UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

EPA Interim Framework for Advancing Consideration of Cumulative Impacts	)	**Docket No. EPA-HQ-OLEM-2024-0360**
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Environmental Defense Fund (EDF), Bullard Center for Environmental and Climate Justice at Texas Southern University, Coalition of Community Organizations (COCO), Deep South Center for Environmental Justice, Dr. Marian Johnson-Thompson (EDF NC Advisory Board Chair), Environmental Justice Community Action Network (EJCAN), Sunnyside Community Redevelopment Organization (SCRO), and West End Revitalization Association (WERA) appreciate the opportunity to provide comments to the U.S. Environmental Protection Agency ("EPA" or "Agency") on the Interim Framework for Advancing Consideration of Cumulative Impacts ("Interim Framework").[1] We strongly support EPA's effort to incorporate cumulative impacts into its processes and programs. This Interim Framework follows on the heels of decades of work from communities, academia, and EPA to advance and address cumulative impacts. In 1994, the National Research Council (NRC) highlighted the importance of understanding the accumulation of risks from multiple environmental stressors in its report "Science and Judgment in Risk Assessment."[2] In 2003, EPA identified the basic elements of the cumulative risk assessment process and provided a structure for conducting and evaluating cumulative risks in its Framework for Cumulative Risk Assessment.[3] Three decades later, it is critical that EPA utilizes this Interim Framework to not only understand but also address the cumulative impacts of multiple stressors on health. We hope that this framework will raise EPA research, policy, program, and regional office staff awareness of the importance of considering cumulative impacts in EPA's assessments and actions and that this framework will meaningfully advance the mitigation of cumulative impacts that are felt by overburdened communities.

Cumulative impacts assessments are an essential approach for EPA to address the real-world health risks that families and communities face. For too long EPA programs have analyzed the risks from individual pollution exposures in isolation from the other hazards people face, without considering cumulative risk let alone cumulative impacts. For example, EPA will look at the human health risks of exposure to formaldehyde from industrial facility releases and set a limit on formaldehyde releases based on this individual chemical risk assessment. However,

[1] EPA, "Interim Framework for Advancing Consideration of Cumulative Impacts," November 21, 2024, https://www.regulations.gov/docket/EPA-HQ-OLEM-2024-0360 ("Interim Framework").

[2] National Research Council, "Science and Judgment in Risk Assessment," 1994, https://nap.nationalacademies.org/catalog/2125/science-and-judgment-in-risk-assessment.

[3] EPA, "Framework for Cumulative Risk Assessment," May 2003, https://www.epa.gov/sites/default/files/2014-11/documents/frmwrk_cum_risk_assmnt.pdf.

historically, EPA has not considered whether the same individuals being exposed to formaldehyde from individual facilities are also:

- Being exposed to formaldehyde from multiple sources and facilities (for example), which could raise the level of exposure or risk, as an important factor in cumulative risk and cumulative impacts is ensuring that all exposures are considered and aggregated;
- Being exposed to other chemicals that cause the same toxic harm and thus might worsen the impacts they feel from formaldehyde exposure (for example), such as other chemicals that contribute to leukemia or asthma (cumulative risk);
- Facing other stressors that might worsen the risks they face from formaldehyde exposure (for example) or reduce the ability to manage the health impacts, such as non-chemical sources of asthma like weather changes and stress, and access to healthcare facilities (cumulative impacts).

This means that the limits EPA sets on formaldehyde pollution from individual facilities may not sufficiently protect people from the true risk they are facing. In order to understand the real-world risks that people are facing, EPA must consider not only the cumulative risks from chemicals that cause the same harm but also the combination of chemical and non-chemical stressors, a practice known as cumulative impacts assessment.

Cumulative impacts assessments help the Agency fulfill its duty to protect communities and families across the country who are not just being exposed to one pollutant from one source at a time but are living complex lives where various factors, including non-chemical factors such as socioeconomic stress, crime, access to care, extreme weather, and noise and light pollution affect their health and well-being. It is important to note that cumulative impacts assessments present the best picture of the impacts on communities to make the most informed decision. It should not be treated as separate or an extra policy consideration.

Given the nascent implementation of cumulative risk assessment and the consideration of cumulative impacts, this framework will be helpful in providing the groundwork for a consistent approach to cumulative impacts across the Agency. Often considerations of cumulative impacts are considered late in the assessment, if at all, where it becomes both time and resource prohibitive to incorporate a true consideration of cumulative impacts. This results in an incomplete consideration of the impacts and the risks communities face. Typically, only what can be quantified is counted and thus, if not implemented starting early in the process, the Agency will have an incomplete consideration of the true cumulative impacts individuals face which will greatly affect the Agency's assessment of risks and possible mitigating actions. Therefore, it is important to integrate as much quantitative data on cumulative impacts as possible while also prioritizing qualitative, community-informed data early and throughout the process. The consideration of cumulative impacts should be incorporated into decisions across the Agency so that the consideration of cumulative impacts can have a meaningful influence on the decisions made on public health and the environment.

We also emphasize that in order to thoroughly integrate this qualitative, community-informed data in EPA's assessments, community engagement with clear, understandable communication

with communities is core to effective cumulative impacts assessments. For cumulative impacts assessments to be robust and informative, EPA needs to partner with impacted individuals to understand the multitudes of impacts a community or individual is facing that the Agency's currently available data alone cannot discern. And people can only share relevant information if they understand what analysis EPA is doing and only if EPA has reached out to them early enough that they can provide timely input into the process. Early engagement that empowers people to participate in the process is thus essential.

We are providing comments which we hope will strengthen the framework and encourage EPA to incorporate cumulative impacts in its assessments and actions across the Agency, leading to decisions that more completely protect individuals from the impacts of chemicals and other stressors on communities. We hope that following this Interim Framework, EPA will act swiftly to integrate cumulative impacts assessments and mitigate these impacts. After all, decades of research and impacts have been brought to EPA, beginning formally with NRC's 1994 report. In these comments, we recommend that:

- EPA should define meaningful community engagement as essential rather than beneficial.
- EPA should include a framework for communication with communities in its Interim Framework and make its cumulative impacts assessment policies and processes transparent and accessible to communities.
- EPA's commitment to consideration of cumulative impacts, even when there is uncertainty or lack of quantitative data, is imperative.
- EPA should strengthen its guidance on consideration of cumulative impacts at the national level.
- EPA should institute a more detailed and complete framework for cumulative impacts assessments.
- EPA should emphasize specific consideration and assessment of reducing impacts to overburdened communities to inform decision-making.

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1. EPA should define meaningful community engagement as essential rather than beneficial.

EPA should strengthen its recommendation that the Agency meaningfully engage communities when conducting cumulative impacts assessments. In the Interim Framework, EPA states that "[m]eaningful community engagement—guided by principles of integrity, inclusiveness, dialogue, influence, and accountability—is *beneficial* throughout the process to empower, engage, and acknowledge the lived experience of community members."[4] This statement should

[4] Interim Framework at 13 (emphasis added).

be adjusted to reflect that community engagement is not just beneficial to EPA in its development of policies and programs, but rather, *essential* to creating solutions that adequately protect all communities from the environmental hazards they face.

A. Community engagement allows the Agency to collect more information relevant to its analysis, resulting in better decision-making.

A cumulative impacts assessment will contain enormous omissions if the voices, perspectives, and lived experiences of affected communities are not integrated early and throughout the decision-making process. This could also detrimentally affect final cumulative impacts assessments as EPA might underestimate actual impacts by missing the unique data provided by community knowledge.[5] Affected communities who can provide their perspectives and shape out policies or projects based on their day-to-day experiences and priorities are offering invaluable data that no tool, tracker, or research can emulate. Stressors such as food insecurity, preexisting conditions, and discrimination are not easily measured – and the easiest way to obtain this data is often through firsthand account.

As previous research has noted, "Many communities are disproportionately exposed to multiple sources of environmental contamination including industrial operations, active and legacy waste disposal sites, and high traffic roadways."[6] Further understanding and research of environmental issues has tied these exposures directly to health impacts.[7] Overburdened communities who are exposed to cumulative exposures show health disparities, and research indicates socioeconomic stressors can also exacerbate the health effects of environmental stressors.[8] Thus, meaningful involvement of all communities is *essential* to rule-making to ensure that all people are "fully protected from disproportionate and adverse human health and environmental effects (including risks) and hazards, including those relating to climate change, the cumulative impacts of environmental and other burdens, and the legacy of racism or other structural or systemic

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[5] Cumulative Impacts Subcommittee, Environmental Justice Advisory Council, "Strategies for Addressing Cumulative Impacts in Environmental Justice Communities," March 2009, https://dep.nj.gov/wp-content/uploads/ej/docs/ejac_impacts_report200903.pdf.

[6] Payne-Sturges, D.C., et al. (2015). Engaging Communities in Research on Cumulative Risk and Social Stress-Environment Interactions: Lessons Learned from EPA's STAR Program, *Environ Justice,* 8(6): 203-212, https://doi.org/10.1089/env.2015.0025.

[7] Brusseau, M.L., Ramirez-Andreotta, I.L., & Maximillain, J. (2019). Environmental Impacts on Human Health and Well-Being, *Environmental and Pollution Science,* 3: 477-499, https://doi.org/10.1016/B978-0-12-814719-1.00026-4; Landrigan, P.J., et al. (2017). Pollution: Think of the Children. *The Lancet Child & Adolescent Health,* 1(4): 249, https://doi.org/10.1016/S2352-4642(17)30133-5; van den Hooven, E.H., et al. (2011). Air Pollution, Blood Pressure, and the Risk of Hypertensive Complications During Pregnancy. *Hypertension*, 57: 406-412, https://doi.org/10.1161/HYPERTENSIONAHA.110.164087.

[8] National Academies of Sciences, Engineering, and Medicine. (2023). *Health Risk Considerations for the Use of Unencapsulated Steel Slag*, National Academies Press (US), http://dx.crossref.org/10.17226/26881.

barriers; and have equitable access to a healthy, sustainable, and resilient environment in which to live, play, work, learn, grow, worship, and engage in cultural and subsistence practices."[9]

Though there are many models, the continuum of community engagement ladders up from: 1) outreach; 2) consultation; 3) involvement; 4) shared leadership/participation, and; 5) community-driven work with each level increasing in community involvement, impact, trust, and communication.[10] Community perspectives toward the end of the spectrum (shared leadership/participation or community-driven work) can often lead to: "community representatives becom[ing] better informed," "community ownership and buy-in for decisions," and "a consistent and reliable process for addressing community concerns."[11]

Community perspectives provide essential input to shaping out robust and accurate cumulative impacts assessments as long as these voices are integrated early, sustained throughout the process, and are transparent. As advocates have stated, "Agencies already use cumulative impact assessments to prioritize their work, focus public education, and decide where to award funding. However, for long-term, stable environmental health protections that do not ebb and flow with administrations, cumulative impact assessments must consistently inform regulatory decisions (rulemaking, standard setting, and permitting)."[12] Integration of community knowledge into research and strategy can allow researchers to understand what communities are uniquely experiencing and strategize accordingly. It can enhance researcher understanding of cumulative risk, and communities can support durable solutions when they're included in planning processes by advocating for and implementing strategies on a long-term basis.

Involving communities in cumulative impact assessments can also provide multiple benefits by allowing communities to "increase their capacity to change conditions that affect community health."[13] In one study, community participants "began to see themselves and their experiences as sources of information that can contribute to the understanding of the relationship between

[9] EPA, "Environmental Justice," Accessed: February 10, 2025, https://www.epa.gov/environmentaljustice.

[10] Yuen, T., et al. (2015). A Systematic Review of Community Engagement in the US Environmental Protection Agency's Extramural Research Solicitations: Implications for Research Funders, *Am J Public Health,* 105(12): e44-e52, https://doi.org/10.2105/AJPH.2015.302811.

[11] EPA, "Environmental Justice Primer for Ports: Effective Community Engagement Methods," Accessed: February 10, 2025, https://www.epa.gov/ports-initiative/environmental-justice-primer-ports-effective-community-engagement-methods.

[12] Union of Concerned Scientists and Coming Clean, "The Community Guide to Cumulative Impacts," October 2024, https://www.ucsusa.org/sites/default/files/2024-10/Cumulative%20Impacts%20Guide_Eng.pdf.

[13] Payne-Sturges, D.C., et al. (2015). Engaging Communities in Research on Cumulative Risk and Social Stress-Environment Interactions: Lessons Learned from EPA's STAR Program, *Environ Justice,* 8(6): 203-212, https://doi.org/10.1089/env.2015.0025.

cumulative exposures to environmental contaminants, psychosocial stress, and health outcomes."[14]

B. EPA should specifically recommend community engagement when conducting cumulative impacts assessments.

In the Interim Framework, EPA should explicitly encourage engagement with communities to identify and prioritize stressors for assessment and for all decision-making contexts. EPA states that:

> In a cumulative impacts assessment, the EPA should identify and prioritize stressors affecting people and the environment. Analyses may include consideration of social determinants of health…including Tribal lifeways, cultural, and subsistence practices, which may be pertinent exposure-response modifiers.[15]

The Interim Framework does not provide any guidance or recommendation encouraging research to include community prioritization or identification of stressors. Including this as an explicit recommendation could greatly benefit and provide a structure for community engagement. Additionally, EPA frames community engagement with a caveat that weakens its importance to the process. EPA states that:

> Initiation, at the start of a decision-making process, involves a preliminary evaluation of the relevant factors in the decision context. . . .These factors include applicable legal authorities, available resources and time, history, baseline conditions, and input from initial engagement with regulatory partners and the community *(when such input is available and appropriate to the decision-making process*).[16]

EPA's framework should recognize that *in most cases* community engagement will be directly relevant to gathering information necessary to inform Agency decision-making. The framework should suggest a rebuttable presumption in favor of community engagement rather than placing the burden on Agency actors to defend or make an affirmative case for community engagement in the process. EPA should remove the parenthetical stating "*(when such input is available and appropriate to the decision-making process*)" and instead encourage engagement and input from communities for all cumulative impacts assessments.

C. EPA should incorporate guidance on best practices for community engagement into the Interim Framework.

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[14] *Id.*

[15] Interim Framework at 20.

[16] Interim Framework at 17 (emphasis added).

Community engagement should involve—early in the process—consultation with the community itself to assess its specific needs and tailor an engagement approach based on real-world experiences. Cumulative impacts analyses often are communicated using technical jargon (indeed even the phrase "cumulative impacts analysis" is one that will likely not be familiar to most people), and EPA should find ways to communicate using language that will be easily understood by the specific community audience. EPA staff should be trained in cultural competency to be able to understand the perspective of community members and operate with transparency to build trust needed for an effective process. We suggest the following best practices to ensure communities have the necessary time, resources, and data they need to meaningfully participate. It may also be helpful for the Interim Framework to reference EPA's 2024 Meaningful Engagement Policy.[17]

- Consider the Principles of Community Engagement published by the CDC:[18]
    - "Be clear about the purposes or goals of the engagement effort and the populations and/or communities you want to engage."
    - Understand the local context, cultures, socioeconomic conditions, "political and power structures, norms and values, demographic trends, history, and experience with efforts by outside groups…[understand] the community's perceptions about those initiating the engagement activities."
    - "Establish relationships, build trust, work with the formal and informal leadership, and seek commitment from community organizations and leaders" in order to co-create processes and solutions.
    - Remember that the community has its own inherent right and responsibility for self-determination – no outside entity can "bestow on a community the power to act in its own self-interest."
    - "For engagement to succeed, [p]artnering with the community is necessary to create change and improve health."
    - All engagement must respect and recognize the diversity of cultures, backgrounds, and perspectives of the full community – and shape planning, engagement, and implementation with respect to these.
    - Identify and mobilize "community assets and strengths and by developing the community's capacity and resources to make decisions and take action."

- Other best practices of community engagement that EPA should consider and integrate include:
    - Involve community members in all decisions from planning to implementation.
    - Include a plurality of community perspectives. There may be different priorities and solutions within a community. All voices should be considered equitably so

[17] EPA, EPA's Meaningful Engagement Policy (August 2024), https://www.epa.gov/environmentaljustice/epas-meaningful-engagement-policy.

[18] Clinical and Translational Science Awards Consortium, Community Engagement Key Function Committee Task Force on the Principles of Community Engagement, "Principles of Community Engagement, Second Edition," June 2011, https://stacks.cdc.gov/view/cdc/11699.

no individual or group is solely responsible for representing the community's perspective.

- Understand and address language barriers. This can be done by offering all communications in accessible, digestible language free from technical jargon and in multiple languages depending on the community demographics. Dedicate budget resources to interpretation and translation services.[19]
- Offer multiple modes and opportunities for the community to engage and participate (virtual meetings, in-person meetings in accessible locations, meetings held during both working and evenings hours).
- Identify underrepresented populations and design strategies to ensure their input is received and integrated.[20]
- Allow adequate time for community members to receive, parse through, seek guidance as needed, and respond to communications (i.e., 60 days for public comment).

2. EPA should include a framework for communication with communities in its Interim Framework and make its cumulative impacts assessment policies and processes transparent and accessible to communities.

Research demonstrates that overburdened communities with significant cumulative impacts from the combined exposure to environmental and socioeconomic stressors face poor overall community health status and a reduced lifespan.[21] Socioeconomic or non-chemical stressors are shown to exacerbate the effects of chemical or environmental stressors.[22] As explained above, cumulative impacts are made worse if communities are unaware of the risks they already face through these combined stressors, or if communities are not included in decision-making to address these impacts.

In addition to our recommendations for equitable community engagement, we suggest EPA should strengthen communication with communities and ensure cumulative impacts assessments are transparent and accessible to communities.

It is vital that EPA implements strong, consistent communications standards with communities to ensure equitable outreach is conducted and processes are procedurally just. To conduct a cumulative impacts analysis, the Agency must know about the many different health-related barriers a community faces. That requires working with community members to get related

[19] Groundwork USA, "Best Practices for Meaningful Community Engagement," Accessed: February 10, 2025, https://groundworkusa.org/wp-content/uploads/2018/03/GWUSA_Best-Practices-for-Meaningful-Community-Engagement-Tip-Sheet.pdf.

[20] *Id.*

[21] Tulve, N.S., et al. (2024). Challenges and opportunities for research supporting cumulative impact assessments at the United States environmental protection agency's office of research and development, *The Lancet Regional Health – Americas,* 30: 100666, https://doi.org/10.1016/j.lana.2023.100666.

[22] *Id.*

information. And communities will only be able to share relevant information if they understand the process enough to know what information is relevant and how it will be used.

When federal action is considered, intentional outreach should begin with affected communities even before public comment periods open in order to mirror the procedure commonly followed with the regulated industry, who are often first to be notified about potential actions before a public comment period even opens. Communities need the time to understand the issues and effectively participate in the process, including time to access all available documents and understand their relevance, to obtain assistance from experts, or to gather data.

For purposes of outreach, the affected communities can be determined by standardized distance bands, as demonstrated in Colorado's 2024 Cumulative Impacts and Enhanced Systems and Practices Rulemaking ("2024 Cumulative Impacts Rulemaking").[23] Here, the operators applying for a new oil and gas development permit have to notify all residents within 1/2 mile of the development site who live in residential or high occupancy building units. In disproportionately impacted communities, operators must notify communities living in residential building units as well as childcare and school facilities within 4,000 feet of a development site.[24] While this distance is too small for many cumulative impacts analysis, EPA could apply a similar approach or requirement for engagement with affected communities.

Another consideration for intentional communications and outreach is to create a community liaison role which is also described as part of the 2024 Cumulative Impacts Rulemaking. Community liaisons "will be dedicated to serving as resources for disproportionately impacted communities as community members seek to engage with the Commission and its proceedings."[25] The Colorado Energy and Carbon Management Commission has committed to hiring community liaisons who live in the communities where they will be working, so that the liaison is able to fulfill a role where they are able to "prioritize, collaborate with, and attend meetings in disproportionately impacted communities…in order to improve relationships and build trust."[26] When new rulemaking is considered, the community liaison must be informed alongside the proximate local government and all community members within the established distance bands outlined above.

Further, in outreach to community members, EPA must be cognizant of the barrier that arises for most audiences in understanding technical jargon and industry knowledge associated with cumulative impacts assessments – an important consideration in the pursuit of a procedurally just

[23] 2 Colo. Code Regs. § 404-1 (2024), https://www.coloradosos.gov/CCR/eDocketDetails.do?trackingNum=2024-00285.

[24] *Id.*

[25] Colo. Energy & Carbon Mgmt. Comm'n, Appendix B: Statement of Basis, Specific Statutory Authority, and Purpose - New Rules and Amendments to Current Rules of the Colorado Energy and Carbon Management Commission, 2 C.C.R. § 404-1 at 13 (Oct. 15, 2024), https://ecmc.state.co.us/documents/reg/Rules/LATEST/CI-ESP%20SBP.pdf.

[26] *Id.*

process. The dimensions of procedural justice can help the Agency consider how to approach this barrier: voice (an opportunity to be heard), respect (treating participants with dignity), neutrality (perception that decisions are made without bias), and understanding (comprehension of the language used in official proceedings and how decisions are made).[27] EPA should include guidance on communicating cumulative impact information and proposed rulemaking in an accessible format for public audiences with the understanding that accessibility looks different according to local context and subject matter of the proposed rulemaking. Examples of this could include shorter and more straightforward summary documents that lay out the proposed action and implications, ensuring a community liaison understands and can communicate proposed rulemaking, translating to multiple languages, or offering in different formats (virtual, in-person, written).

Finally, transparency is the bedrock of good governance, and it is even more important that EPA make transparent and accessible its processes relating to cumulative impacts analysis because of the focus this puts on overburdened communities. EPA should improve how it shares information about its broader cumulative impacts policies and processes to communities and incorporate this into the framework. For example, we appreciate EPA's update that the Agency has developed performance measures related to cumulative impacts as recommended by the EPA Office of Inspector General's 2023 Report.[28] As the EPA Office of Inspector General pointed out in that report, EPA is required to establish performance measures to assess progress toward performance goals by the Government Performance and Results Act of 1993 (GPRA) and the GPRA Modernization Act of 2010.[29] These statutes require that EPA publish online its annual performance plan containing performance goals and updates on progress towards those goals.[30] As we have expressed throughout these comments, it is of vital importance that EPA communicate with impacted communities in a way that allows them to understand and give input into EPA's cumulative impacts work. While EPA may already publish cumulative impacts performance measures online as part of its overall performance plan and progress updates, we urge EPA to take particular care to communicate these performance measures more accessibly to impacted communities so they can see how EPA is measuring and making progress towards these goals.

3. EPA's commitment to consideration of cumulative impacts, even when there is uncertainty or lack of quantitative data, is imperative.

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[27] POLICYMIX, "Three types of environmental justice: From concepts to empirical studies of social impacts of policy instruments for conservation of biodiversity," March 2011, https://policymix.nina.no/Portals/policymix/POLICYMIX%20Report_No1_.pdf; LaGratta, E.G., "Procedural Justice: Practical Tips for Courts," Center for Court Innovation, October 2015, https://www.innovatingjustice.org/sites/default/files/documents/P_J_Practical_Tips.pdf.

[28] Interim Framework at 28.

[29] EPA Office of Inspector General, "The EPA Needs to Further Refine and Implement Guidance to Address Cumulative Impacts and Disproportionate Health Effects Across Environmental Programs," August 22, 2023, Report No. 23-P-0029 at 2.

[30] 31 U.S.C. §§ 1115(b), 1116.

In past assessments, much of EPA's failure to conduct cumulative impacts assessments lies in the Agency claiming that there isn't enough data or methods available, or there is too much uncertainty in the data and methods, to accurately quantify cumulative impacts for decision making. For example, in administering the Toxic Substances Control Act, EPA has consistently asserted that "quantitative consideration of cumulative risks is beyond the scope of the current risk evaluation[s]"[31] and that there is often too much uncertainty to combine routes of exposure from various chemicals.[32] The Interim Framework, however, encourages consideration of cumulative impacts even in the face of uncertainty or where robust and quantitative data is lacking. This assertion is imperative in promoting cumulative impacts assessments across EPA because failing to conduct cumulative impacts assessments due to uncertainty or lack of complete data and methods is not the use of the best science and fails to account for the true risks and impacts populations are experiencing from the combined chemical and non-chemical stressors.

A. We support the Interim's Framework guidance to use the best available data even when such data is imperfect or incomplete, and such approach is consistent with legal authorities and best analytical practices.

Communities have long advocated for EPA to consider the cumulative impacts from multiple stressors even when data is not perfect. As EPA acknowledges, "[c]ommunities that have multiple industrial and energy facilities and are saturated with legacy pollution want to see EPA realign its enforcement in a way that provides action, accountability, and guidance for taking cumulative impacts and risks into account, *even if they cannot be measured with precision*."[33] We support that in order to address communities' concerns, the Interim Framework commits that "the EPA will learn while doing" rather than waiting to implement cumulative impacts assessments until the perfect data and methodology exists. Even so, data and methodology have been developed to thoroughly assess cumulative impacts, such as by states[34] and researchers.[35]

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[31] EPA, "Formaldehyde Response to Comments," January 3, 2025, https://www.regulations.gov/document/EPA-HQ-OPPT-2018-0438-0207 at 49.

[32] EPA, "Draft Human Health Risk Assessment for Formaldehyde," March 15, 2024, https://www.regulations.gov/document/EPA-HQ-OPPT-2023-0613-0022.

[33] Interim Framework at 17 (emphasis added).

[34] New Jersey Department of Environmental Protection, "Guidance Document for Environmental Justice," April 12, 2023, https://dep.nj.gov/wp-content/uploads/ej/docs/njdep-ej-technical-guide.pdf; Minnesota Pollution Control Agency, "Cumulative impacts analysis," Accessed: February 10, 2025, https://www.pca.state.mn.us/trending-topics/cumulative-impacts-analysis; Zeise, L. and Blumenfeld, J., "CalEnviroScreen 4.0," California Environmental Protection Agency, Office of Environmental Health Hazard Assessment, October 2021, https://oehha.ca.gov/media/downloads/calenviroscreen/report/calenviroscreen40reportf2021.pdf.

[35] Alexeeff GV, et al. (2012) "A screening method for assessing cumulative impacts," *Int J Environ Res Public Health,* 9(2): 648-65; Huang H, et al. (2017) "Associations between socio-demographic characteristics and chemical concentrations contributing to cumulative exposures in the United States," *J*

Therefore, EPA continues to have no excuse to begin to implement cumulative impacts assessments across the Agency.

Caselaw, executive branch guidance, and longstanding Agency practice have all supported the use of the best *available* data and information even when better or more complete data would be preferred but is *not* available.

For example, the D.C. Circuit has said it was reasonable for EPA to issue more protective regulations to protect against a risk whose full scope was unknown because current technology was not effectively detecting and recording the targeted pollution.[36] The Court specifically noted: "If EPA were required to gather exhaustive data about a problem for which gathering such data is not yet feasible, the agency would be unable to act even if such inaction had potentially significant consequences. We have consistently held that, in situations in which an agency must make a judgment in the face of a known risk of unknown degree, the agency has some leeway reasonably to resolve uncertainty, as a policy matter, in favor of more regulation or less."[37] In another case, the Court found it "questionable" when an Agency model completely disregarded a risk that was admittedly "uncertain" but non-zero.[38] The Court has also held that EPA cannot ignore studies based on the inability to quantify reliably their results because this did not conform to its past practices: "[EPA] does not rigorously or uniformly demand either quantifiability . . . or any specific level of significance."[39]

B. The Interim Framework should prioritize quantification when possible.

Expo Sci Environ Epidemiol, 27(6): 544-550; Huang H and Barzyk TM. (2017) "Connecting the dots: Linking environmental justice indicators to daily dose model estimates," *Int J Environ Res Public Health,* 14(1): 24; Martenies SE, et al. (2023) "Developing a national-scale exposure index for combined environmental hazards and social stressors and applications to the Environmental Influences on Child Health Outcomes (ECHO) Cohort," *Int J Environ Res Public Health,* 20(14): 6339; Linder SH, et al. (2007) "Cumulative cancer risk from air pollution in Houston: Disparities risk burden and social disadvantage," *ES&T*, 42(12).; Huang H, et al. (2018) "Cumulative risk and impact modeling on environmental chemical and social stressors," *Curr Environ Health Rep,* 5(1): 88-99; Bell ML and Ebisu K. (2012) "Environmental inequality in exposures to airborne particulate matter components in the United States," *Environ Health Perspect,* 120(12): 1699-1704; Morello-Frosch S, et al. (2002) "Environmental justice and regional inequality in Southern California: Implications for future research," *Environ Health Perspect,* 110(2).

[36] *Mexichem Specialty Resins, Inc. v. EPA*, 787 F.3d 544, 560–61 (D.C. Cir. 2015).

[37] *Id.* at 561.

[38] *Pub. Citizen v. Fed. Motor Carrier Safety Admin.,* 374 F.3d 1209, 1219 (D.C. Cir. 2004) ("The mere fact that the magnitude of [an effect] is uncertain is no justification for disregarding the effect entirely.").

[39] Am. Trucking Ass'ns v. EPA, 175 F.3d 1027, 1052 (D.C. Cir. 1999) (rejecting the idea that EPA could ignore health effects that are "difficult, if not impossible, to quantify reliably"), rev'd on other grounds sub nom. Whitman *v. Am. Trucking Ass'ns,* 531 U.S. 457 (2001). See also Michael A. Livermore & Richard L. Revesz, Reviving Rationality: Saving Cost-Benefit Analysis for the Sake of the Environment and Our Health 114–15 (2020) (describing modeling constraints and data limitations that often prove as obstacles to characterizing public health and environmental issues).

The Agency should incorporate information on cumulative impacts in the most rigorous way possible. Quantifiable information (even if not perfectly quantified) is important to include in cumulative impacts assessments for most decision-making (especially when other information under consideration *is* being quantified).

In the cost-benefit analysis context, scholars have noted that when an Agency does not quantify the benefits of a regulatory action, courts are less likely to find that those unquantified benefits justify the costs of the regulatory action.[40] Similarly, it is likely that unquantified risks of exposure and resulting health impacts will not be duly considered in the decision-making analysis. Given the serious threat of totally discounting a risk that cannot be quantified reliably but that the Agency has evidence does exist, any attempt to quantify, even if imperfect and with uncertainty, will aid the decision-making in ensuring consideration of essential factors and ensure that courts understand the full basis of the Agency's reasons for acting.

While the Agency should, in the first instance, make every attempt to provide some quantitative value on risks even if uncertain, the inability to quantify cannot justify ignoring the effect completely. Courts have repeatedly found that completely discounting factors simply because they cannot be quantified is not reasoned decision-making and considering factors even if they cannot be quantified is acceptable and may be required.[41] It has long been considered a best practice in cost-benefit analysis to use the best methods to describe qualitatively costs or benefits that cannot be quantitatively defined.[42] Longstanding past Agency practice also affirms the appropriateness of EPA's consideration of unquantified and unmonetized data.[43] Thus,

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[40] *See* Richard L. Revesz, Quantifying Regulatory Benefits, 102 Calif. L. Rev. 1423, 1427–32 (2014).

[41] *See, e.g., Sinclair Wyoming Refining Co. v. EPA*, 101 F.4th 871, 889 (D.C. Cir. *2024)* (upholding EPA's decision to qualitatively assess benefits when implementing Renewable Fuel Standards program and concluding that it would be misleading to exclude nonmonetized data); *Nicopure Labs, LLC v. Food & Drug Admin.*, 266 F. Supp. 3d 360, 406–07 (D.D.C. 2017), aff'd, 944 F.3d 267 (D.C. Cir. 2019) (upholding a disclosure regulation where EPA assessed unquantified benefits qualitatively after the agency determined that the benefits were too "difficult to quantify").

[42] OMB Circular A-4 at 5 https://perma.cc/CH4U-LA5C (2023) ("[i]f it is not possible to estimate [an important regulatory effect] quantitatively," an agency "should describe the benefit or cost qualitatively using the best methods available."). *See also* OMB Circular A-4 3, 44 ("[Agencies] should carefully identify and assess [a regulation's] non-monetized and unquantified benefits and costs."); E.O. No. 12,866 § 1 (requiring consideration of "qualitative measures of costs and benefits that are difficult to quantify, but nevertheless essential to consider"); E.O. No. 13,563 § 1; OMB, Circular A-4: Regulatory Analysis at 2, 27 (2003), https://perma.cc/G9HU-LCX4 (discussing importance of considering unquantified and non-monetized benefits); *id.* at 26 (same with ancillary benefits).

[43] *See, e.g.*, 55 Fed. Reg. 8292, 8302 (Mar. 7, 1990) (rejecting the position that the agency could only consider quantified information in promulgating benzene standards under the Clean Air Act); 64 Fed. Reg. 52,828, 53,023 (Sept. 30, 1999) (considering the "real, but unquantifiable benefits" of hazardous waste combustion emissions standards); 69 Fed. Reg. 38,958, 39,138 (June 29, 2004) (assessing all impacts of non-road diesel engine rule, including nonmonetized costs and benefits); 80 Fed. Reg. 62,390,

cumulative impacts analysis, like cost-benefit analysis, should "give due consideration to factors that defy quantification but are thought to be important."[44] That a risk cannot currently be quantified says little about its magnitude.[45] In fact, some of the most substantial categories of health impacts were once considered unquantifiable, including the value of reducing mortality risks.[46]

Additionally, cumulative impacts assessments are characterized as including "quantitative, semiquantitative, and qualitative data and information that are relevant to the decision context for assessing intrinsic and extrinsic factors that reflect vulnerability and interactions with the built, natural, and social environments."[47] While all available quantitative data should be used in cumulative impacts assessments and EPA should continue to pursue and collect such data, semiquantitative and qualitative data is helpful and necessary to further understand and contextualize community knowledge and experience of impacts from multiple stressors. As such, assessors cannot afford to wait until sufficient quantitative data is available to conduct cumulative impacts assessments. We support and appreciate EPA's assertion in the Interim Framework that cumulative impacts assessments must be conducted now, that EPA will learn while doing, and that multiple types of data can and should support the assessments.

C. While consideration of imperfect data is important to improve decision-making, uncertainty should be identified and appropriately considered.

It is important that the Agency consider the uncertainties of its data and the potential for the underestimation of risk because in many cases, EPA's use of imperfect data can lead to such underestimation. For example, two-thirds of U.S. counties lack air monitoring data for criteria pollutants.[48] Screening level air quality models such as AirToxScreen, which rely on flawed emission inventory data, are often used to relate community health risks and in rulemaking processes due to this scarcity of measured data. Comparison of ambient air monitoring data to

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62,412 (Oct. 15, 2015) (describing as "essential to consider" impacts of non-quantified air toxics emissions in setting primary aluminum reduction plant standards); 85 Fed. Reg. 44,960, 44,974 (July 24, 2020) (discussing unquantified benefits in context of lime manufacturing emissions standards).

[44] Arrow, K.J., et al., "Benefit-Cost Analysis in Environmental, Health, and Safety Regulation: A Statement of Principles," 1996, https://perma.cc/YGA4-9ERR.

[45] *See, e.g.,* 89 Fed. Reg. at 38,556 (discussing challenges of conducting epidemiological studies to estimate population-level risk since toxic exposures are often highly concentrated among very few people, such as subsistence fishers living near coal plants).

[46] *See* Richard L. Revesz, Quantifying Regulatory Benefits, 102 Calif. L. Rev. 1423, 1436–39 (2014); *see also* Livermore & Revesz, Reviving Rationality: Saving Cost-Benefit Analysis for the Sake of the Environment and Our Health 114–15 (2020) at 112.

[47] Interim Framework at 19.

[48] EPA, "Do you have outdoor air monitoring data for all counties in the U.S.?" Accessed: February 10, 2025, https://www.epa.gov/outdoor-air-quality-data/do-you-have-outdoor-air-monitoring-data-all-counties-us.

modeled concentrations shows substantial underestimation of cancer risks – particularly in overburdened communities in Texas and Louisiana.[49] Increased hazardous air pollutant (HAP) monitors and improved air monitoring networks are needed in residential areas of vulnerable communities to more accurately define multipollutant exposures, reduce bias in existing screening models, and better ascribe health risks. However, perfection in air monitoring models and needed infrastructure investments cannot be the enemy of the good in conducting the cumulative impacts assessments overburdened communities so desperately need.

4. EPA should strengthen its guidance on consideration of cumulative impacts at the national level.

In the Interim Framework, EPA recognizes the importance of national- or federal-scale cumulative impacts assessments, and that these approaches have historically not been developed as thoroughly relative to place-based cumulative impacts assessments:

> The EPA recognizes that at the time of this writing, approaches for applying cumulative impacts analysis for place-based, geographically specific actions are further developed than are approaches for considering cumulative impacts in national rulemaking. The EPA anticipates that ongoing efforts to address cumulative impacts will be focused on the local scale with the goal of further development to the national scale over time.[50]

EPA also claims it is committed to advancing the analysis and consideration of cumulative impacts through its programs as it works to advance a "whole-of-government approach."[51] However, this framework falls short of providing a framework or any guidance for implementing cumulative impacts for national rulemaking. Even when discussing factors that may initiate analysis of cumulative impacts, there is no discussion on the federal laws and regulations that could be used to facilitate this analysis.[52] Instituting a framework for national rulemaking is imperative as there are obligations under several existing laws for EPA to conduct the best science, and failing to develop the national scale frameworks now leaves many communities exposed and susceptible.

The cumulative impacts framework rightly notes that at the initiation stage, Agency staff must evaluate the legal authorities governing their actions and the extent to which they mandate or

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[49] Padilla, L.E., et al. (2024). Ambient Measurements of Hazardous Air Pollutants in the United States Routinely Exceed Predictions from Screening-Level Exposure Models, *Environmental Science & Technology Letters*, 12(1): 57-63, https://doi.org/10.1021/acs.estlett.4c00917.

[50] Interim Framework at 7.

[51] Interim Framework at 12.

[52] Interim Framework at 17.

permit consideration of cumulative impacts.[53] While it is true that statutes differ in the criteria regulators may consider when setting standards, there are some general throughlines that would be useful for the framework to incorporate. The Interim Framework should also provide more guidance to staff on how to consider legal risk. Stating only that "[t]his document does not address when it is relevant or consistent with law to use a cumulative impacts approach" and that "EPA program staff should consult with the Office of General Counsel or relevant Office of Regional Counsel on legal considerations" could unwittingly suggest to staff that there is more legal risk associated with cumulative impacts analysis than there actually is and thereby pose unnecessary barriers to this work.[54]

As we emphasize in this comment, however, cumulative impacts analysis should not be seen as a separate, independent component of a health-based standard-setting process. Using cumulative impacts analysis is simply considering the "best available science," which EPA is obligated to do under numerous statutes and as part of reasoned Agency decision-making. It is implicated in the Agency's mandate not to act in an arbitrary and capricious way by ignoring evidence about the interaction of the pollutant at issue with other known pollution.[55]

A non-comprehensive list of statutory authorities that require EPA to consider the "best available science" follows:

- Clean Air Act Section 108(a) states that EPA's air quality criteria in implementing the National Ambient Air Quality Standards "shall accurately reflect the latest scientific knowledge useful in indicating the kind and extent of all identifiable effects on public health or welfare which may be expected from the presence of such pollutant in the ambient air, in varying quantities." [56]
- The Toxic Substances Control Act requires that in carrying out regulatory duties under the statutes, EPA "use scientific information, technical procedures, measures, methods, protocols, methodologies, or models, employed in a manner consistent with the best available science."[57]
- The Safe Drinking Water Act requires EPA to consider "the best available public health information" when considering whether to regulate a contaminant.[58] And the statute states the Administrator "shall use ...the best available, peer-reviewed science and supporting studies conducted in accordance with sound and objective scientific practices"

[53] *Id.*

[54] Interim Framework at 3.

[55] *See Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983) ("Normally, an agency rule would be arbitrary and capricious if the agency has . . . entirely failed to consider an important aspect of the problem . . ..")

[56] 42 U.S.C. § 7408(a)(2).

[57] 42 U.S.C. § 2625(h).

[58] 42 U.S.C. § 300g-1(b)(1)(B)(ii)(II).

and in addition "data collected by accepted methods or best available methods" when issuing regulations.[59]

Information about how different pollutants and other non-chemical stressors interact with the pollutant(s) on which a regulatory action is centered and information about people who may experience different or greater health harms based on this interaction will be, in many cases, directly relevant to EPA's action. It will be especially relevant to EPA's consideration of the impacts of stressors on at-risk populations. Several of the statutes that EPA implements require consideration of the impacts on at-risk populations. At-risk populations include those populations that are more susceptible to a certain pollutant due to their historic or present exposures to other pollution or non-chemical stressors that contribute to or exacerbate the same health harms. For example:

- The Clean Air Act requires EPA to set national primary ambient air quality standards that, "allowing an adequate margin of safety, are requisite to protect the public health."[60] These standards "must protect not only average healthy individuals, but also 'sensitive citizens'--children, for example, or people with asthma, emphysema, or other conditions rendering them particularly vulnerable to air pollution."[61]
- The Toxic Substances Control Act requires that in conducting risk evaluations, EPA "shall integrate and assess available information on hazards and exposures for the conditions of use of the chemical substance, including information that is relevant to specific risks of injury to health or the environment and information on potentially exposed or susceptible subpopulations identified as relevant by the Administrator."[62]

A framework or further guidance on conducting cumulative impacts assessments on a national scale is necessary to protect communities at risk *now* rather than pushing the impetus to assess impacts and protect these communities to the undefined future. For example, risk assessments under current federal laws, such as the Toxic Substances Control Act (TSCA), the Clean Air Act (CAA) and the Clean Water Act (CWA), currently assess health risks from chemicals one by one without considering the combined effects from other chemical and non-chemical stressors, with very few notable exceptions. A framework for assessing cumulative impacts on a national scale could support these programs in integrating considerations of other chemical and non-chemical stressors that contribute to the same health harms as those investigated under a particular chemical assessment. This could prevent the continued underestimation of true health risks in at-risk populations and federal regulations that are under-protective for these populations.

[59] 42 U.S.C. § 300g-1(b)(3)(A).

[60] 42 U.S.C. § 7409(b)(1).

[61] Am. Lung Ass'n v. EPA, 134 F.3d 388, 389 (D.C. Cir. 1998).

[62] 15 U.S.C. § Section2605(b)(4)(F), *see also id.* § 2605(b)(4)(A)("The Administrator shall conduct risk evaluations pursuant to this paragraph to determine whether a chemical substance presents an unreasonable risk of injury to health or the environment, without consideration of costs or other nonrisk factors, including an unreasonable risk to a potentially exposed or susceptible subpopulation identified as relevant to the risk evaluation by the Administrator, under the conditions of use.").

As such, EPA should include a framework and considerations for national scale cumulative impacts assessments to be used in national rulemaking within this Interim Framework. This should include guidance on scoping a national-scale assessment, data collection and integration guidelines, and considerations or processes for informing decisions. Because the process of assessing cumulative impacts at the national scale is much different than assessments aimed at decision-making on a place-based basis, this framework will be necessary for programs to address cumulative impacts in the "whole-of-government approach" that EPA aims to advance.

5. EPA should institute a more detailed and complete framework for cumulative impacts assessments.

Throughout the Interim Framework, EPA provides general statements and guidance, such as key goals, principles, and examples, but does not include a specific and detailed framework for cumulative impacts assessments. EPA should strengthen the Interim Framework to include more specific guidance on decision-making processes and assessment frameworks for certain decision contexts.

A. EPA should define a decision-making process for when a cumulative impacts assessment is appropriate and necessary.

In the Interim Framework, EPA provides general statements rather than a framework for assessors to decide whether to use cumulative impacts analyses or what to include in a cumulative impacts assessment. For example, EPA states that:

> Assessors need to exercise judgment in determining when to use cumulative risk assessment, cumulative impacts assessment, or another approach for evaluating exposures to multiple stressors for a specific purpose.[63]

This does not amount to a useful framework for deciding whether to conduct a cumulative impacts assessment and the lack of more specific guidance could result in many programs failing to institutionalize cumulative impacts when doing so would benefit the decision-making process.

For example, in response to comments on EPA's Draft Formaldehyde Risk Evaluation under TSCA, EPA claims that "[q]uantitative consideration of cumulative risks is beyond the scope of the current risk evaluation."[64] However, the scope of the formaldehyde risk evaluation was created in 2020 where EPA had the ability to include consideration of cumulative risk and impacts within the scope of the risk evaluation.[65] Further, the program has failed to include

[63] Interim Framework at 15.

[64] EPA, "Formaldehyde Response to Comments," January 3, 2025, https://www.regulations.gov/document/EPA-HQ-OPPT-2018-0438-0207 at 62.

[65] EPA, "Final Scope of the Risk Evaluation for Formaldehyde," September 4, 2020, https://www.regulations.gov/document/EPA-HQ-OPPT-2018-0438-0061.

cumulative risk or impacts considerations in any new risk evaluation scopes (besides a phthalates cumulative risk assessment).[66] A more specific framework to guide programs' judgements about when a cumulative impacts assessment is within the scope of work will help the Agency more effectively use cumulative impacts analyses and improve its decision-making processes.

Further, use of the "assessors' judgement" on initiation of a cumulative impact assessment has the potential to discount community concerns as an initiation factor for a cumulative impacts assessment. As EPA correctly identifies in the Interim Framework, "[f]actors that may initiate analysis of cumulative impacts include…community-identified human health, ecological, and vulnerability concerns."[67] EPA should include community concerns as an important initiating factor in a decision-making framework.

As such, EPA should institute a framework for decision-making regarding the initiation of a cumulative impacts assessment. In many cases, laws already necessitate the use of cumulative impacts in assessments because of the obligation to use the best available science and assess risks to susceptible populations.[68] Cumulative impacts assessments are typically the best available science as they allow for a clearer picture of various stressor effects on health – reducing the uncertainties found in many health assessments. In cases where there is no direct statutory obligation, a framework detailing when an assessor should institute a cumulative impacts assessment as a matter of good science is necessary. EPA should include this decision-making framework in its next iteration of the Interim Framework.

B. EPA should include an assessment framework for specific decision-making contexts.

While there is some need for flexibility in approaches to cumulative impacts because there are many different decision contexts for which cumulative impacts apply, EPA should go further in developing a framework for cumulative impacts assessment methods specific to common decision-making contexts in this Interim Framework. Rather than developing more specific guidance for various decision-making contexts, EPA states that "the Agency will need to consider how best to balance the full scope of what could be assessed with the level of analysis appropriate to a given decision context" and that this scope includes consideration of "available data and information, time, resources, established scientific processes and procedures, and the statutory context."[69] This vague statement does little to guide the Agency and various programs in how to conduct cumulative impacts assessments and what data and analysis to utilize for different types of cumulative impacts assessments.

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[66] EPA, "Draft Phthalate Cumulative Risk Analysis," January 7, 2025, https://www.regulations.gov/document/EPA-HQ-OPPT-2018-0504-0107.

[67] Interim Framework at 17.

[68] *See* Section 4 of these comments.

[69] Interim Framework at 6.

EPA should instead detail cumulative impacts assessment guidance for different decision-making contexts. For example, EPA should include a framework for cumulative impacts assessment scoping, analysis, and decision-making for national-scale decision-making and place-based decision-making. At a national level, decision contexts that necessitate a consideration and analysis of cumulative impacts include regulation of a chemical or class of chemicals, federal funding allocations, and other regulatory priorities. At a community or place-based level, decision-making contexts can include permitting facilities, funding allocations, zoning, infrastructure planning and development, and more. Rather than leave each program at the Agency to decide on their own process, EPA should detail in this Interim Framework a process for cumulative impacts assessment under each of these contexts. Failure to do so could result in programs failing to implement cumulative impacts assessments across the Agency or programs developing separate and conflicting guidelines for cumulative impacts assessments – in opposition to the whole-of-government approach to assessing and addressing cumulative impacts.

For example, the assessment framework for place-based funding decisions looks very different from the level of assessment needed for national regulation of a chemical under TSCA, CAA, or CWA. If an EPA Region wants to allocate funding for the implementation of climate resilience infrastructure in a large city and wants to consider cumulative impacts in its decision-making, an assessment of cumulative impacts could entail working with the communities in the city to understand and integrate data on indicators of stressors that affect their climate vulnerability and other social determinants of health that affect their well-being. Using quantitative indicators of these stressors, potentially within existing screening tools such as EDF's Climate Vulnerability Index,[70] along with mapping or qualitative data from the communities, the EPA region can prioritize areas within the city that should receive funding.

On the other hand, this type of analysis isn't suitable for considering cumulative impacts for national-scale decision contexts like regulation of a chemical under federal statutes. For example, if the EPA CAA program analyzes the health risks from releases of Chemical X for use in regulation of Chemical X and wants to understand what other chemical and non-chemical stressors impact the same health endpoints as Chemical X, they will employ a cumulative impacts assessment that quantitatively integrates the data more so than in the previous example at the local scale. Here, EPA would need to quantify the health risks from Chemical X in addition to the health risks from other chemicals that cause the same health endpoints as Chemical X and that are reasonably expected to occur as co-exposures with Chemical X. Additionally, when considering non-chemical stressors, EPA would need to employ methodology to adjust the level of risk based on non-chemical stressors that affect the same health endpoints as Chemical X.

As demonstrated in these examples, it is imperative that EPA define frameworks for these various decision-making contexts as different decisions require differing levels of assessment. Additionally, EPA should include guidance for making decisions based on cumulative impact

[70] Tee Lewis, P.G., et al. (2023). Characterizing vulnerabilities to climate change across the United States, *Environment International*, 172: 107772, https://doi.org/10.1016/j.envint.2023.107772.

analyses. For example, EPA could include guidance for making decisions based on a cumulative impacts analysis for decision contexts previously mentioned – such as regulation of a chemical, federal funding allocations, permitting of facilities, or municipal funding allocations.

6. EPA should emphasize specific consideration and assessment of reducing impacts to overburdened communities to inform decision-making.

Particularly in national rulemaking, EPA has historically fallen short of considering and addressing disproportionate impacts to overburdened communities. The Interim Framework aims to address this, as some of the key goals of the framework and assessing cumulative impacts are to "identify opportunities for interventions that improve health and quality of life while advancing equity,"[71] ensure that "people are protected from disproportionate and adverse environmental human health and environmental effects and hazards," and that "no community bears a disproportionate share of adverse environmental and public health impacts."[72]

However, the Interim Framework could be improved to guide evaluation of impacts to those experiencing disproportionate and adverse effects and hazards. This is evident in its lack of guidance for national-level cumulative impacts analyses[73] and in the examples it provides of EPA considering cumulative impacts in national rulemaking. EPA states that:

> It is not always feasible or appropriate to conduct a stand-alone cumulative impacts assessment. In the rulemaking context, for example, cumulative impacts can, as appropriate, also be considered as part of the environmental justice analysis, as described in the EPA's draft Revision of Technical Guidance for Addressing Environmental Justice in Regulatory Analysis.[74]

EPA then goes on to provide examples of how programs have done this in national rulemaking such as in the Air Toxics Rules for the Synthetic Organic Chemical Manufacturing Industry and Polymers & Resins Industries (SOCMI rulemaking), the Updated Residential Soil Lead Guidance for CERCLA Sites and RCRA Corrective Action Facilities, and the Risk Management Program: Safer Communities by Chemical Accident Prevention.[75] Some of these examples, however, fall short of assessing the cumulative impacts of the chemical and non-chemical stressors pertinent to the rulemaking and fall short on assessing impacts specifically to disproportionately overburdened populations.

[71] Interim Framework at 9.

[72] Interim Framework at 10.

[73] *See* section 4 of these comments.

[74] Interim Framework at 19.

[75] Interim Framework at 55-57.

For example, in the SOCMI rulemaking, EPA did not look at risks particularly to communities at the fenceline of industry that experience disproportionate chemical and non-chemical stressors that affect their health and well-being but instead assessed overall reductions in air toxics to all communities living near facilities without considering these disproportionate impacts. EPA stated that it expects the risk reduction from this rule will "reduce disproportionate harm to nearby communities often overburdened by pollution" and that this advances environmental justice because the Agency analyzed the makeup of communities nearby plants covered by the rule and these communities "have a higher-than-average percentage of residents who are people of color, low socioeconomic status, or both."[76] However, this exercise did not look at the risk from these communities that are overburdened by pollution and non-chemical stressors such as racism and socioeconomic stressors and how that also impacts and/or modifies the risk from the chemicals released in their communities. As such, the SOCMI rule did not aim to reduce impacts to these overburdened communities but rather aimed to reduce risks to the general population, as that is how they analyzed risk. While the rule will decrease risk in overburdened communities, it is unclear, without analysis of the cumulative risk and impacts of other chemical and non-chemical stressors, whether this reduction is sufficient to protect these more susceptible communities.

EPA should not highlight this as an example of good assessment of cumulative impacts in national rulemaking because of these shortfalls. Rather, EPA should develop a framework for considering cumulative impacts in national rulemaking, as discussed in Section 4 of these comments, and emphasize specific assessment of risks and impacts to overburdened communities to use in its decision-making. There must also be recognition that communities that have been historically more impacted deserve a higher *rate* of improvement and benefits than others. A uniform improvement in environmental quality, or one lacking the nuance to understand these key differences between impacted populations, is not sufficient. This differential in rates of improvement by region is key to policies that promote equity, not just equality, and is critical towards rectifying longstanding injustices.

A good example of proper consideration of cumulative impacts in national rulemaking is the Updated Residential Soil and Lead Guidance for CERCLA Sites and RCRA Corrective Action Facilities that EPA mentioned in the Interim Framework. Here, the soil lead standard was set at 200 ppm for residential soil unless there are other known sources of lead which would result in a standard of 100 ppm.[77] This type of consideration is a step in the right direction for EPA to adjust decisions based on other sources of exposure and health impacts rather than just the chemical(s) in question.

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We appreciate your consideration of these comments. If you have any questions regarding these comments, please contact Dr. Paige Varner at Environmental Defense Fund (pvarner@edf.org).

[76] Interim Framework at 56.

[77] *Id.*

Respectfully submitted,

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