

## ENVIRONMENTAL AND COMMUNITY HEALTH AND THE CHEMICAL ENTERPRISE

Everyone has the right to live safe and healthy lives with equal environmental protections and meaningful participation in decisions affecting their community. Meaningful participation is important because it addresses actions that may create hazards that disproportionately burden affected populations and environments. These hazards may be biological, physical, or chemical and can result from regulatory, commercial, and industrial activities. Because the hazard is often directly proportional to proximity, populations with the highest risk live in areas termed 'fenceline communities'. Legacy contamination continues to adversely impact a new generation of residents in fenceline communities, with recent studies<sup>1</sup> documenting exposures to heavy metals or agricultural chemicals. Environmental health disparities result when communities are exposed to poor environmental quality in conjunction with social inequities. Environmental justice challenges us to acknowledge and remediate those inequities and past harms, while ensuring they do not recur.

While there is no single legal definition for environmental justice and the concept continues to evolve, we define Environmental Justice (EJ) using the terminology of the U.S. Environmental Protection Agency (USEPA)<sup>2</sup>:

*Environmental justice is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment means no group of people should bear a disproportionate share of the negative environmental consequences resulting from industrial, governmental, and commercial operations or policies.*

The American Chemical Society (ACS) strives to embrace environmental justice best practices across our operations and programming in a manner that is consistent with our mission and values.

*This goal will be achieved when everyone enjoys:*

- *The same degree of protection from environmental and health hazards, and*
- *Equal access to a healthy environment to live learn and work.*

### Role of Chemistry in Environmental Justice

Chemists and chemical engineers recognize that past practices have played a role in disparate exposures to environmental contaminants across the U.S. population. Over the past century, there has been an evolution in assessing and managing risks posed by chemicals across their lifecycle. This continues to drive changes in how we produce, use, and manage chemicals. Environmental justice requires action to correct an injustice experienced by a specific group of people, mostly people of color and/or low-income communities. Recognizing this, we encourage the adoption of practices that minimize the impact of chemical exposures on all living things and the environment. Environmental Justice can be accomplished through the development, implementation, and enforcement of environmental laws, regulations, and policies to ensure everyone receives equal protection

The American Chemical Society (ACS) Board of Directors Committee on Public Affairs and Public Relations adopted this statement on behalf of the Society at the recommendation of the Committee on Chemistry and Public Affairs. ACS is a nonprofit scientific and educational organization, chartered by Congress, with more than 158,000 chemical scientists and engineers as members. The world's largest scientific society, ACS advances the chemical enterprise, increases public awareness of chemistry, and brings its expertise to state and national matters.

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from environmental and health hazards and the same access to the decision-making process for a healthy environment. Moreover, there is a need to carefully examine environmental health disparities and how systems and policies can create and perpetuate inequalities in exposure to environmental pollutants among communities of color and vulnerable populations, putting them at increased risk for disease and mortality. Members of the chemical enterprise must consider exposures resulting from inadvertent chemical releases, including those resulting from extreme weather events linked to climate change. Data from chemical site closures and cleanups provide compelling evidence that exposures from such sites may put the health of frontline communities at risk.

An environmentally just society meets the needs of the current generation without sacrificing future generations. The ACS acknowledges that critical contributions from the chemical enterprise may be required to accomplish this difficult, but achievable goal. This includes the development of new analytical instrumentation and methods to assess chemicals in the environment accurately. Chemists can provide tools and solutions for existing environmental contamination. Additionally, they contribute to solutions through the development of improved computational toxicology tools to rapidly assess potential risk and avoid the creation of unnecessarily toxic chemicals. Green chemistry principles can also aid in reducing chemical waste and prevent future contamination through informed substitution, avoiding potentially regrettable exchanges.

Assuring that environmental justice is distributive and procedural will require coordinating the convergence of basic and applied science, policy, and corporate stewardship. An interdisciplinary systems-level approach across the sciences, industry, educators, and government is essential to elucidate how human activities impact the Earth and how we can best utilize our limited resources to sustain society.

Chemists and chemical engineers should build on and expand our environmental justice partnerships with the goal of becoming recognized leaders in environmental and climate justice research, teaching, and action. The chemical enterprise benefits by adopting an environmental justice strategy for expanded engagement with community groups directly involved in or impacted by environmental justice issues, nongovernmental organizations (NGOs), philanthropies, academia, industry, and federal partners.

### **ACS Recommendations**

Government can amplify the impacts of the knowledge, technology, and human capital advanced by the chemical enterprise through lawmaking, regulatory processes, purchasing decisions, participation in international agreements, and communication with the public.

Meeting human needs globally now and in the future will require new knowledge, new technologies, and collaborations. The federal government can support the work of chemists, chemical engineers and the chemical enterprise to achieve environmental justice through funding research, developing an informed workforce, and by facilitating communication and collaboration between disciplines, among stakeholders and with the public.

It is critical for government to encourage the adoption of practices that minimize the impact of chemical exposures on all living things and the environment.

### ***To this end, the U.S. Government Should:***

<sup>1</sup> Environmental Justice, U.S. Environmental Protection Agency, 2023. [Epa.gov/environmentaljustice](https://epa.gov/environmentaljustice)

<sup>2</sup> Environmental Justice Index - <https://www.hhs.gov/climate-change-health-equity-environmental-justice/environmental-justice/index/index.html>

<sup>3</sup> <https://ejscreen.epa.gov/mapper/>

1. Codify environmental justice principles into the core activities of federal agencies.
2. Strengthen environmental protections and streamline federal procedures for identifying and listing hazardous chemicals in the environment.
3. Improve the environmental monitoring and evaluation of chemicals of concern in and around fence-line communities.
4. Incorporate the consideration of environmental justice metrics when issuing and reviewing federal funding applications.
5. Support the utilization and continued improvement of tools such as the Environmental Justice Index<sup>3</sup> and EJ Screen<sup>4</sup> and encourage collaboration between communities and researchers to understand potential exposures and ensure these tools are accessible and useful to communities.
6. Encourage and facilitate the development of environmental justice metrics as part of environmental health and safety (EHS) programs used by public and private entities.
7. Continue to award programs and competitions that incentivize innovations, drive creativity, and share environmental justice best practices, such as the US EPA Green Chemistry Challenge Awards and National Institute of Environmental Health Sciences (NIEHS) initiatives like the Superfund Research Program and Partnerships for Environmental Health.
  - a. Incentivize innovations that implement environmental justice best practices.
8. Fund research that both advances scientific knowledge and contributes to addressing environmental justice challenges. Encourage interdisciplinary approaches through funding solicitations and grand challenges.
9. Provide support for initiatives that foster a culture of environmental justice in decision making processes through engagement and education.
10. Facilitate consistent enforcement of environmental policies.
11. Include cumulative burden to communities in permit making decisions.

<sup>1</sup> Environmental Justice, U.S. Environmental Protection Agency, 2023. [Epa.gov/environmentaljustice](https://epa.gov/environmentaljustice)

<sup>2</sup> Environmental Justice Index - <https://www.hhs.gov/climate-change-health-equity-environmental-justice/environmental-justice/index/index.html>

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