



MERCY EARTH CHALLENGE

As we explore *Plastics: Beyond Convenience*, we first need to understand what we're dealing with.

The word comes from the Greek *plastikos*, which means capable of being molded. [This 5-minute video](#) explains the history of this invention and how it came to be used in so many products today. (You may use the settings function to add Spanish sub-titles.)

Chemically, plastics are chains of repeated building blocks. These chains are called polymers and the type of building block determines the type of plastic. You may see some common examples, and the products they are used for, in this chart.

#	Plastic	Used for
1	Polyethylene Terephthalate	Clear bottles, food trays
2	High-Density Polyethylene	Milk bottles, bleach jugs, detergent jugs
3	Polyvinyl Chloride	food trays, toys, piping, wire insulation.
4	Low-Density Polyethylene	Plastic bags, plastic wrapping, cling film
5	Polypropylene	Butter and margarine tubs, yogurt cups, clear food storage containers, bottle caps, trash cans, waste baskets
6	Polystyrene	Styrofoam cups, food carryout containers

7	Other	Reading glasses, CDs and DVDs and cases, some electrical connections and wiring, general household plastics.
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The [number found in the triangle](#) on many plastic products relates to its composition and what is often considered its potential for recycling.

The building blocks for plastics come from coal, petroleum and especially natural gas. These fossil fuels are processed into a variety of petrochemicals that are then used to produce other products including plastics.

Global plastic production has quadrupled over the past four decades, a [2019 study found](#), with its authors warning that if that trend continues, the making of plastics will make up 15% of greenhouse gas emissions by 2050. By comparison, all of the world's forms of transportation now account for 15% of emissions.

That increased plastics production may not just continue, but actually accelerate with the building of [new plastics production facilities called “cracker” plants](#). They’re named for the process of “cracking” ethane, a byproduct of fracking for natural gas, into a form that can be made into plastic pellets that in turn are used in manufacturing plastic products.

The majority of U.S. ethane cracker plants are located along the Gulf Coast of Texas and Louisiana, near communities that are low income and home to people of color. But economically depressed areas along the Ohio River in Pennsylvania, Ohio and West Virginia are now seeing the next wave of expansion of these plants. They are being built there to be closer to the ethane byproduct from the region’s fracking wells.

Before the coronavirus, there was concern that this ramped-up production would drive demand for plastics, rather than the other way around. Now health protocols are driving greater consumer demand for disposable products, while at the same time demand and prices for oil and gas have plummeted, making the manufacture of new plastics even cheaper and more important to the fossil fuels industry.

While we all do our bit to reduce demand for disposable products, we also need to look at breaking this fossil fuel-to-plastics cycle at the front end.

A bill introduced in the last U.S. Congress, Break Free From Plastic Pollution Act, included, among many other measures, a temporary moratorium on new or expanded permits for facilities that manufacture plastics until regulations are updated to address pollution from the facilities. The bill never made it out of committee, and advocates expect it to be re-introduced this year.