



SUMMARY

THE ARCTIC'S PLASTIC CRISIS: TOXIC THREATS TO HEALTH, HUMAN RIGHTS, AND INDIGENOUS LANDS FROM THE PETROCHEMICAL INDUSTRY

April 2024



“ Worldwide we are not prepared for catastrophic disasters. Rural Alaska, rural communities, indigenous tribes all over the world are under assault... We are overwhelmed with concern about the health harms associated with climate change, the loss of sea ice and melting permafrost, and the mobilization of chemicals and plastics – these are all interconnected. We are running out of time! ”

DELBERT PUNGOWIYI, YUPIK ELDER, ARCTIC INDIGENOUS LEADER, AND HUMAN RIGHTS ADVOCATE FROM SIVUQAQ, ALASKA



KEY TAKEAWAYS

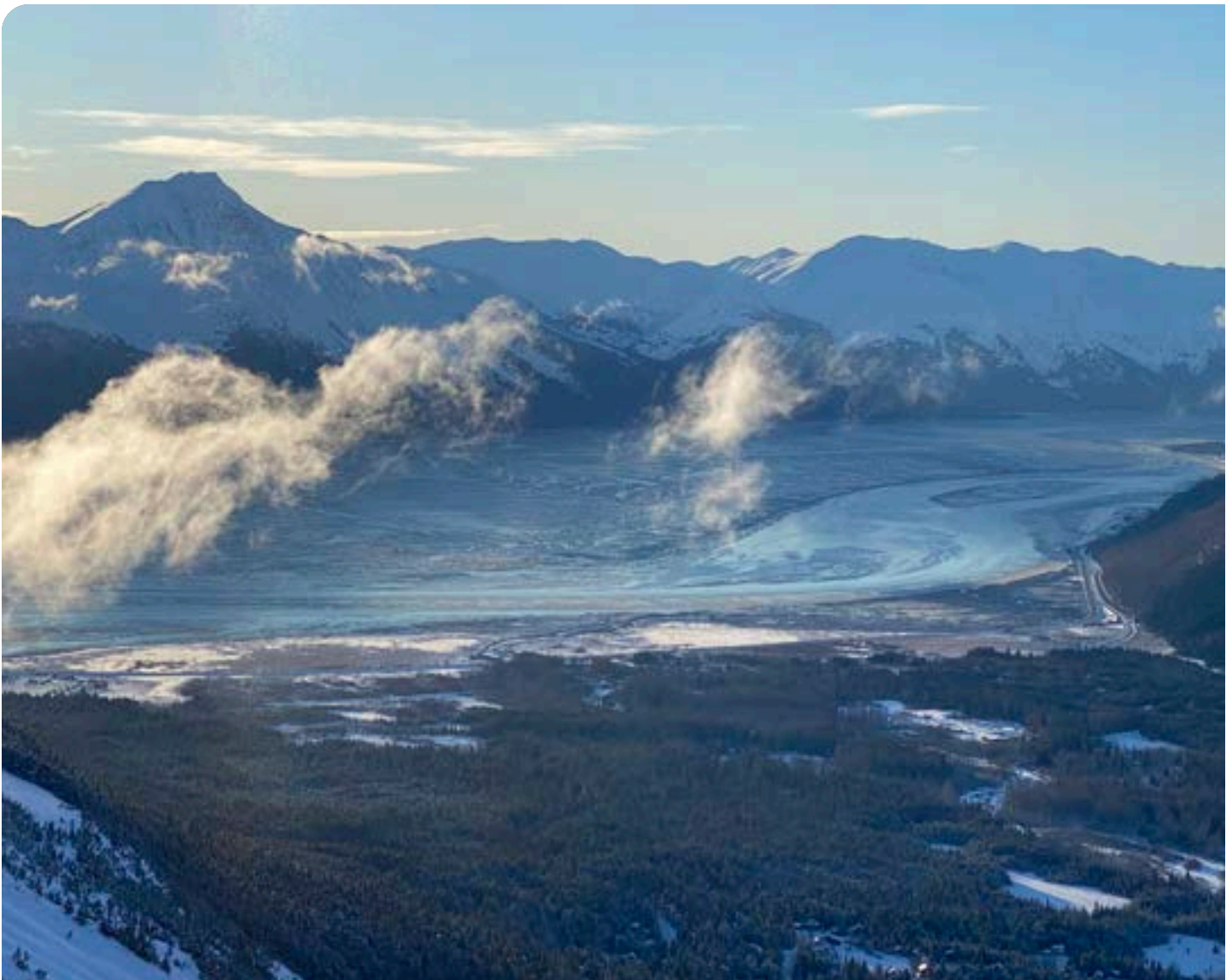
Damage to the Arctic from the fossil fuel/petrochemical industry includes threats from chemicals, plastics, and climate. These have combined to poison lands, waters, and traditional foods of Arctic Indigenous Peoples, with ongoing health effects that threaten their cultures and communities.

This report highlights the voices and testimony of Indigenous leaders who have witnessed these threats and who are engaged in local and global efforts to protect their land and People.

SOME KEY TAKEAWAYS INCLUDE:

- **There is a long history of resource exploitation and colonization of Arctic Indigenous Peoples' lands and waters, including by the fossil fuel/petrochemical industry.** More than 13 million people from over 40 ethnic groups inhabit the circumpolar north region and are at risk from plastics, chemicals, and climate change.
- **Rapid warming of the Arctic is forcing climate-induced community displacement and threatening food security.** Indigenous Peoples are being pushed out of their traditional lands and losing access to traditional foods, sacred places, and other cultural practices due to the interlinking consequences of chemicals, plastics, and fossil fuels.
- **Many of the multinational oil and gas corporations active in Alaska have long track records of environmental violations.** Air pollution in the Arctic from their operations and their oil spills and releases of hazardous substances harm the environment and threaten Arctic Peoples' health, yet the costs of this damage have never been calculated.
- **The report provides an overview of how the Arctic is at risk from chemicals and plastics throughout their toxic life cycle**—from extraction and production through transport, use, and disposal. Toxic chemicals are released from plastics throughout their life cycle, including through plastic recycling, which further spreads toxic chemicals.
- **The production and use of fossil fuels is the starting point for the problems faced by the Arctic related to plastics, chemicals, and climate change.** Plastics are made from fossil fuels and chemicals (mostly petrochemicals, chemicals derived from fossil fuels). More than 16,000 chemicals are used in plastics: 25% are known to be toxic and 66% lack hazard information. Chemicals and plastics are a global health and environmental crisis.
- **Plastics and chemicals produced all over the world deposit and accumulate in the Arctic, making the Arctic a “hemispheric sink” for chemicals and plastics.** This concentration of plastics and chemicals threatens food security, environment, and Arctic Peoples' health.
- **Plastics carry toxic chemicals, including harmful chemicals that are known to persist in the environment, into the Arctic.** Plastics also sorb toxic chemicals in the environment and transport the chemicals to the Arctic and other remote areas. Evidence shows that climate warming exacerbates the threats to the Arctic from chemicals and plastics and accelerates the rate at which these materials move and accumulate there.
- **As much of the economy begins shifting from fossil fuels to electrification, the industry is seeking to maintain and grow its operations by focusing on increasing plastics and chemical production.** Several large oil corporations that operate in Alaska produce petrochemicals, and industry projections suggest that oil and gas used for petrochemicals will increase from less than 20% today to as much as 50% by 2050. The industry's plan to increase fossil fuel operations in the Arctic is tied to their intent to focus on producing more plastics and chemicals, regardless of the harmful impacts on Arctic Peoples or the climate. Further, climate warming and melting sea ice in the Arctic is opening new areas for exploration and development.

- **Chemicals in plastics threaten the environment and health of Arctic People.** Production, use, transport, and disposal of the fossil fuel/petrochemical industry's products releases chemicals linked to serious health conditions, including, among others:
 - **Polyaromatic hydrocarbons (PAHs)** are linked to cancer, heart disease, and hormone disruption.
 - **Per- and polyfluoroalkyl substances (PFAS)**, known as “forever chemicals,” are linked to cancer, adverse reproductive health outcomes, liver and thyroid disease, immune system impairment, and other serious health problems.
 - **Chlorinated paraffins** are endocrine-disrupting chemicals (EDCs) and have been linked to kidney impairment, thyroid disruption, neurobehavioral effects, and some may cause cancer.
 - **Phthalates** are EDCs, neurodevelopmental toxicants, and have been linked to cancer and infertility.
 - **Polybrominated diphenyl ethers (PBDEs)**, also called brominated flame retardants) are EDCs, neurotoxicants, and adversely affect the reproductive system.
 - **Bisphenols** are EDCs and are linked to obesity and cancer.
 - **Benzotriazole UV-stabilizers**, like UV-328, which is an EDC that is toxic to mammals, especially their livers and kidneys.
 - **Polychlorinated biphenyls** are linked to cancer, diabetes, lower testosterone levels, altered menstrual cycles, and neurodevelopmental harm.





“The chemicals present in our bodies are passed on to our Indigenous children and harm their ability to learn our languages, songs, stories, and knowledge.”

**VI PANGUNNAQ WAGHIYI, YUPIK MOTHER AND GRANDMOTHER,
MEMBER OF THE WHITE HOUSE ENVIRONMENTAL JUSTICE ADVISORY COUNCIL,
FROM SIVUQAQ, ALASKA**

EXECUTIVE SUMMARY

In Alaska and the circumpolar Arctic, the combined effects of destructive extraction of fossil fuels, releases of oil and toxic chemicals associated with exploration and production of fossil fuels, and climate change are harming the health and well-being of communities. Indigenous Peoples' lands, waters, and health are damaged through exploitation for minerals, oil, and gas, coupled with a rapidly warming climate. Food security, environment, and human health are threatened by climate change and the increasing concentrations of toxic chemicals and plastics accumulating in fish, wildlife, and people from local and global sources.

While distinct and challenging in their own realms, the problems of plastics, toxic chemicals, and climate change are interconnected and attributable to fossil fuel production and use. Almost all plastics are produced from fossil fuels. And the fossil fuel industry is looking to dramatically increase its production of petrochemicals and plastics as the transition to renewable energy lessens the demand for direct combustion of fossils fuels. Meanwhile, the burning of fossil fuels exacerbates the devastating consequences of climate warming, particularly in the Arctic. This region is warming at a rate nearly four times faster than the rest of the world.

This report explains how the Arctic is a hemispheric sink for chemicals and plastics that are transported on atmospheric and oceanic currents from lower latitudes through a process known as global distillation or the "grasshopper effect." It also summarizes scientific information concerning the association and combined effects of chemicals and plastics in the Arctic that are exacerbated by rapid climate warming, all of which are consequences of destructive exploitation by the fossil fuel, chemicals, and plastics industries. The report shows how Alaskan communities are laying the groundwork in creating a post-extractive future for the state focused on reconnecting with traditional Indigenous values. Transformational changes are urgently needed from the local to international levels to prevent further harm and to advance solutions. For this reason, we advocate for a Just Transition framework that is specifically oriented toward shifting Alaska and the world from an extractive to a regenerative economy that fosters healthy, equitable communities. We include recommendations that include the key elements necessary for a strong new treaty on plastics and measures to eliminate harm from the entire life cycle of plastics from production to disposal.

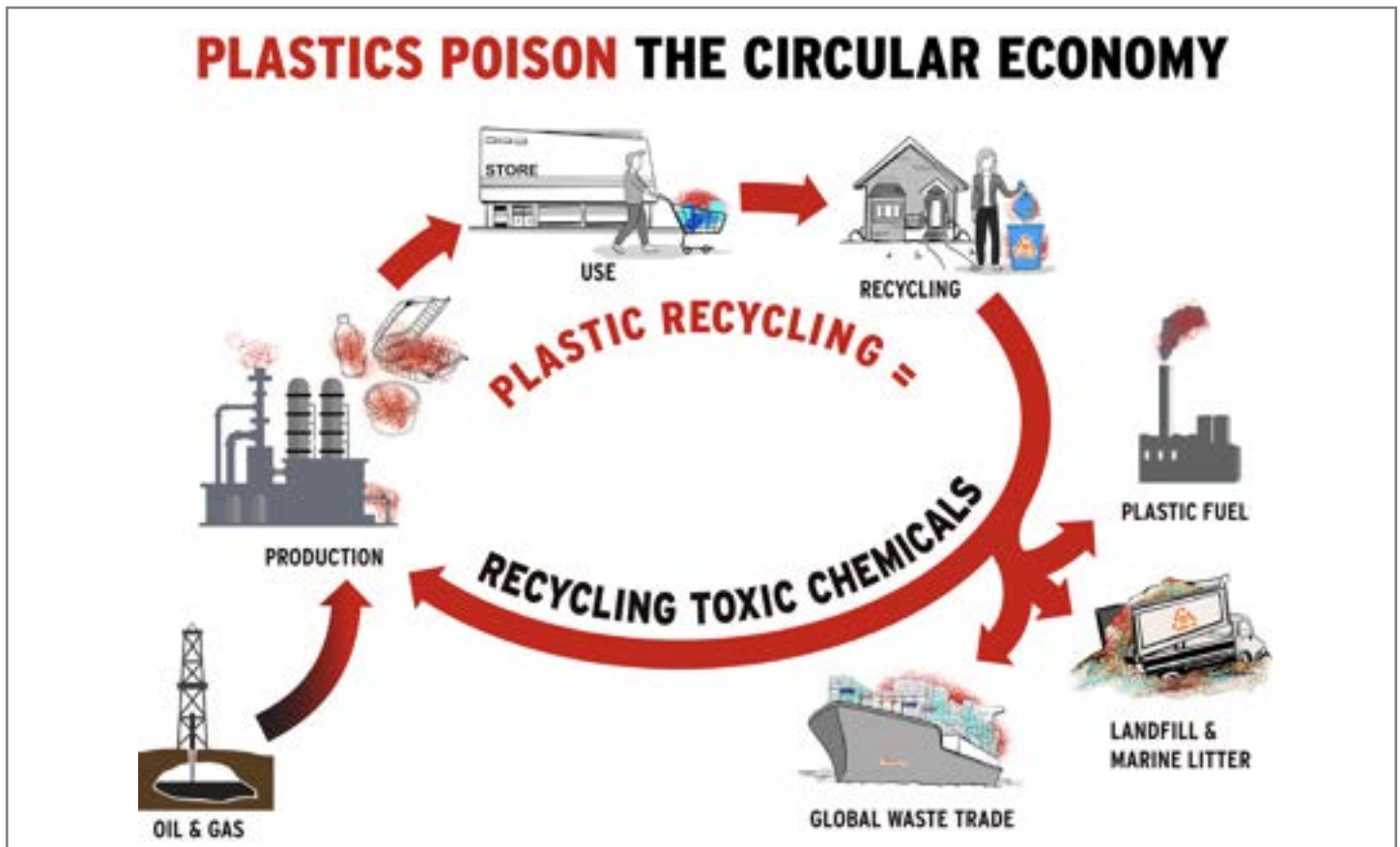


Figure 1 Toxics and plastics life cycle

RECOMMENDATIONS

The report offers recommendations toward a regenerative economy and a Just Transition, underlined by the principle that a healthy economy and a clean environment should co-exist. The process for achieving a just transition should be a fair one that does not cost workers or community residents their health, environment, jobs, or economic assets. The report further recommends:

- **Ending government subsidies to the fossil fuel and petrochemical industries and supporting clean, renewable energy and a toxics-free materials economy.**
- **Stopping fossil fuel and petrochemical industry expansion and accelerating the shift to a clean, renewable energy future.**
- **Adopting policies and practices as defined in the [Louisville Charter for Safer Chemicals](#) and eliminating the production, use, and disposal of toxic chemicals and plastics.**
- **Integrating the principles of the Just Transition framework.**
- **Strengthening and ensuring strong implementation of the international Stockholm Convention on Persistent Organic Pollutants (“POPs Treaty”) and instituting an effective, legally binding global Plastics Treaty.**





“ We’ve already seen over a thousand wells drilled near our community associated with oil and gas development. It is very concerning to us because we see the changes to our lands and waters and these changes affect our daily lives. ”

DR. ROSEMARY AHTUANGARUAK, IÑUPIAQ SCHOLAR, ACTIVIST, LEADER, FORMER HEALTH AIDE, AND FOUNDER OF GRANDMOTHERS GROWING GOODNESS, FROM THE NATIVE VILLAGE OF NUIQSUT