*Input from the Center for International Environmental Law (CIEL)*

*to the upcoming report on* [*toxic-free places to live, work, study and play*](https://www.ohchr.org/EN/Issues/Environment/SREnvironment/Pages/ToxicFree.aspx)

*by the UN Special Rapporteur on human rights and the environment and the UN Special Rapporteur on the implications for human rights of the environmentally sound management and disposal of hazardous substances and wastes*

Since 1989, the Center for International Environmental Law (CIEL) has used the power of law to protect the environment, promote human rights, and bring about a just and sustainable society. In the sections that follow, we provide responses to the Rapporteurs’ call for input that draws from CIEL's various areas of expertise and experience.

**Human Rights Impacts of Toxic Environments**

* 1. **Fracking, Plastics, and Toxic Chemicals in the petrochemical industries:** The production of plastics, starting with oil and gas extraction operations, puts people at a great risk of exposure to hazardous substances.

Looking at the extraction phase, there is well-documented evidence of the negative impacts of oil and gas extraction activities, and their cause or contribution to human rights infringements. For instance, hydraulic fracturing (“fracking”) poses threats to the right to water and other human rights. Of the 240 chemicals [used or created during fracking](https://www.tribunalonfracking.org/wp-content/uploads/2019/04/AO-final-4-12-19.pdf) where the biological effects on humans have been studied, 157 chemicals (or 65%) are toxins found to affect reproductive or developmental health. Alarmingly, no data is available for almost 800 chemicals used in fracking. For more information related to the right to water, see [CIEL’s submission to inform the UN Special Rapporteur’s report on human rights and the global water crisis](https://www.ohchr.org/Documents/Issues/Environment/EnvironmentWater/Civil%20Society/CIEL.pdf).

Other human rights infringements from extractive sector activates include racial discrimination, lack of free prior and informed consent, land tenure conflicts, inadequate and ineffective access to remedy and compensation mechanisms, as well as disproportionate consequences for certain persons, groups, and people in vulnerable situations. For more examples, [see CIEL’s submission to inform the UN Special Rapporteur’s report on the lifecycle of plastics and human rights](https://www.ohchr.org/Documents/Issues/Environment/SREnvironment/ToxicWastes/CFI-lifecycle-plastics/ciel.pdf).

CIEL’s 2021 case study [on the Formosa Plastics Group](https://www.ciel.org/reports/formosa-plastics-group-a-serial-offender-of-environmental-and-human-rights/), the world’s fourth-largest producer of petrochemicals and plastics, documents the risks that the entire petrochemicals and plastics industry poses to human health, human rights, local ecosystems, and the global climate.

* 1. **Indoor pollution:** Toxic environments also encompass exposure to hazardous substances indoors. For example, endocrine disrupting chemicals (EDCs) are found in many products used on a daily basis, as well as in [furniture](https://www.safefurniture.eu/health), foam, and textiles containing flame retardants. Exposure to EDCs can cause intellectual disabilities, attention-deficit/hyperactivity disorder (ADHD), childhood and adult obesity, and infertility, with effects found to persist into [subsequent generations](https://www.nature.com/articles/s41574-019-0273-8).

The [estimated burden of disease and costs of exposure to EDCs](https://onlinelibrary.wiley.com/doi/full/10.1111/andr.12178) in the European Union has been conservatively estimated at €163 billion/year (1.28% of EU Gross Domestic Product), while the parallel healthcare costs and lost earnings [in the United States](https://www.thelancet.com/journals/landia/article/PIIS2213-8587%2816%2930275-3/fulltext) exceeded $340 billion/year (2.33% of US Gross Domestic Product). The higher disease costs of EDCs in the US than in the EU were linked to the [different chemicals regulations](https://med.nyu.edu/departments-institutes/pediatrics/divisions/environmental-pediatrics/research/policy-initiatives/disease-burden-costs-endocrine-disrupting-chemicals) in each region.

**Heavily polluted places**

While CIEL works with partners in a number of countries, our offices are in Switzerland and the United States. In fact, CIEL has staff currently located in and born in parts of the US widely regarded as ‘sacrifice zones’ for oil and gas extraction, refining, and chemical manufacturing. An area in southern Louisiana commonly referred to as ‘Cancer Alley’ is home to a dense concentration of more than 100 petrochemical plants, resulting in the highest risk for cancer in the US.

Of course, the US has a number of pollution hot spots referred to by residents as ‘sacrifice zones’ even if the data doesn’t bear out an acute or disproportionate risk of *cancer*. Communities across the US see concentrations of particularly pollution intensive industries, but currently and historically - from fracking and coal mining in Appalachia, to oil refining and chemicals manufacturing in parts of Texas, California, and New Jersey, and waste processing in various parts of the country. Across the US, communities most affected by particulate matter and air pollutants largely have one thing in common: they’re poor or low-income. And all too often, they’re also Black, brown, or Indigenous. During 2020 and 2021, those disparities were made even more stark, as [multiple studies found correlations between risk of death from COVID-19 and increased air pollution](https://www.wired.com/story/covid-19-flares-americas-polluted-sacrifice-zones/), a problem more acute in predominantly Black communities.

**Business Obligations to Prevent Toxic Exposure**

**Businesses vs Information**: Businesses should share information on the substances they produce, and not use patent infringement claims to hamper people’s and scientists’ access to information. Researchers need analytical reference standards of new substances to monitor their presence and study their effects in the environment. However, chemical industries can use patent infringement claims to prevent scientists from carrying out their studies, as demonstrated by the recent case of [Solvay and its PFAS (C6O4) reference standard](https://cen.acs.org/environment/Solvay-provides-contested-PFAS-reference/99/i23).

**Good Practices for Addressing Toxic Environments**

* 1. **Stricter chemicals regulations and the EU example:** Strict regulations of hazardous substances, such as restrictions and bans, are driving innovation of safer chemicals. CIEL’s report “[Driving Innovation: How Stronger Laws help bring safer chemicals to market](https://www.ciel.org/wp-content/uploads/2014/10/Innovation_Chemical_Feb2013.pdf),” documents how the adoption of stricter rules on phthalates in the EU coincided with the exponential growth of patented inventions for phthalate alternatives.
	2. [Evidence](https://www.umweltbundesamt.de/en/publikationen/development-of-reach-review-of-evidence-on-the) shows that the EU regulation “REACH” (EC 1907/2006) contributed to lowering the number of exposed people, reducing releases of hazardous substances in the environment, and increasing the quantity and quality of information on substances.
	3. Further examples of good practices to prevent and mitigate toxic environments include the EU’s [commitments to](https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM%3A2020%3A667%3AFIN):
		1. move away from ad hoc regulation of chemicals on a substance-by-substance basis to regulating them via a grouping approach (such as in the case of PFAS);
		2. apply a preventive approach to risk management in order to ensure that consumer products do not contain harmful chemicals (such as carcinogens, mutagens, reprotoxic substances, endocrine disruptors, persistent and bioaccumulative substances, immunotoxicants, neurotoxicants, substances affecting respiratory systems, and substances toxic to a specific organ);
		3. address the so-called “cocktail effect,” the combination effect of chemical mixtures, through the addition of mixture assessment factors in the chemical safety assessment of substances;
		4. apply the same limit value for hazardous substances to virgin and recycled materials, in order to prevent toxic recycling.

**Empowering Populations to Protect their Rights**

Institutions of democracy and democratic governance must be upheld to ensure full political participation of all populations in the protection of their own rights. In many States, the global community is witnessing an erosion of voting rights and access, a key component of democratic institutions, which is threatening to undermine the protection of rights. Furthermore, when communities find themselves exposed to toxic chemicals or pollutants, existing systems often don’t provide for their safety and protection with enough urgency, often resulting in continued exposure, even if regulators or courts do step in eventually (an outcome that is much too rare). Populations and communities who have had their right to a healthy, safe environment eroded by public or private entities should have immediate access to injunction and remedy.

The voting franchise is of course not the only empowerment point. Populations must be afforded safe, non-toxic, stable employment and access to sufficient nourishment and healthcare, in addition to a healthy and safe environment, alongside access to the franchise and protection under a democratic rule of law.

**Role of High-Income States in Global Toxics Prevention and Rehabilitation**

1. **Preventing waste flows and rehabilitating existing dumps:** For many decades, OECD States have been exporting toxic waste to non-OECD States, resulting in waste dumps, toxic exposure, and often informal economies reliant on this trade. To remedy this unjust system and prevent further harms, States should readily identify where their toxic waste exports have gone historically and where they are currently being traded to, and should provide whatever support is necessarily to ensure that either clean-up is being offered or importing States are receiving any assistance required to ensure environmentally sound management of *all* wastes (both imported and domestically produced).
2. **Shipbreaking:** End-of-life ships are laden with toxic substances (including asbestos, flame retardants, PCBs, etc.). The Basel Convention has made it clear that end-of-life ships should be considered as hazardous waste under the Convention and should therefore not be exported from OECD to non-OECD States as per the Ban Amendment. However, the EU is actively trying to circumvent the rules of the Basel Convention when it comes to shipbreaking to continue to be able to send EU-flagged ships to shipyards in India, Bangladesh, and Pakistan, creating serious workplace hazards. CIEL prepared a number of legal analyses on the policies and the EU’s plans to circumvent them, including a [2011 report](https://www.ciel.org/Publications/Shipbreaking_22Apr11.pdf) and a [2020 analysis of the EU’s most recent plans](https://www.ciel.org/reports/legality-of-eu-proposals-on-ship-recycling-september-2020/).
3. **Ending double standards**: In its [Chemicals Strategy for Sustainability](https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM%3A2020%3A667%3AFIN), the EU committed to ensuring that hazardous substances banned in the EU are not produced for export. While action on this promise is not expected until 2023, the initiative is an example of how to tackle double standards and prevent the dumping of toxic products, chemicals, and [banned pesticides](https://unearthed.greenpeace.org/2020/09/10/banned-pesticides-eu-export-poor-countries/) to third countries, especially low- and middle-income countries.