

Using Environmental Cumulative Impact Assessment to Protect Communities

by Kenneth J. Warren / *The Legal Intelligencer**

Our nation's environmental laws developed piecemeal without a holistic view of the totality of environmental and other stressors that an individual or community may confront. Statutes adopted in the 1970s such as the Clean Air Act, the Clean Water Act, and the Resource Conservation and Recovery Act addressed air, water, and waste disposal as separate problems. Within each programmatic silo, environmental laws often regulate each pollutant separately.

Although this approach has successfully established emission standards that have reduced the concentration of pollutants to which individuals are exposed, it has an obvious drawback. The burden on human health and ecosystems depends on the totality of environmental and nonenvironmental stressors. Community members may be exposed to multiple pollutants in all environmental media, and the interaction of these pollutants may have a synergistic effect. In addition, factors particular to a community or individual, such as nutrition, health conditions, age and socioeconomics, may constitute vulnerabilities that increase the adverse impact of exposure to pollutants.

The EPA and state regulators have not been blind to cumulative impacts. For example, when determining whether a National Ambient Air Quality Standard (NAAQS) for a particular pollutant is attained in a given location, emissions of that pollutant from all sources is considered. But other pollutants are excluded from the analysis. Likewise, whether a water quality standard has been attained depends on the total concentration of a pollutant in the waterbody. In addition, the EPA has performed cumulative risk assessments on pesticides and disinfection products, and NEPA regulations require an examination of cumulative effects in conjunction with major federal projects. Yet considering how pollutants interact with each other, how exposures from multiple environmental media increase total burden, and how the vulnerability of an individual or community may increase risks has not been central to environmental management.

The Biden administration's emphasis on environmental justice has altered the legal landscape. President Joe Biden's Executive Orders 13985, Advancing Racial Equity and Support for Underserved Communities Through the Federal Government, and 14008, Tackling the Climate Crisis at Home and Abroad, direct federal agencies to pursue environmental justice for overburdened communities. These populations have the fewest resources to adapt to stressors such as climate change, and are most likely to suffer effects from multiple environmental and non-environmental stressors. Executive Order 14008 expressly orders agencies to address "climate-related and other cumulative impacts on disadvantaged communities, as well as the accompanying economic challenges of such impacts." The executive order mentions various sources of overburden including pollution and under-investment in housing, transportation, water and wastewater infrastructure and health care.

The executive orders have spurred federal agencies to evaluate cumulative impacts as part of their pursuit of environmental justice and equity. In its September 2022 report, Cumulative Impacts Research, EPA's Office of Research and Development (ORD) defined cumulative impacts as "the totality of exposures to combinations of chemical and nonchemical stressors and their effects on health, well-being, and quality of life outcomes." ORD recognized that chemical stressors interact with each other and nonchemical stressors in the built, natural and social environment such as climate, access to medical care, and community violence, and that adverse effects fall disproportionately on individuals with health disparities. The report noted that pollution, climate and other environmental stressors, socioeconomic disadvantage, lack of environmental assets, and health vulnerability tend to be clustered in persistent systematic patterns.

To successfully implement the approach identified in the executive orders, the EPA must overcome technical and statutory obstacles. Siting criteria and permit limitations imposed on businesses must be based on sound science. ORD supports a fit-for-purpose cumulative impact assessment in which the type, scale and quantification of the analysis are driven by the decision context.

When implementing a cumulative impacts assessment, the EPA will consider input from disadvantaged community members who are not likely to have scientific expertise. Capacity building and assistance will be required. It is less clear whether the EPA envisions a role for other stakeholders such as business and industry, academia, and state and local government. A true collaborative approach would solicit participation by all of these stakeholders.

ORD's endorsement of a sliding-scale approach may in part be the result of the paucity of scientific information concerning the interaction of pollutants, health and other stressors. In other words, in many instances the science may not be sufficiently developed to support implementation of a cumulative impact assessment. Under those circumstances, using precise thresholds for individual pollutants may be the best available approach until the science catches up with the EPA's preferred policy.

In some contexts, existing environment statutes may not allow use of cumulative impact analysis. On Jan. 11, 2023, the EPA issued a guidance document titled "EPA Legal Tools to Advance Environmental Justice: Cumulative Impacts Addendum." Among the entire range of environmental protection statutes, the EPA can identify only a few statutory provisions expressly authorizing the EPA to consider cumulative impacts. For example, under the risk management program for chemical accidental releases, the EPA may consider cumulative impacts from the facility, neighboring facilities and natural disasters. The EPA's authority to address imminent and substantial endangerment extends to air pollution from multiple sources and to cumulative impacts to drinking water sources. And when issuing underground injection area control permits, the EPA considers the cumulative effects of drilling and operation of additional injection wells. In most instances, however, the EPA can point only to its possible discretion to consider factors not identified by statute. The EPA acknowledges that where Congress specifically enumerated applicable criteria, the EPA's discretion may be limited.

The absence of clear authorization in many federal programs to consider cumulative impacts suggests that action by Congress is needed. Most ambitiously, Congress could enact a new federal environmental statute that takes a holistic approach. Considering all environmental burdens together would allow the EPA to protect human health more efficiently in situations where a valid scientific foundation exists. Alternatively, Congress could grant the EPA authority to consider cumulative impact in its administration of existing statutes. The divisions within the current Congress, however, make enactment of these changes unlikely.

In contrast to Congressional inaction, certain states have adopted environmental justice legislation expressly requiring consideration of cumulative impacts in permitting decisions. New Jersey's environmental justice statute requires the denial of new or renewed permits for certain types of facilities in overburdened communities if the permit approval together with other environmental and public health stressors would result in disproportionate cumulative impact, unless the facility would serve a compelling public interest in the community. The statute also requires applicants for permits for facilities located or proposed to be located in overburdened communities to prepare an environmental justice impact statement that evaluates the potential environmental and public health stressors and the measures proposed to address impacts.

Permit applicants must also conduct a public health hearing in the community. The New Jersey Department of Environmental Protection has proposed regulations to implement this statute. When effective, New York State's Cumulative Impacts bill updating the Environmental Quality Review Act will require consideration of the potential of a proposed action to cause or increase disproportionate burdens on a disadvantaged community. Except for minor projects, state agencies must prepare or require existing burden reports, and may not approve permits that contribute to a disproportionate or inequitable pollution burden on the community. When signing the bill, Gov. Kathy Hochul requested future amendment to allow critical projects and infrastructure to proceed.

Laws authorizing cumulative impact assessments protect disadvantaged communities by examining the totality of conditions affecting human health and the environment. When properly designed, these laws could allow businesses to employ mitigation measures preferred by and best protective of the communities in which businesses operate. As a supplement to emission controls, community-based mitigation measures may involve removing environmental hazards not created by the permittee such as lead paint in homes, or funding community health clinics. Whether the scientific and legal foundation to allow widespread use of this approach for disadvantaged communities, or for the entire nation, can be established remains to be seen.

**Kenneth J. Warren is a founding partner of Warren Environmental Counsel and has been practicing environmental law for more than 35 years. He is president of the American College of Environmental Lawyers. He is a former chair of the American Bar Association section of environment, energy and resources, where he led the section's 10,000 members. He can be reached at kwarren@warrenenvcounsel.com.*

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