food we eat, the water we drink, and the animals and plants that we eat. Emerging research finds that microplastics directly harm wildlife when consumed – and it’s possible that the ingestion of microplastics directly harms humans as well – but also acts as a transport for environmental toxins that attach on to the plastic particles. Because this is new, the overall health impacts of these plastics are still being assessed, but the work that is already done indicates that plastics and microplastics are harmful not only to our environment, but also to our health.



**Additional background reading:**

- [McKinsey](#) report describes that reusing plastic waste will be an important driver of profitability for chemical companies.
- [Surfrider and UCLA](#) report highlights the major legal mechanisms for improved waste management in the United States (and globally).
- [KPMG](#) report identifies the opportunities and challenges of consolidating the recycling industry with an emphasis on the economic benefits for the plastics manufacturing industry.

