

**EPN Comments on Charge Questions and
Ad Hoc Project Committee for NASEM's
"State-of-the-Science and the Future of Cumulative Impact Assessment"**

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The [Environmental Protection Network](https://www.epn.org/) (EPN) harnesses the expertise of more than 650 former Environmental Protection Agency (EPA) career staff and confirmation-level appointees from Democratic and Republican administrations to provide the unique perspective of former regulators and scientists with decades of historical knowledge and subject matter expertise.

We appreciate the opportunity to comment on the charge questions and ad hoc committee developed for NASEM's work to explore the state-of-the-science of cumulative impact assessment and its application to various diverse populations. Guidance on this is highly sought after and EPN values the academy's perspective and expertise.

We offer the following general comments on the proposed charge questions. We feel there may be too many questions, some of which may be related to each other. We recommend entirely removing the second and final ones, and offer more specific comments on the proposed charge questions below. In addition, we are concerned that a distinction is not being made between cumulative risk and cumulative impact. This warrants clarification before presenting the charge to the committee. Finally, we recognize that there are challenges in assessing and weighing disparate impacts in the absence of a common qualitative index, but urge the committee to focus on minimizing uncertainty so that progress can be made.

EPN believes that the committee members selected to serve will bring the necessary expertise to weigh in on these issues, although we are concerned that the committee will be focused on risk assessment rather than risk impact, as noted in more detail below. We wish the committee luck.

EPN comments on the draft charge questions

Q1: How can elements of prior risk assessment advice from the National Academies, developments by EPA and others, and response from communities inform a holistic and inclusive approach to developing and implementing cumulative impact assessment?

- EPA has, at least recently, been very careful to distinguish between risk assessment (and the associated cumulative risk assessment) and cumulative impact assessment. Risk and impact assessments are, of course, related, but they are not the same thing. Risk is more purely focused on the well-developed science of assessing risk and how to bring together multiple streams of risk understanding into a fuller scientific picture of combined/total risks. Impacts can, of course, make use of all such risk knowledge, but does limit itself to risk alone. Impacts can take in more general knowledge about conditions (information from monitoring and modeling of environmental conditions), the lived experience of residents, historical information such as redlining and underinvestment, access or lack thereof to amenities and services.

In this first question and throughout essentially all of the following, NASEM is conflating the two. Given the general makeup of the advisory panel, it seems that this effort is much more focused on risk assessment and the future of cumulative risk assessment. If the panel plans to take up both risk and impact, then it is critical to do so deliberately and thoughtfully and distinguish in these questions and throughout the work where the panel is focusing on one versus the other. It would also then be advisable for the panel to include an additional question/charge to more fully investigate and describe the relationship today and into the future of cumulative risk assessment vs. cumulative impact assessment.

Q2: What types of stressors should be prioritized, characterized, and considered in combination in a cumulative impact assessment (e.g., chemical, nonchemical, and climate-related stressors)?

- This will vary with circumstances, so this question should be removed. The third question is more applicable/meaningful.
- If left in, this question again conflates risk with impact. Since the point of the question is on stressors, it should be modified to be about risk and not impact.

Q3: How should stressors be conceptualized relative to community assets and vulnerability, and how can environmental justice considerations be incorporated in relation to cumulative exposures and health risks facing diverse communities and populations?

- This question can be consolidated with the second question if the second question is retained or replace it if it is not.

Q4: How can community-generated data and tribal ecological knowledge be incorporated into cumulative impact assessment?

- Is this risk or impact? There are likely very different answers for handling community data and tribal ecological knowledge in each instance. In cumulative impact, the inclusion of such data is fairly straightforward and its value readily apparent. In cumulative risk, the answer will likely be much more deeply nuanced.

Q5: How can cumulative impact assessment be adapted to different communities, generalized to regional or national scale, and remain flexible for EPA's different programmatic needs?

- It has to be done in stages and see if it can be scaled up and also scaled down (i.e., if an assessment is done for an entire industry or pollutant, how can it then inform an assessment for a specific community?).
- As with all questions, there is a need to be precise here about a focus on risk vs. impact.

Q6: What methods for assessing health effects, such as allostatic load (or biological aging, or toxic stress), are most useful for incorporating into cumulative impact assessment?

- This seems to more directly point to risk, not impact.

Q7: *How should uncertainty in cumulative impact assessments be characterized, particularly when using mixed methods?*

- Again, this question applies to risk, not impact.

Q8: *What are the key considerations in characterizing and managing environmental justice in relation to cumulative exposures and health risks facing diverse communities and populations?*

- This could be read as deviating from a scientific question and should be removed unless environmental justice is here used to mean burden and vulnerability/susceptibility in the context of cumulative risk exposure. If so, then this question is germane but quite general and kind of goes to the overall endeavor rather than being a specific and helpful/insightful question.