

Attachment—Additional Questions for the Record

**Subcommittee on Environment and Climate Change
Hearing on
“No Time to Waste: Solutions for America’s Broken Recycling System”
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(Answers submitted August 10, 2022)**

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The Honorable Cathy McMorris Rodgers (R-WA)

1. The CLEAN Future Act contains a “pause provision” on Clean Air Act permits.
 - a. How would this provision impact your members’ ability to expand or make plant changes, such as installing carbon capture technology?

RESPONSE: It would likely impact their ability significantly. Any expansion or change requiring a new Clean Air Act permit could be delayed by three years or more, especially if the regulations required to lift the “pause” are not in effect by the statutorily mandated deadline.

Those regulations are new source performance standards (NSPS) and national emission standards for hazardous air pollutants (NESHAPs). Fortunately, standards of performance for volatile organic compound emissions already exist for certain process units or facilities that produce ethylene, propylene, polyethylene, and polypropylene. A NESHAP exists for ethylene production. However, after the regulations are in effect, time is still needed for a covered facility to understand the regulations and go through the permitting process. For permitting authorities to review and grant (if they do not deny) permits this could present a delay of over another six months or more, assuming that they are not denied for technical reasons, which could cause a cease in production altogether.

Importantly, these materials go into a wide variety of applications, including durables that can reduce emissions impacts such as lighter weight vehicles. Permit delays for additional capacity will affect *all* market segments, including those that contribute to climate goals. It is very possible that companies will look to make investments in other countries outside the U.S. to avoid lengthy shutdowns.

- b. Can you quantify the increases in emissions or consumer costs that would result from the “pause” mandates?

RESPONSE: It is reasonable to assume both emissions and costs would increase. While it is difficult to quantify how much emissions would increase from the “pause” mandates, a recent [white paper](#) highlights two key points: “plastics often have a lower emissions profile than current alternative materials and the use of ethane in the United States to produce plastics emits relatively fewer emissions than naphtha-based production in China or elsewhere.”

An increased reliance on imports to meet the needs of the U.S. market would also create greater transportation-related emissions, such as from rail cars and cargo ships from countries such as Canada, Mexico, South Korea, Germany, and China. Maritime transport carries out 90% of the world’s trade and accounts for about 3% of global greenhouse gas (GHG) emissions. The International Maritime Organization has sought to reduce GHG emissions from international shipping by at least half by 2050, compared to 2008 levels, but emissions are projected to increase—by as much as 130%—in four of six identified “plausible” scenarios.

Consumer costs can be expected to rise as a result of this policy as well. A pause will contribute to the scarcity of plastic materials and resin due to ongoing supply chain issues. Because plastic materials and resins are inputs to many manufacturing sectors, artificially limiting the supply – as would be the case with such a pause – will lead to a cascading increase in prices across the larger economy. Consumer costs will be higher considering that 83.0% of plastics products end up in personal consumption. For instance, 11.0 cents per dollar of consumer demand for snack foods can be attributed to plastics. A shortage of plastics could also force manufacturers to consider alternative materials for packaging, which comes at higher costs both environmentally and financially.

2. The last couple of years have made Americans acutely aware of the importance of supply chains.

- a. Would you please discuss the impacts of the pause on domestic supply chains and maintaining our nation’s “just-in-time economy”?

RESPONSE: The manufacturing sector is the main customer of the U.S. plastics industry. Plastics are used in industries including automotive, healthcare, construction, electronics, appliances, and consumer goods. There is still a shortage of polymer production in the U.S. today following both the COVID-19 pandemic and the winter storm of February 2021. In April 2020, plastic materials and resin production decreased by 12.9% from a year earlier. The winter storm that hit the economy’s petrochemical hub, Texas, in February 2021 caused a 17.6% year-on-year drop in plastics materials and resin production. Plastic products manufacturing has been increasing faster than the

production of polymers for plastics. A pause will worsen the shortages and the impact on the nation's "just-in-time" economy is a net negative.

- b. Would production quickly return to pre-pause levels following the end of the "pause"?

RESPONSE: It is unlikely that production would quickly return to prior levels following a pause. Factors of production – labor and capital – cannot be easily recalled without due regard to costs. Financial capital requires a positive rate of return and therefore would have to be deployed somewhere else in the global economy besides the U.S. during the pause. Moreover, labor would shift into other industries during the pause. Polymer production facilities are capital intensive and are run by skilled labor, which is difficult to source considering the shortage of skilled labor in the U.S. for the manufacturing sector. A *pause-and-resume* approach in manufacturing—particularly in the production of polymers for plastic that are widely used in other manufacturing industries of the economy—will drive the costs of capital and labor upward further contributing to upward inflation. Moreover, such an approach will further complicate the broken links in the supply chain the economy is experiencing today.

- c. If not, how would the "pause" impact our country's ability to onshore manufacturing?

RESPONSE: Polymer production is a complex process. The building of a polymer production facility is capital intensive, requiring long and extensive lead times. For instance, Shell's petrochemical plant in Pennsylvania, which began construction in 2017, is yet to begin producing its target production of 1.6 million tons of polyethylene each year. At the time when construction of the facility began, it was projected that commercial production could begin early next decade, which is 2027. Onshoring manufacturing requires an extensively long lead time

- d. If we give up this manufacturing sector, on what countries would Americans be reliant for supply and products?

RESPONSE: On aggregate, using HTS-4 3901-3914, Americans would be reliant on Canada and Mexico where 58.0% of all plastics materials and resin originate, based on data from the U.S. International Trade Commission. In addition to Canada (49.0%) and Mexico (9.0%), South Korea (8.0%), Germany (5.0%), and China (4.0%) are the top-five countries of origin of U.S. plastics materials and resin imports. These countries supply the U.S. market with approximately two-thirds of its domestic plastics materials and resins requirements. Considering that about 83.0% of plastics products end up in

personal consumption, the U.S. will be increasing its reliance on other countries – not only for plastics polymers- but for other products they consume.

Considering that the U.S. is a global leader in plastics materials and resin, it stands to lose its \$35.2 billion in exports, based on 2019 data, which supported at least 211,200 jobs. In the same year, the U.S. had a \$19.9 billion trade surplus in plastics materials and resin trade, which would also disappear if the U.S. gives up polymer production.

The total volume of plastics materials and resin trade in 2019 totaled \$600.5 globally based on UN COMTRADE and ITC statistics. The share of the U.S. on exports was 12.5% and on imports was 4.2%. To give up polymer production would mean a loss to the U.S. economy. For many years, the U.S. has had a trade surplus in plastic materials and resin – a testament of U.S. competitive advantage. Giving up production of plastics materials and resin would shift the U.S. plastics industry trade balance from a surplus to a deficit, ceding its competitive advantage to other countries, and adding to the longstanding U.S. current-account deficit. More importantly, removing U.S. production in the global equation would slow the polymer supply chain, which touches many industries domestically and globally.

3. Could you please speak to the efforts your members are undertaking to address marine debris pollution?

RESPONSE: The U.S. Plastics Industry recognizes that plastic waste in our oceans is a world problem regardless of where it originates. That is why there has been significant investment in solutions that will reduce the amount of plastic from going into marine environments as well as working to clean up the debris that is already there. The plastics value chain has committed billions of dollars to address these issues through international consortiums like the [Alliance to End Plastic Waste](#), while also focusing on prevention and cleanups here at home as well. The Plastics Industry Association (PLASTICS), in partnership with the American Chemistry Council, created [Operation Clean Sweep](#) (OCS), a program dedicated to stopping pre-production resin loss. I'm proud to say we are investing and growing OCS beyond plastic manufacturing facilities to ensure that as little resin as possible finds its way into the environment throughout its journey to becoming an essential manufactured item. We will continue to grow our efforts to keep plastic out of the environment because we recognize our industry shares in the responsibility for keeping our products in the economy.

An important consideration of any discussion regarding the elimination of marine debris is the relationship between consumer participation and recycling infrastructure: consumers must dispose of all types of products responsibly and we all have a role in ensuring that there is a system in place to collect and

handle waste at its end of use. That is true for all materials, not just plastics. That is why it is especially disappointing in the recent GSA (General Services Administration) Advanced Notice of Proposed Rule Making “General Services Administration Acquisition Regulation (GSAR); Single- Use Plastics and Packaging,” ([link](#)) to see the Agency propose to eliminate the use of single-use plastics because they contribute to “the global plastic pollution concern.” It is not the *use* of these products, but rather their *improper disposal* that contributes to pollution. If the GSA or any other organizational entity wants to reduce pollution, plastic or otherwise, the very best, most efficient way is to work directly with the post-use material handling industry to ensure that trash receptacles, recycling bins, and effective signage/communication are readily available in the facilities under their management. The plastics industry is willing to partner with the GSA or any other government entity, to provide our knowledge, research, and expertise to develop effective post-use waste management.

- a. How effective do you think the Save Our Seas 2.0 Act will be in helping to address this issue?

RESPONSE: Save Our Seas 2.0 and the subsequent funding is the most significant policy the U.S. has passed to address marine debris and we think it can have a significant impact. PLASTICS was proud to support both Save Our Seas (PL 115-265, S 3508) and Save our Seas 2.0 (PL 116-224, S 1982) when both bills were introduced and ultimately signed into law. We were happy to work with Senators Dan Sullivan and Sheldon Whitehouse on commonsense approaches to solving the issue of plastic waste, particularly in the marine environment. Both laws strengthen the United States’ efforts at curbing all waste from entering waterways that ultimately find their way into the world’s oceans. This is a global problem, and as such, we need a global approach. Banning individual products here in the U.S. will have zero impact on the amount of waste in the world’s oceans.

One example of how Save Our Seas 2.0 (SOS 2.0) will have a direct impact on preventing plastic waste from ending up in the environment was the investment in the infrastructure needed to better collect and sort material. By authorizing a grant program within the Environmental Protection Agency (EPA) to fund improvements for post-consumer material management, Congress acknowledged that need. Last year’s Infrastructure and Jobs Act (PL 117-58, H.R. 3684) funded this program, and the EPA is currently reviewing comments from their recently closed request for information (EPA-HQ-OLEM-2022-0342-0001) as they establish the now-called Solid Waste Infrastructure for Recycling (SWIFR) program. PLASTICS happily submitted comments to help form a robust and successful program. It is our understanding that the EPA plans to have the

program up and running this fall. Time will show the impact that investments in this new program will have in improving the collection, handling, and sorting of recyclable materials.

SOS 2.0 will also help the United States be a leader with regards to marine debris. The bill requires the U.S. to consider this issue in future international agreements which will help tackle the problem on the global scale that it needs. It is well documented that most of the marine debris in the oceans today is not a result of waste management in the United States, but rather, countries around the world with little to no waste management practices. While private industry is stepping up in this field, such as creating and funding the Alliance to End Plastic Waste, the leadership of the United States government will prove vital to the efforts.

Additionally, SOS 2.0 supports advancements in technology and research, including a genius prize for innovation regarding plastic waste. Encouraging new technologies and new innovations is the right approach. Plastics play an ever-increasingly vital and essential role in our modern, everyday life. That is the result of major investments in technology, innovative individuals and teams doing an abundance of research into new uses and new capabilities of the material. That same drive to innovate can, and will, solve the problems we face, and SOS 2.0 supports that effort.

4. What key infrastructure investments do you think are most needed to help plastic packaging achieve greater recycling?

RESPONSE: Recycling infrastructure has simply not kept up with the innovations in packaging. Much of our recycling infrastructure is built for rigid products and paper, which were the dominant types of recyclable material decades ago, when much of it was built. Since then, flexible films and multi-layer substrates have made up the lion's share of packaging advancement. This is because it conserves energy, reducing the amount of material that is used, and reducing food waste and spoilage. While technology exists, such as vent hoods and blowers, to effectively sort flexibles, their cost to install has outweighed the end-market for recyclable material in many cases. We need to correct this imbalance and invest in modernizing our recycling infrastructure to be able to more effectively collect and sort material as well as increase end markets for said material.

In addition, we need to make recycling as easy for the consumer as possible. One of the primary reasons that recycling rates for materials, especially plastics, remains low is because those products and materials don't ever get into the recycling stream. Even the most recyclable products, like water bottles, suffer from a low return rate. While access to curbside recycling is [over 90%](#) across the US, many geographic locales where products are used do not provide recycling bins along with their trash cans. By simply making it easier to recycle, we will increase recycling rates and improve consumer participation in the circular economy.

Grants for recycling infrastructure are the right approach. Recyclers, waste haulers and municipalities understand best what they can do to improve efficiencies and increase recycling rates at their facilities. We very much look forward to seeing EPA's SWIFR program allocations that have been funded by Congress. It is a great step in the right direction, and we applaud Congress' commitment to recycling.