

Q&A: Why are we drowning in single-use plastics, and what can we do about it?

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Plastic is ubiquitous. It's in the clothes we wear, wrapped around the

food we eat and in the toothpaste we use. It floats in the oceans and litters the snow on Mount Everest.

Every year, the world produces nearly 400 million tons of plastic, a 19,000% increase from 1950. The amount is forecast to double by 2050 and 90% is never recycled. Over half of the plastics produced are used only once, for things like packaging, utensils and straws.

"A lot of people have a hard time imagining that," said Phaedra Pezzullo, associate professor in the Department of Communication at CU Boulder. "But we produce an astronomical amount of plastics every day. Most plastic bags are used for less than 12 minutes, but they last on the planet for hundreds of years."

Plastics are made from fossil fuels, and its production is exacerbating problems like climate change and biodiversity loss. It also leads to many [health problems](#) like asthma and cancer in people.

To address the problem, 175 nations, including the U.S., agreed in 2022 to come up with a legally binding global treaty by 2024 to end [plastic pollution](#). This year's Earth Day, which falls on April 22, will center around the theme "Planet vs. Plastics."

"You can't fix climate change just in your county or country, you have to have an international answer. And the same is true with plastics," Pezzullo said. In her recent book, "Beyond Straw Men," Pezzullo discusses the current plastic crisis, the global anti-plastic movement and the international plastic treaty.

CU Boulder Today spoke with her about her book, plastic legislation in the U.S., and what it will take to end plastic pollution.

Social movements have tried for years to reduce

plastic pollution. Is production slowing down?

So far, there hasn't been a slowdown. Many people working on plastic pollution, such as Judith Enck of Beyond Plastics, argue that the plastics industry has grown so much, because it's the plan B for the [petrochemical industry](#).

As we're reducing our use of fossil fuels, the petrochemical industries that make money off [fossil fuels](#) are now making more and more single-use plastics to compensate for the profit lost during the energy transition and to keep making record-breaking profits.

What is driving the rise in plastic production and use, both domestically and globally?

There was a conversation that the plastics industry had in the early 20th century when they realized they could make more money if more people threw away their plastics. So there was a concerted campaign for the advertising industry to work hand in hand with the petrochemical industry to convince us that plastics were something we could recycle. The plastic industry was very successful in advertising the convenience of plastics to us and the myth of plastics recycling.

Certainly, plastics have made our lives more convenient. And for some people, plastics are necessary for medical reasons, helping to prolong life. But on the other hand, Americans love to consume. Some people in the U.S. equate freedom to consumption. This is why we have fast fashion and fast food. This is why we have so many single-use plastics. As I argue in the book, "Every person is necessary, every plastic is not."

How do single-use plastics impact human health?

Bangladesh became the first country in the world to ban single-use plastic bags in 2002. This is because the country's drainage pipes were clogged up by all the single-use plastic bags. During their summer monsoon season with [heavy rains](#), which has become worse due to [climate change](#), the streets would be flooded, and people were literally drowning to death. So, banning plastic bags helps prevent deaths.

It's not just a litter issue, however. Plastics cause harm throughout their lifecycle from extraction of oil to disposal. In southern Louisiana, for example, there are many petrochemical factories. Plastic production, that is, the making of plastic products from petrochemicals, causes many public health issues among people living near those plants, such as respiratory illnesses, endocrine disruption, asthma and a whole host of cancers. In the U.S., people of color are disproportionately impacted by toxic pollution.

If you now think, "Well, I don't live there, so it's not impacting me," that is not true. It is estimated that all of us living on this planet are consuming about a credit card worth of plastic each week. Scientists have detected small pieces of plastics called microplastics in people's lungs, blood, placentas and in every corner of Earth. We're all becoming more plastic, even if we don't know what that means for our health.

Many other countries have banned single-use plastics. The U.S. hasn't. Are we falling behind?

Yes, the U.S. is very behind. We have been dumping our single-use plastics around the world, and therefore we haven't had to deal with it. Most of us throw plastic products in the recycle bin and assume they are taken care of. But studies tell us that the most generous estimate is: Less than 9% of all plastics ever created have been recycled properly.

The good thing is that the U.S. has been part of the ongoing U.N. plastic treaty conversations. And I am optimistic that we are turning the tide culturally in the U.S. to understand that we can't have unlimited consumption without consequences.

How do we break that dependency on plastics?

If we learned anything from COVID-19, it would be that we can change the world overnight. We radically changed many ideas around things like working remotely, hand washing and social distancing, because we realized it was a problem. It is clear that we have the capacity to change when we have the will.

Of course, we always need structural change if we can get it. Many people don't care too much about what their coffee cup is made of. They just want to have a delicious drink. So if we could change what kind of cups are offered on our campus, in Colorado, in the U.S., or globally those drinks are served in, we can lower the barriers to behaviors that are good for the environment and for people. That would be great progress.

Colorado recently joined a dozen other U.S. states to ban single-use plastic bags from large retail stores. Will this have a big impact?

In California, their single-use plastic bag ban, which went into effect nearly a decade ago, has already reduced the use of plastic bags by 70% in the state, which is pretty phenomenal. I hope Colorado's ban, which just went into effect in January, can do the same. I hope in Colorado, where we tend to care about the outdoors, we can find a way to make every place—the resorts people go to and everyday workplaces—more sustainable.

At CU, the Sustainability Council, consisting of students, staff and faculty, has been working on eliminating all single-use plastics in items sold in our vending machines. For example, instead of water in plastic bottles, we are trying to get vending machines to sell water in aluminum cans, glass bottles, or cardboard boxes.

There are so many environmental issues that are complicated and difficult to tackle. But in the case of single-use plastics, we have what we call "low-hanging fruit." It would be wonderful to take care of those as baby steps on our way toward these larger changes. While reducing [single-use plastics](#) might seem small compared to the challenges we face on climate and public health, they actually are a compelling entry point into thinking about how we can create a healthier and more just future.

Provided by University of Colorado at Boulder

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