Since the outbreak of COVID-19, concerns have grown over the safety of grocery bags. Many U.S. states—among them New York, California, Maine, Massachusetts, and Oregon—have suspended or delayed their single-use plastic bag bans in the past two months. Some places like Massachusetts, New Hampshire, and San Francisco have gone even further to temporarily ban reusable shopping bags during the pandemic.

These policy rollbacks have sparked a new debate on single-use plastic bags between the plastics industry and environmental groups. Over the years, they have disagreed on numerous issues around single-use plastics: pollution, littering, recycling, waste treatment, impact on jobs and the economy, environmental health, climate change, efficiency and justice, sustainability, etc. While actors on both sides of the debate have stressed that our current priority is public health, they have disagreed about whether single-use plastic bags are better for public health than reusable bags.

On March 18, through a letter to the Secretary of the U.S. Department of Health and Human Services, the U.S. Plastics Industry Association urged the federal government to "speak out against bans on [single-use plastics] as a public safety risk and help stop the rush to ban these products by environmentalists and elected officials that puts consumers and workers at risk." The letter cited specific scientific studies (let's name them Studies A, B, and C) to assert that reusable bags can carry and spread viruses and bacteria for up to three days, while "single-use plastic products are the most sanitary choice when it comes to many applications, especially the consumption and transport of food, whether purchased at a restaurant or at a grocery store." Notably, the Plastics Industry Association also cited a source indicating that, per a study from the New England Journal of Medicine (let's call it Study D), the coronavirus "was more stable on plastic and stainless steel than on copper and cardboard, and viable virus was detected up to 72 hours after application to these surfaces." On April 8, European Plastics Converters applied a similar health-and-safety argument to try to persuade the European Commission to lift a ban on single-use plastics, stating without citations that "[m]any independent studies repeatedly show that plastics is the material of choice for ensuring hygiene, safety as well as preservation from contamination."

However, environmental groups such as Break Free From Plastic, have pushed back against the plastic companies, finding their health-and-safety claims about reusable and single-use plastic bags to be "scientifically unfounded." Break Free From Plastic noted, without citations, that "recent published studies show that the virus can

persist on plastic surfaces for up to four days, the longest among all tested materials." Judith Enck, President of Beyond Plastics, opined that the plastics industry's argument about single-use plastic bags being safer than reusable bags was "misleading" and "self-serving," citing Study D's finding that the coronavirus was stable on plastic surfaces for up to 3 days. John Hocevar, Greenpeace USA's leading campaigner on single-use plastics, also criticized the plastics industry's campaign to overturn single-use plastic bag bans during the pandemic, citing Study D (which was since updated on April 16) and labeling the industry's scientific claim about the safety of single-use plastic bags as "junk science."

So, are single-use plastic bags more sanitary than reusable bags, or not?

Based on the currently available evidence I can find, I'm not convinced either way.

We want to know what types of bags are more hygienic than others when used to bag groceries in the pandemic, but none of the four studies cited by the plastics industry or environmental advocates (labeled Studies A–D) speaks to the question directly.

Studies A (2011), B (2019), and C (2010) concluded that reusable bags could carry and spread bacteria and viruses (not exactly the novel coronavirus) without proper washing, but none of the studies compared the results of reusable bags with those of single-use plastic bags. A person may assume that unused bags are always coronavirus-free; therefore, single-use bags could be more hygienic than reusable ones. However, that assumption may or may not be true. If a shopper carrying coronavirus sneezed without a face covering nearby a collection of single-use plastic bags, all of these bags could become a new source for spreading the virus. Compare this to reusable bags: Study A found that "[m]achine or hand washing, even without bleach, was effective in reducing . . . bacteria in the bags to levels below detection," and because detergents like soap work efficaciously against coronavirus just like against other viruses and bacteria, proper washing can make a reusable bag clean.

Study D (2020) tested the stability of coronavirus on surfaces of plastic, stainless steel, copper, and cardboard, and concluded that coronavirus was more stable on plastic and stainless steel than on copper and cardboard. This study is the most recent one among the four, and is the only one that specifically focuses on COVID-19. But this study alone isn't enough to answer our question: it only tested four solid materials, two of which (stainless steel and copper) were not grocery bag

materials at all.

Therefore, we need more rigorous research to evaluate the stability of coronavirus on surfaces of various grocery bag materials (different types of fabrics, paper, and plastics), considering relevant factors including moisture, pH, and temperature. Meanwhile, developing science-based health and safety policies on the use and treatment of grocery bags is as important as finding the safest bags, if not more so.

Plastics companies and environmental groups have been using science to debate which type of bags are safer amid coronavirus. The debate will go on until we have better studies unequivocally supporting one side over the other. But it is time that the plastics industry and environmental groups work together with policymakers, business owners, and the public to design COVID-era health and safety standards throughout life cycles of different types of grocery bags. We don’t know how long the pandemic is going to last; neither do we know if a second wave of outbreak is ahead of us. A collective work between the industry and environmental groups can be valuable in that both have developed expertise through the decades about health and safety aspects of various shopping bag materials by conducting research themselves or funding research by others.

The COVID-19 outbreak inflames the debate on single-use plastic bags. The debate is not necessarily bad. Good debate inspires good science, and we need good science more than ever to conquer the current pandemic. But when two groups have been disagreeing with each other for decades, I hope it’s still possible to build a new channel for them, parallel to the existing ones, for collaborative dialogue in the name of saving lives.