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Input from the Center for Biological Diversity to the call for submission on “The lifecycle of plastics and human rights” by the U.N. Special Rapporteur on toxics and human rights

The Center for Biological Diversity is a national, nonprofit conservation organization with more than 1.6 million members and online activists dedicated to the protection of endangered species and wild places. In the sections that follow, we provide response to the Rapporteur’s call for submission.

Best practices on addressing plastic pollution and reducing plastics production and identifying, designing, and implementing possible solutions to the plastic pollution crisis.

A conservative estimate of the amount of plastic entering our oceans each year is 8 million tons. Not one square mile of surface ocean anywhere on earth is free of plastic pollution. Our oceans face a plastic pollution crisis that is expected to steadily worsen in the years and decades to come. One major study predicts plastic will outweigh all the fish in the sea by 2050.¹

The fossil fuel and plastic industries, which are one in the same, are investing billions of dollars to increase plastic production by 40 percent over the next decade.² This massive increase in production means our plastic pollution problem will only get worse unless we stop investing in increased plastic production and start taking urgent, comprehensive approaches to tackling the problem.

The good news is there are existing solution-oriented plans that layout comprehensive frameworks to address the plastic pollution crisis. In short, to fully address the plastic pollution crisis we must stop producing more plastic.

Petitions to the EPA

In 2019, over 350 community and conservation organizations filed two legal petitions demanding the U.S. Environmental Protection Agency (EPA) adopt strict air and water pollution standards for industrial plants that create plastic. The first petition was filed on July 23, 2019 and calls on the EPA to take four specific actions under the Clean Water Act³:

1. Prohibit the discharge of plastic pellets and other plastic materials in stormwater and wastewater;
2. Update Effluent Limitations Guidelines for new facilities to eliminate the discharge of toxic priority pollutants;
3. For all facilities, put into effect Effluent Limitations Guidelines for pollutants of concern not currently regulated; and

¹ <https://www.weforum.org/press/2016/01/more-plastic-than-fish-in-the-ocean-by-2050-report-offers-blueprint-for-change/>

² <https://www.theguardian.com/environment/2017/dec/26/180bn-investment-in-plastic-factories-feeds-global-packaging-binge>

³ https://biologicaldiversity.org/w/news/press-releases/ban-plastic-pollution-from-petrochemical-plants-2019-07-23/email_view/

4. Update current Effluent Limitations Guidelines for all facilities to reflect advances in monitoring and treatment technologies since the last revisions decades ago

The second petition was filed on December 3, 2019 and calls on the EPA to take five specific actions under the Clean Air Act⁴:

1. List ethylene, propylene, polyethylene, and polypropylene production facilities as a source category under Section 111 of the Clean Air Act and promulgate strict standards for nitrogen oxides and other pollutants from these sources;
2. Require all on-site energy needs be met with renewable energy that emits zero greenhouse gas pollutants (“zero-emission energy”);
3. Update the existing New Source Performance Standards that apply to petro-plastics production facilities to effectively eliminate emissions of criteria pollutants and volatile organic compounds from new facilities;
4. Update the Generic Maximum Achievable Control Technology Standards for Ethylene Production to effectively eliminate emissions of hazardous air pollutants from new and existing facilities; and
5. Update the New Source Performance Standards and National Emissions Standards for Hazardous Air Pollutants to protect impacted communities and reflect advances in detection and control technologies.

Presidential Plastics Action Plan

Addressing the plastic pollution crisis means making necessary large-scale transitions. In 2020 over 600 organizations put forward the Presidential Plastics Action Plan, calling on President Biden to implement eight key steps to tackle the plastic pollution crisis through executive order.⁵ These eight actions would immediately set the United States on a pathway to a plastic pollution-free future while longer-term measures that require action at all levels of government and society are developed.

The Presidential Plastics Action Plan includes:

- Use the purchasing power of the federal government to eliminate single-use plastic items and replace them with reusable products.
- Suspend and deny permits for new or expanded plastic production facilities, associated infrastructure projects, and exports.
- Make corporate polluters pay and reject false solutions.
- Advance environmental justice in petrochemical regions.
- Update existing federal regulations to curtail pollution from plastic facilities by using best available science and technology.
- Stop subsidizing plastic producers.
- Join international efforts to address the global plastic pollution crisis through new and strengthened multilateral agreements.

⁴ <https://biologicaldiversity.org/w/news/press-releases/legal-petition-seeks-new-air-pollution-standards-petrochemical-plants-2019-12-03>

⁵ www.plasticfreepresident.org

- Reduce and mitigate the impacts of discarded and lost fishing gear.

Each of the eight actions described requires the president to prioritize support for communities that historically have been harmed ‘first and worst’ by the petrochemical industrial sector and the waste it creates: communities of color, Indigenous communities, and working class communities. Moreover, these actions will provide an opportunity to drive job growth in a new green economy, providing unionized jobs with family-sustaining wages in communities that need them the most. Workers in the petrochemical sector and related industries will find their jobs fundamentally transformed, but not abandoned, in an economy and workforce that is inclusive, fair, and just for all people.

Monitoring and reporting on incidents of mismanagement related to plastics' pollution and production and Impacts and implications of plastics on human rights including right to health, the right to a healthy environment, the right to life, health and adequate standard of living and dignity, the right to body integrity, the right to adequate food, the right to land and the right to safe drinking water, the right to housing, the right to meaningful and informed participation, the right to development, the rights of future generations

Plastic production fuels the climate crisis with increased greenhouse gas emissions and damages local communities where plastic is made with toxic air and water pollution. Plastic is also a threat to human health: as we increasingly consume more and more of our food and drinks from single-use plastic wrappers and containers, we are exposed to chemicals linked to many of the known public health crises of our time, including obesity, ADD/ADHD, and many forms of cancer.

Formosa Plastics

Formosa Plastics, a Taiwanese corporation, wants to build one of the world’s largest plastic-making petrochemical plants in St. James Parish, Louisiana.

In January 2020, a lawsuit was filed by the Center for Biological Diversity, RISE St. James, Louisiana Bucket Brigade and Healthy Gulf challenging the U.S. Army Corps of Engineers (the Corps) for violating federal laws⁶ in permitting the petrochemical facility and approving the destruction of wetlands, which help protect the region from threatening storms that are worsened with climate change. The Corps also ignored the water and air impacts of the complex and failed to protect the burial sites of enslaved people discovered on the property. The permitting of this project has human right implications and impacts. The St. James community should not have to sacrifice their health and wellbeing for increased plastic production and pollution.

Formosa Plastics and their parent company, Formosa Plastics Group, which has many subsidiaries, has a long history of non-compliance when it comes to environmental law. In 2019, a federal district court held Formosa Plastics liable for polluting waterways with billions of plastic pellets from its plant in Point Comfort, Texas. The court found that Formosa Plastics had “enormous” permit violations that it failed to report.⁷ According to the EPA data, six of seven

⁶ <https://biologicaldiversity.org/w/news/press-releases/lawsuit-challenges-trump-administrations-fast-tracking-of-louisiana-plastics-project-2020-01-15/>

⁷ https://www.theadvocate.com/baton_rouge/news/article_ae1a04b2-9a8c-11e9-8395-1bdde2d98f99.html

Formosa Plastics facilities in the U.S. were in violation of federal environmental laws in 2018. Its Baton Rouge facility has a long history of violations, including “significant” violations of the Clean Air Act every quarter since 2009.⁸

In 2019, the St. James Parish community discovered⁹ that on the site where Formosa Plastics plans to build its massive petrochemical complex are burial sites of people who were enslaved, and the ancestors of community members. Formosa Plastics was aware that the grave sites were on the site of their proposed plant while they sought a land use approval for the project from the St. James Parish Council. Formosa Plastics withheld this information from state and municipal decision makers and the local community, which is an example of how harmful petrochemical corporations, like Formosa, are to communities who bear the burden of living next to petrochemical production facilities. In addition to posing severe health risks to the St. James community, the proposed petrochemical complex also threatens to destroy the cultural resources of St. James residents.

In March 2021, UN Human Rights experts made a public statement condemning the long history of anti-Black racism in the United States and in Cancer Alley. The experts condemned the petrochemical buildout underway in the Gulf and the proposed Formosa Plastics petrochemical complex for exacerbating environmental pollution and for having adverse effects on the rights to life, to an adequate standard of living and the right to health of African American communities.¹⁰

Pollution generated in plastics production and its impact, including information on air and marine pollution

Once discarded, plastic clogs our rivers and oceans, harms wildlife, infiltrates our drinking water, and persists in the environment for centuries. Half of all plastics ever manufactured have been made in the last 15 years, and annual plastic pollution into rivers, lakes and oceans could surpass 50 million tons within the next 10 years unless significant policy changes are made. Banning bags and straws are important first steps taken by state and local governments, but we need bold new federal policies to address the plastic pollution crisis. And despite false and misleading claims by the makers of plastics, we cannot recycle our way out of this problem. According to the United States Environmental Protection Agency, the U.S. plastic recycling rate is an anemic 8%. Instead, more than 90% of plastics in the United States is buried, burned or released into the environment.

An estimated five to fifty trillion pieces of plastic float in the global ocean.¹¹ Plastic represents one of the most common and persistent coastal and ocean pollutants worldwide, comprising up to 90–95% of marine litter in certain areas.^{12,13} The vast majority of marine debris, including

⁸ <https://echo.epa.gov>

⁹ Coastal Environments Inc. (2020) Cartographic Regression Analysis of Certain Tracts of Land Located in T. 11 S. and 12 S., R. 15 E. (Southeastern Land District West of the Mississippi River), St. James Parish Louisiana.

<https://ccrjustice.org/sites/default/files/attach/2020/03/St.%20James%20Cemeteries%20%28Reduced%29%20%281%29.pdf>

¹⁰ <https://www.ohchr.org/EN/NewsEvents/Pages/DisplayNews.aspx?NewsID=26824&LangID=E>

¹¹ Eriksen et al. 2014. <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0111913>

¹² Derraik et al. 2002. <https://www.sciencedirect.com/science/article/pii/S0025326X02002205>

¹³ Rodrigues et al. 2019. <https://www.sciencedirect.com/science/article/abs/pii/S0025326X19300116>.

plastic, originates from land-based sources including urban runoff, inadequate waste disposal and management, and industrial activity.¹⁴

Plastics harm wildlife and fisheries species both through physical effects of ingestion (*e.g.*, intestinal blockage) and by acting as a transfer agent for toxic chemicals.¹⁵ Many microplastics adsorb persistent environmental chemicals including polychlorinated biphenyls (PCBs), organochlorine and organo-halogenated pesticides like dichlorodiphenyltrichloroethane (DDT), polybrominated diphenyls (PBDs), polycyclic aromatic hydrocarbons (PAHs), heavy metals, nonylphenol, dioxins and dioxin-like chemicals, and petroleum hydrocarbons.¹⁶ Because of their large surface area to volume ratio and their tendency to attract contaminants more readily than natural sediments, plastic fragments concentrate organic pollutants; these concentrations can be up to 10⁶ times higher than that of the surrounding seawater.¹⁷ A recent study found that microplastic particles can pass from mothers into fetuses of rats,¹⁸ with the severity of the health impacts broadly unknown.

These pollutant-laden plastic particles may be ingested by wildlife and fisheries species, resulting in lethal and sublethal harms. The absorbed toxins, as well as plastic additives such as bisphenol A (BPA), phthalate plasticizers and flame retardants, can leach from ingested plastics into animal tissues inducing adverse effects such as endocrine disruption, neurotoxicity, and carcinogenesis.¹⁹ The toxic implications of microplastics are so great that there have been calls to reclassify them as hazardous.²⁰

Scientists have documented over 2300 species impacted by marine debris, and at least 690 that have ingested microplastics.²¹ Because of their small size and environmental persistence, microplastics remain readily available to ingestion by a wide variety of marine organisms for an extended period of time.²² Plankton, invertebrates, fish, sea birds, sea turtles, and marine mammals all are known to adsorb, ingest, or otherwise uptake microplastics. Trophic transfer of microplastics also occurs, with the potential transfer of microplastics to humans when they eat shrimp, bivalves, fish, or other marine organisms containing these pollutants.²³

And even with all of the above harms presented to our water ecosystems and marine species, the plastic pollution problem continues to grow. Global trends reveal increasing plastic accumulations in aquatic habitats, consistent with the increasing trend in plastic production: a 560-fold increase in just over 60 years.²⁴ Tragically, under a business-as-usual scenario, the

¹⁴ Gordon 2006. [https://www.yumpu.com/en/document/read/42231824/eliminating-land-based-discharges-of-marine-debris-in-california-](https://www.yumpu.com/en/document/read/42231824/eliminating-land-based-discharges-of-marine-debris-in-california)

¹⁵ Hammer et al. 2012. <https://pubmed.ncbi.nlm.nih.gov/22610295/>

¹⁶ Teuten et al. 2009. <https://royalsocietypublishing.org/doi/abs/10.1098/rstb.2008.0284>

¹⁷ Guzzetti et al. 2018. <https://pubmed.ncbi.nlm.nih.gov/30412862/>

¹⁸ <https://www.theguardian.com/environment/2021/mar/18/plastic-particles-pass-from-mothers-into-foetuses-rat-study-shows>

¹⁹ Anbumani & Kakkar 2018.

https://www.researchgate.net/publication/324682148_Ecotoxicological_effects_of_microplastics_on_biota_a_review

²⁰ Zhu et al. 2019. <https://pubmed.ncbi.nlm.nih.gov/30577027/>

²¹ CIEL et al. 2019. Plastic & Health: The Hidden Costs of a Plastic Planet. <https://www.ciel.org/wpcontent/uploads/2019/02/Plastic-and-Health-The-Hidden-Costs-of-a-Plastic-Planet-February-2019.pdf>

²² Nelms et al. 2019. <https://www.nature.com/articles/s41598-018-37428-3>

²³ Ferreira et al. 2019.

https://www.researchgate.net/publication/339595195_Presence_of_microplastics_in_water_sediments_and_fish_species_in_an_urban_coastal_environment_of_Fiji_a_Pacific_small_island_developing_state

²⁴ Goldstein et al. 2013. <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0080020>

ocean is expected to contain one ton of plastic for every three tons of fish by 2025, and more plastics than fish (by weight) by 2050.²⁵

²⁵ Ellen MacArthur Foundation 2017. <https://www.ellenmacarthurfoundation.org/publications/the-new-plastics-economy-rethinking-the-future-of-plastics-catalysing-action>