

The Plastic Life Cycle: An Environmental Health Disaster

More than 8.3 billion metric tons of plastic has been produced since the invention of plastic in the 1950s.¹ Plastic litter gets into our soil, air, and water and even our bodies. Very little plastic is recycled. What isn't recycled becomes litter, is landfilled, or is burned. Microplastics have been found in the placentas of newborn babies,² and even in the most remote corners of the arctic.³ Yet plastic packaging production is predicted to quadruple by 2050.⁴



DURING PRODUCTION

Climate

- Plastic feedstock comes from oil, which is a fossil fuel.
- US plastic production, from oil extraction and refining accounts for 68 million metric tons of carbon emissions.⁵

Environment

- Oil refineries pose significant environmental and health threats. Residents, workers, and wildlife are exposed to hundreds of chemicals such as ammonia, methane, sulfuric acid, and hydrogen chloride.⁶

Health

- To make plastics, oil feedstock is combined with chemical additives like formaldehyde, benzene, heavy metals, BPA, PFAS, and other harmful chemicals.⁷
- Health impacts from exposure = significantly higher rates of cancer,⁸ respiratory illness, infertility, reproductive harm, birth defects⁹

Solutions to Our Plastic Problem:

- *Recycling and incineration of plastics is not the answer. There is simply too much plastic and this is not a problem we can recycle out of.*
- *We must decrease use and production of fossil fuel based plastics for the health of humans, animals, and the planet.*



Climate

- Single-use plastics account for 150 million tons of plastic where reusables are widely available.¹⁰ Landfills, where thrown out single-use plastics are sent, account for over 15% of methane emissions in the US.¹¹

DURING USE

Environment

- People, pets, and animals are exposed to plastic nearly all of the time in our homes and daily routines. Our fabrics and clothing, kids' toys, utensils, food packaging, computers, and even furniture, increasingly are made of plastic parts.
- Chemical migration of plastic food packaging and water bottles release chemicals into our food including—polystyrene, phthalates (plasticizers) from PVC, antioxidants from polyethylene (PET), and acetaldehyde from PET.¹²
- Chemicals such as PVC can be exposed to kids because they put plastic toys in their mouths.

Health

- Exposure/ingestion to chemicals found in plastic causes endocrine disruption and immune dysfunction, cancer, birth defects, infertility,¹³ indigestion, and liver dysfunction.¹⁴
- Exposure to fabrics such as polyester can cause rashes, allergies, skin irritation.¹⁵

- *Adopt plastic alternatives, decrease the production of single-use plastic, and hold producers accountable for the damages caused by their products.*



Climate

- US emissions from plastic incineration emits at least 5.9 million metric tons of GHG.¹⁶
- GHG from incineration of plastic packaging would grow correspondingly to 84 million metric tons by 2030 and 309 million metric tons by 2050.¹⁷

END OF USE

Environment

- Microplastics can get into the ocean, the stomachs of marine life, and can interfere with the ocean's ability to absorb carbon.¹⁸
- Microplastics also end up in our landfills and leaches into our soil, where it may take up to 1,000 years to decompose.¹⁹

Health

- Burning plastic trash for energy releases noxious fumes that can cause asthma and cancer. Nearly 80% of US incinerators are located near marginalized communities and people of color.²⁰
- Leaching from plastics in landfills can contaminate water and crops and lead to genetic and developmental disorders, liver disease, diabetes.
- Hazardous waste and recycling workers are exposed to toxic chemicals (fine particles, dioxins, VOCs) released from plastics throughout the waste collection, shredding, and incineration process.²¹

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Footnotes

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- 12 Ecology Center. Adverse Health Effects of Plastics. Available at <https://ecologycenter.org/factsheets/adverse-health-effects-of-plastics/> (accessed Jan. 10, 2023).
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