

December 12, 2023

Comment in response to [Request for Information To Support the Development of a Federal Environmental Justice Science, Data, and Research Plan](#) (Docket No. 2023-22527)

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Introduction

Thank you for the opportunity to submit comments on this complex and increasingly timely topic. As researchers, advocates, and data scientists dedicated to advancing environmental justice, we are keen to provide OSTP input on the priorities and methodologies our organizations think appropriate to the Federal Environmental Justice, Science, Data, and Research Plan.¹ Given both the pace and scope of climate change, as well as the environmental justice imperatives built into numerous² federal efforts, we see the collection and use of key science and data in this context as paramount—not just for OSTP’s efforts to “identify and address gaps” where they exist, but also for the urgent, sprawling, and multi-faceted execution of its strategy in the years to come. To that end, we see the chief challenge—and opportunity—of the Subcommittee’s work as finding and using the actionable data, science, and research most relevant to environmental justice in a manner that *simultaneously*:

- accounts for the cumulative impacts of long-standing burdens across disinvested and marginalized communities,
- fosters meaningful, community-based participation in the science, data-gathering, and policymaking processes tied to tangible environmental justice outcomes, and
- empowers both government and community stakeholders to use quality data, tools, and data practices to allocate and track funding (and other benefits) linked to environmental justice efforts.

The comments and recommendations that follow are intended to advance those efforts, and to provide specific technical guidance where we think doing so will be helpful to the Subcommittee.³ Given the scope and content of the RFI, however, we have not responded to every question and our recommendations naturally (and hopefully, usefully) cut across topics; as with the challenges OSTP hopes to address, our proposed solutions are inherently interrelated. Lastly, we are eager and available to elaborate on any aspect of these recommendations.

¹ Building on the administration’s definition, we understand “environmental justice” to refer (at minimum) to the “just treatment and meaningful involvement of all people, regardless of income, race, color, national origin, Tribal affiliation, or disability, in the decision-making that affects human health and our environment.” Key aspects of this concept also include that people are “fully protected from disproportionate and adverse human health and environmental effects (including risks) and hazards, including those related to climate change, the cumulative impacts of environmental and other burdens, and the legacy of racism or other structural or systemic barriers; and [that they] 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.” See more [here](#).

² See, for example, relevant executive orders (and other authorities) cited in President Biden’s April 2023 [Executive Order 14096](#); [Executive Order 13985](#) (Advancing Racial Equity and Support for Underserved Communities Through the Federal Government), [Executive Order 13990](#) (Protecting Public Health and the Environment and Restoring Science To Tackle the Climate Crisis), [Executive Order 14008](#) (Tackling the Climate Crisis at Home and Abroad), [Executive Order 14052](#) (Implementation of the Infrastructure Investment and Jobs Act), [Executive Order 14057](#) (Catalyzing Clean Energy Industries and Jobs Through Federal Sustainability), [Executive Order 14082](#) (Implementation of the Energy and Infrastructure Provisions of the Inflation Reduction Act of 2022), and [Executive Order 14091](#) (Further Advancing Racial Equity and Support for Underserved Communities Through the Federal Government).

³ We also believe these comments align with core aspects of OSTP’s Mission, as much as with the RFI’s questions related to the Research Plan (e.g., creating “bold visions, unified strategies, clear plans, wise policies, and effective, equitable programs for science and technology; engaging with external partners, including industry, academia, philanthropic organizations, and civil society; state, local, Tribal and territorial governments; and other nations; [and] ensuring equity, inclusion, and integrity in all aspects of science and technology”).

1. Development and Use of Science, Data, and Research To Support Environmental Justice Policy

It's clear that OSTP, in partnership with other key federal offices and initiatives, has a once-in-a-generation opportunity at present—not only to establish a strong foundation for the federal Environmental Justice Science, Data, and Research Plan, but also to set a new precedent for effective, iterative agency technology and research development that relies on powerful, community-centric qualitative and quantitative data. Put simply: these data, and the accompanying technical, policy, and community-engagement practices we discuss in detail below, constitute an indispensable ingredient for realizing national environmental justice goals. In our view, community engagement, science, data, and research linked to those goals are inextricably bound up together—and hence, must be treated as mutually reinforcing assets in whatever path forward OSTP chooses for its Research Plan.

1a. What kinds of Federal activities do you think should better include or consider data or research related to environmental justice? Are there specific data types of research you would prioritize?

- **Ensure that federal environmental justice research and data efforts include well-built tools designed to leverage the right data.** In recent years, the creation and use of environmental justice-related screening (or “mapping”) tools has helped advocates and policymakers alike make great strides toward meeting ambitious goals in this space (e.g., those linked to the [Justice40 initiative](#)). We applaud these advances, and much of the work of our organizations has been dedicated to making these tools—and the data they use—more effective and precise for varied users. Yet when it comes to *future* federal efforts around such tools (for instance, the Climate and Economic Justice Screening Tool, or CEJST), we want to emphasize at the outset how much these tools require consistent iterative and thoughtful improvements; including sufficient space and time to incorporate ideas drawn from all the communities and agencies impacted by their use.⁴ Although we will discuss CEJST (and other tools) in detail below, we recommend that OSTP (and other federal organizations working on environmental justice) take full advantage of opportunities to breathe life into these tools through engagement with “outside” innovators and experts, trainings, convenings, and other forums in which users and communities can showcase how these tools might be used to address decades of environmental injustice.
- **Improve data and research related to policy (and other avenues) for protecting people from health hazards.** The federal government should also continue to prioritize data and research on the policy, regulatory, and enforcement frameworks and implementation methods that are effective for protecting people—especially vulnerable people—from environmental hazards and related health impacts. Such an effort would complement the current work on closing key data gaps and developing data-driven methods to guide EPA's investments in environmental justice communities aimed at improving access to healthy, sustainable, and resilient environments. Despite years of effort, we still see substantial work to be done on understanding the nuances of policy frameworks and implementation methods that can address the continued siting of hazardous land uses near vulnerable populations (e.g., enforcement, technical assistance, capacity-building, and coordination across federal/state/local agencies).

⁴ See our earlier CEJST-related recommendations to the White House Council on Environmental Quality (CEQ) [here](#).

- **Given the rapidly intensifying impacts of climate change, prioritize research and data efforts linked to vulnerable sexual and gender minorities.** The recently released [National Climate Assessment](#) highlights the social, economic, and health disparities—and the resulting risks—linked to climate change that sexual and gender minorities face. In particular, sexual and gender minorities lack critical services during extreme events and are often left out of disaster preparedness measures—especially when such services are provided by faith-based organizations. To improve access to and delivery of disaster relief services, FEMA should track and publish key data related to these trends—for instance, the number of LGBTQ+ individuals serviced by disaster relief programs receiving federal funding. The agency should also consider the findings of emerging research on the topic when allocating funds to disaster relief organizations and services. This data can surely reveal potential discrimination practices by faith-based organizations against sexual and gender minorities, and thus empower FEMA and other agencies to address those issues.
- **Focus research (and related) efforts on building comprehensive environmental justice data linked to frontline communities.** Addressing the need for comprehensive environmental justice data is paramount for providing services to frontline communities long affected by environmental injustice. Building such data in a comprehensive way requires a holistic approach that can bring together other sources relevant to assessing environmental justice concerns—including datasets utilized by CEJST, the National Risk Index (NRI) (and its disaster and hazards data), and the CDC’s Social Vulnerability Index (SVI). Together, these data sources can help establish a fuller understanding of the accompanying public health implications of environmental justice. As a practical matter, establishing a lead coordinator within OSTP for the Open Disaster Data Initiative is a pivotal step towards this goal. This designated leader, collaborating closely with OMB, would facilitate the development of a strategic roadmap for bolstering an applied research, data integration, and outreach initiative. Such an initiative would be instrumental in cultivating the necessary capacities across sectors—and a well-coordinated effort would reinforce a more equitable and informed approach to environmental policy and decision-making in the context of environmental justice.

1b. What are the biggest opportunities for advancing research and development to support environmental justice-related decision making, both within the Federal research programs and in Federal extramural grant programs?

- **Although the opportunities on this score are numerous, moving forward, we see a focus on interagency coordination around environmental data, research, and technology development as crucial.** That set of objectives will also require new ways of approaching technology and data *talent*, as well as improved and deliberate collaboration around data and tools across many federal agencies and non-governmental users (i.e., improved, actionable data standards, effective governance and reuse, and defined mechanisms for data-sharing and integration). Indeed, in our view, it’s not just about what forms of data ought to be prioritized in the context of environmental justice, but rather, *how* agencies can better coordinate among themselves in line with clear data-related priorities.
- **Federal agencies need dedicated leadership and mechanisms for interagency, cross-organizational data and technology work—and not just at the program level.** In earlier feedback provided on [CEJST](#)’s development, we shed light on a critical capacity gap: across the federal agencies working on conservation, climate, wildlife and water, the

primary technology focus is in core administrative work like human resources or financial accounting—*not* on program delivery or better interagency coordination. Thus, when initiatives like Justice40 arise—which is to say, sprawling, complex “whole of government” efforts—there is a dearth of technical expertise at the right levels within and across agencies to create a comprehensive, user-friendly tool (or other resource) capable of guiding environmental decision-making and investments. In other words, environmental agencies lack leaders who understand how to leverage salient data and technologies, and agencies do not have the shared digital infrastructure they need to foster collaboration within and among environmentally-focused colleagues and programs. What’s more, the US Digital Service (USDS) does not have a history of working with environmental datasets and agencies, nor the dedicated subject matter expertise, likely compounding the issues. One solution would be for the federal government to build [some version](#) of a [Digital Service for the Planet](#) (DSP); an interagency organization designed to address these critical gaps.

- **In addition to improving coordination among government agencies on environmental justice data priorities, we see a real need for greater agency support for using available tools.** CEQ has invested major effort into developing the methods and use cases for CEJST, but [guidance for federal agencies](#) is woefully limited at present. Many agencies have developed additional guidance or tools that don’t leverage the strong foundation that CEQ has already provided—and there is too much at stake to leave this work up to interpretation. One answer is that agencies (such as CEQ) might develop wrap-around support for users across and outside of other federal agencies. This could look like hosting convenings or webinars, writing additional documentation in plain language to communities with standardized access to technical assistance on when to leverage CEJST (vs. another tool), and/or facilitating interoperability between federal and state tools.⁵
- **Make real use of modern digital infrastructure like Application Programming Interfaces (APIs) and open data portals.** Our colleagues at organizations like the [Internet of Water](#)—or those that make up our [Digital Service for the Planet coalition](#)—have much experience with these assets and could provide more detailed recommendations about how this works in practice across government, including the use of third-party data.

1c. What types of data and evidence, including Indigenous Knowledge as appropriate, do you find most important or most needed for advancing governmental decision-making related to environmental justice?

⁵ Equitable, data-driven decision making supported by screening/mapping tools isn’t easy in any scenario—and no one expects technologists to deliver perfect tools out of the gate. Still, when it comes to the policies that mandate such efforts, policy makers often fail to specify standards, key terms (e.g., “disadvantaged,” “burdened”), or iterative development guidelines—and those oversights generate complex downstream effects on tool development. For instance, although many tools in the environmental justice space were initially designed for explicit, targeted measurement use cases linked to specific programs, others were more open-ended from their inception—even intended by lawmakers for informational or planning purposes only, or built largely with non-governmental advocates in mind. Many of these intended (and potential) uses are not communicated clearly in policy or guidance, leaving permitting and funding applicants and advocates uncertain about which tool to use and when. The effect of this scenario has been a veritable cottage industry of tools, many of which have been developed in silos and without the guidance of a community of practice. And while we do think diverse approaches to tool development are generally good for innovation in data-centric settings, the increase of these tools—without common standards, user guidance, definitions, and methodologies—ultimately hinders the federal government’s ability to get benefits to communities who need them.

- **Given its scope and significant role(s) in federal environmental justice efforts, CEJST needs improvements.** Communities of color have long borne enormous environmental burdens, around the country, and grouping all communities identified by CEJST together into one category fails to capture the complex inequities across such communities. In our view, ensuring that the communities facing cumulative burdens receive a greater portion of the benefits linked to related policy (e.g., Justice40-funded programs) is a crucial step towards environmental justice.
- **In addition to questions linked to race, redlining needs to be reconsidered as CEJST is refined.** One of our organizations [estimated](#) the impact of CEJST’s methodology to decrease the overall percentage of eligible Latino people by as much as 2.83%, and for eligible Black people, 1.77%. The adjustments also increased the number of white non-Hispanic/Latino people to benefit from the Justice40 Initiative by 10.7 million—diluting the proportion of eligible communities of color. Moreover, out of 15.7 million people added, only 1.57 million were Black—which is roughly 10%, lower than their overall representation in the population. Additionally, in the updated version of CEJST, redlining was only considered in a limited context and therefore doesn’t yield the impact that environmental justice communities advocated for. In its current form—where redlining is applied in only one category (Housing) and redlined census tracts must meet a low income threshold—CEJST methodology significantly limits the impact of the redlining data. By adjusting the low-income threshold in a manner similar to exceptions made for communities surrounded by other CEJST selected tracts, CEQ can allow more redlined communities to be designated, and increase the amount of Justice40 benefits-eligible people living in historically red-lined communities.
- **Make the assessment of cumulative impact clear and accurate.** CEJST’s methodology does not incorporate any measure of cumulative impact. Incorporating cumulative impact into the methodology would ensure that CEJST highlights those persons with the most extensive environmental burdens, and hence help Justice40 benefits reach the communities facing the most significant hurdles. Indeed, categorizing communities based on how many of the CEJST category thresholds they meet will empower users to better identify and describe the communities that shoulder such burdens. It’s also worth noting that although the absence of a race indicator in screening tools and program design is common—even in programs built explicitly to address environmental racism—the non-inclusion of race in mapping tools like CEJST will likely have distorting (and in our view, counterproductive) effects on what program evaluations report as outcomes and impacts. Indeed, that approach will likely continue to be a hindrance to the broader goals CEJST was designed to pursue. CEQ should instead consider following CalEnviroScreen’s example—which also includes a supplemental race analysis that demonstrates how communities of color disproportionately reside in disadvantaged communities. Analyses by [WRI](#), [Rhodium Group](#), and [Grist](#) provide evidence of why communities of color are truly disproportionately disadvantaged and a central component to environmental justice.
- **Update key data and/or find alternative data sources.** Unlike demographic data taken from the [American Community Survey](#), which is regularly updated, different environmental and socioeconomic data in CEJST are not up to date. For instance, data on exposure to diesel particulate matter is drawn from the [2014 National Air Toxics Assessment](#), as compiled by EPA’s EJScreen. Similarly, the energy burden indicator in CEJST is based on 2018 data from the [Low-Income Energy Affordability Data \(LEAD\) Tool](#),

and the indicator does not capture recent fluctuations and disparities in energy costs. CEJST should specifically note that the use of these data may be a less than accurate portrayal of current conditions, and CEQ should collaborate with federal and local agencies and academic and research organizations to explore solutions for such data gaps. Where possible, CEJST should also identify alternative data sources that may be available for some jurisdictions. For instance, the [New Jersey overburdened communities tool](#) calculates air quality data based on daily air monitor data from EPA's ambient air quality monitoring program.⁶

- **Definitions of terms like “disadvantaged communities” play a key role—yet remain ambiguous or inconsistent.** The ability to define and identify disadvantaged communities is central to measuring the direct impacts of federal policies and programs on those communities. However, the effective evaluation of the Justice40 Initiative is constrained by the lack of a robust—and consistent—definition of “disadvantaged communities,” among other terms often used interchangeably. CEJST is one of over 30 such screening tools across federal, state, and local agencies—and while we acknowledge that there likely cannot be a single definition for disadvantaged communities that applies to all programs (given how federal and state programs have different target populations and related burden indicators), the multiplicity of non-compatible definitions makes it difficult to properly measure the impacts of federal actions across disadvantaged communities. CEQ should develop a set of core metrics for *all federal activities* serving disadvantaged communities.⁷ Federal agencies should also explore additional context-specific metrics aligned with their sector work. If state or local metrics for disadvantaged communities are already established, research teams must justify why local metrics should be used in place of CEQ designations.
- **The Environmental Justice Scorecard does not address what we need it to.** Metrics and tools obviously serve multiple objectives as it relates to environmental justice—such as identifying target populations, holding decision-makers publicly accountable, and evaluating how disadvantaged communities are faring in the short-term (outputs) and long-term (outcomes). Yet we still need some mechanism to assess whether energy transition actions—for instance, all the federal investments through the [IRA](#)—are resulting in equitable and just outcomes for the nation, especially in disadvantaged communities. To support an environmental justice evaluation of the energy transition, we need effective collection of data on the equity and environmental justice impacts of investments and the equity (and related) outcomes of programs. Such information would support analyses of federal agency compliance with the Justice40 Initiative, which the Scorecard doesn't fully address at present.

⁶ We will also note that, in this context, disaster risk is outdated since it uses FEMA's Risk Index—which is very focused on property values—and thus can *overcount* the risk of more affluent communities. Moreover, we've found it seriously lacking when it comes to things like extreme heat and wildfire smoke. See one alternative (i.e., on heat) [here](#).

⁷ As set forth in [Executive Order 14096](#), Section 3, “‘Federal activity’ means any agency rulemaking, guidance, policy, program, practice, or action that affects or has the potential to affect human health and the environment, including an agency action related to climate change. Federal activities may include agency actions related to: assuring compliance with applicable laws; licensing, permitting, and the reissuance of licenses and permits; awarding, conditioning, or oversight of Federal funds; and managing Federal resources and facilities. This may also include such activities in the District of Columbia and the Commonwealth of Puerto Rico, the Commonwealth of the Northern Mariana Islands, American Samoa, Guam, the U.S. Virgin Islands, and other Territories and possessions of the United States.”

1d. What data sources should the Environmental Justice Subcommittee consider recommending to the Chair of CEQ for inclusion in the Climate and Economic Justice Screening Tool established pursuant to section 222(a) of Executive Order 14008?

As discussed in earlier work on the [Justice 40 Initiative](#), it is important to be clear and transparent throughout iterative research and development processes by shedding light on potential sources of systematic bias—such as data that may, even unintentionally, exclude certain regions or obscure the many nuances built into the lived experiences of impacted communities. Concerted transparency around bias, we think, will enable CEQ—as well as policy makers, community advocates, and agency staff more broadly—to understand tools like CEJST, and quantitative metrics, in a more realistic, comprehensive manner. In the context of CEJST specifically, it is also difficult to discern at present whether the lack of data on a specific problem is evidence of the *absence of the problem*, or an *absence of evidence collected around the problem*. We cannot overemphasize the profound implications of that question—as it surely skews conclusions about which communities are truly disadvantaged. In other words, data, broadly speaking, can be an indicator of digital connectivity—and therefore, its absence may be an indicator of an *unconnected*, vulnerable population not captured by federal research efforts. This paradox should be considered carefully and transparently at each stage (and in relation to every feature) of tool development.

- **Revision of the economic screening approach.** CEJST also includes one qualifying indicator, the share of people in a census tract whose incomes are below 200% of the Federal Poverty line. Meanwhile, there are 34 environmental or climate indicators, and a tract only needs to meet one of these to qualify. And most tracts do: 80% of the nation’s census tracts meet at least one of these 34 environmental and climate indicators. Yet they still need to meet the single economic indicator in order to be considered as “disadvantaged.” As a result, the single economic indicator is essentially as influential as all of the environmental and climate indicators combined. It’s also uncertain whether the share of the population below 200% of poverty is the best measure to use. We tested this scenario by measuring whether a census tract’s median household income is at or below 80% of Area Median Income (a measure commonly used for affordable housing programs). We found that the majority of disadvantaged census tracts would qualify under both measures, but a substantial number—about 10,000 tracts in total, representing over 40 million people, or nearly 13% of the nation—would have their disadvantaged status change. Given that the income metric does not capture wealth vulnerability and is not indexed to local costs of living, the wealth disparity between non-white and white Americans influenced by factors beyond income levels goes uncaptured. Lastly, measuring for income—but not wealth—actually inadvertently biases results against non-white households. We are not recommending switching this indicator, but instead calling attention to the fact that a reasonable change in the way income is measured has a meaningful impact in disadvantaged areas.
- **Add key health indicators.** We also recommend the inclusion of additional health indicators, such as low birth weight and flood-borne/water-borne illnesses, into future versions of CEJST. State mapping tools (like [CalEnviroScreen](#)) already include low birth weight as a health indicator and we see following its lead as a worthwhile endeavor. [Research](#) has also shown that pollution could be a factor in low birth weight. At the same time, low birth weight may also indicate potential health outcomes from pollution exposure, such as developing asthma or chronic diseases later in life, and babies who are born at low weights are more likely to die as infants than their higher weight counterparts.

We also recommend the inclusion of [flood-borne/water-borne illnesses](#) in CEJST. As climate change intensifies and floods become more prevalent, the use of the flood risk indicator may not provide an accurate picture of the particular difficulties environmental justice communities experience as a result of flooding. As such, a flood-borne illnesses indicator could help highlight a community's aging infrastructure, access to healthcare, and/or ability to recover after floods. Sources for this data are numerous, and the [CDC's PLACES](#) tool represents a strong contribution to the field of health indicator aggregation.

- **We see other signal data challenges within CEJST in three ways—and hope the following recommendations will be useful in the next iteration of the tool:**

1. *There are several known climate justice issues that have ample national data to demonstrate the scope and scale of the issue—and there is no clear justification for why the data is not included in the tool.* These include: [urban heat islands](#), [hazardous dams](#), [sea level rise](#), [storm surges](#), [inland flooding](#), [droughts](#), and [wildfires](#). Federal agencies such as the [National Oceanic and Atmospheric Administration](#) (NOAA) as well as the [National Center for Environmental Information](#) are reputable sources for such information.⁸ FEMA offers the [Resilience Analysis and Planning Tool](#), a useful general guide to climate hazard resilience. Additionally, we recommend a review of the following resources from third-party sources as they have developed sound and robust metrics to evaluate environmental justice and equity: [The Nature Gap](#), [American Forest's Tree Equity tool](#), and [Trust for the Public Land's ParkServe tool](#).

More broadly, it's not clear what the decision making process was for determining which issues, indicators, or factors ended up being incorporated into the CEJST. If agencies are asking for feedback, it is equally important to surface the decision-making process for why certain factors are or are not included so as to allow stakeholders to provide the most meaningful and relevant recommendations and input. Whereas Federal Register comment processes on draft policies do create a record of agency response on public comments, the government generally lacks tools to document public input and responses on digital assets like CEJST. Of course, it's not CEQ's fault that we lack a robust process for this new data environment—but the development of public comment response tools for data products and projects is something that CEQ could and should spearhead. One intermediate step that might be taken is for USDS or CEQ to share what datasets have been considered, are in the pipeline for consideration, or have been excluded from the tool with non-governmental data workers, advocates, and technologists.

2. *There are known climate justice issues for which we do not have sufficient data, and it is important to find creative and sound mechanisms to surface these issues within CEJST.* This includes issues like: toxic lead pipes and PFAS contamination, among others. The absence of these kinds of environmental justice issues within the draft CEJST is misleading. Given the amount of investment planned to address these issues through the Infrastructure Investment and Jobs Act (IIJA), we think it's important not to exclude them. One way to address this is for CEQ to invest in federally-generated and community-generated data collection (discussed in more detail below) to better understand and track environmental injustices (e.g., national toxic lead pipe inventories). In the interim, there are several

⁸ For more recommendations related to climate, weather, and NOAA data, see our [10/2023 public comment](#).

mechanisms to incorporate qualitative assessments of environmental issues (e.g., first-hand accounts, news articles, photos) to augment the quantitative data.

CEJST also has started to provide tract-specific public input through email which is a great way to incorporate qualitative “ground truthing” to indicate which tracts they think are (or are not) disadvantaged communities (DACs), and why. In future iterations of CEJST, we encourage further elevation of the ability for communities to provide this input *and then display that information* within the map. Based on applicable experience with the Climate Justice Working Group in the state of New York, we learned that providing a path for tract-specific feedback is important for two reasons:

1. It develops a “test-and-learn” database based on *lived experience* of where there are DACs and non-DACs and data/scoring developers can use to tweak their scoring approach based on this information. For example, if they are testing different scoring approaches, filters, etc., they could see which better align with community input.
2. Asking “why?” gets people to define which factors they think are most important, which developers can use to prioritize indicators and/or develop missing indicators. People often ask for a very long list of indicators, but when asked to explain or justify why something should be a DAC, they may only mention a few.

3. *For certain climate indicators, depending on how the data is analyzed, the wrong data can be prioritized.* This is particularly salient with air quality data: if the *average* of PM2.5 over the course of one year is utilized, for instance, the peaks of poor air quality exposure from key events throughout the year may be missed (i.e., [EPA's 24-hour standard](#)). Furthermore, wind patterns play an important role in determining which communities may be more impacted by poor air quality; it is therefore vital to factor that into the calculation of which census tracts are impacted, rather than the current “within 5 kilometers” range that is being used.⁹ In addition to the climate variables, there are two additional considerations to enhance and improve upon the set of indicators currently used:

1. It is important to include “readiness metrics” to assess if a community is ready to absorb funding from federal partners (e.g., matching funds), its ability to take on loans, its financial capacity to manage a large infusion of capital, etc. Agencies generally include these readiness metrics in proposal and application processes and candidates must demonstrate that they meet these criteria. It would be difficult to capture all of the readiness factors in one tool, but CEQ can put into place recommendations and examples for how the data and outputs of the tool could be used to support the funding decision processes of agencies/stakeholders.
- **A key policy question that CEQ should dedicate additional attention to—one we examine in multiple contexts throughout this comment—is whether income and educational thresholds should have such binary power to determine whether environmental harms to communities matter.** The “double threshold” approach of only considering pollution and other burdens when the tract *also* passes the income and higher education thresholds significantly reduces or neutralizes a lot of the indicators. There is currently no way for a community to be selected if they fail either of the income or higher education enrollment indicators. The scoring is simply so sensitive to that data. Both of those indicators are from

⁹ [Reporting from ProPublica](#) further elaborates on the consequences of misrepresenting this data and the EPA's proposed “[Good Neighbor Plan](#)” could be a helpful reference for how to represent air pollution that crosses state lines.

the American Community Survey, which only samples 2-4% of people per year and maybe 8-12% over 5 years, resulting in high margins of error for both of these indicators, and potential for nonresponse bias. Hence, we encourage CEQ to:

- a. Think of other potential sources of income data to supplement or complement American Community Survey data such as IRS data, or receipt of social services, and/or
- b. To loosen the Higher Education Enrollment indicator because it appears that the current enrollment data is correlated with the age distribution of a community.

1f. Please provide examples of data, research, local or Indigenous Knowledge, and/or science—or the lack thereof—that have been misused or misinterpreted in environmental justice-related decisions and actions?

- **NOAA is likely the nation’s single greatest agency for public data generation; use it to leverage opportunities for interagency—and cross-sector—collaboration and innovation aimed at empowering vulnerable communities.** As the impacts of climate change increase in frequency and severity, the need for combining NOAA’s data with other data sources will surely grow. And while data scientists will continue to develop their capacity for integrating these datasets on their own, we believe it’s vital that *NOAA consider delivering climate data that is already situated alongside other data sources, in addition to providing retrospective climate data.* For example, consider the scenario where an urban area experiences an intense rain event—what areas of commerce might be impacted by that flooding? For the same area, we might ask how precipitation has changed (i.e., can we analyze historical averages alongside daily high and low forecast data on Weather.gov?).¹⁰ Lastly, climate change will continue to affect entire regions and countries; forcing migrations and displacements and putting agriculture at risk—among other challenges that are difficult to address at the hyper-local scale. Providing climate data along with insights on how those changes will impact norms and processes like planting and harvest times, monsoon seasons, etc., will be incredibly useful for large-scale efforts to mitigate climate change impacts. NOAA is uniquely positioned to find, develop, share, and deliver insights from such data.

2. Identifying and Addressing Data Gaps and Inadequacies in Data Collection and Scientific Research Related to Environmental Justice

As we discussed above in the context of CEJST, numerous data gaps exist across current environmental justice tools. In most cases either the data exist and are not included (e.g., droughts and flooding), the data are spotty and may perpetuate existing inequities (e.g., lead pipe identification and replacement, PFAS, groundwater poisoning, etc.), or data may be averaged such that it *erases the scope or nuances* of the core problem (e.g., with air quality or wind patterns). Addressing these gaps and data problems in the context of environmental justice will require sustained, deliberate efforts to avoid recreating such pitfalls—and again, building transparency and bias redundancies into future federal efforts.

¹⁰ In our view, putting climate data together with economic data can also help individuals and political decision-makers with decisions such as whether and when to relocate. For example, if property values are decreasing in areas that are repeatedly flooding, then it may encourage municipal governments to invest more infrastructure in less flood-prone places (i.e., where they can reap the benefits of higher property taxes). This is an important consideration given that fears of lost property tax revenue often stymy municipal governments’ efforts to facilitate community-driven relocation.

2a. What data gaps or data collection challenges have you encountered related to patterns of historical or ongoing discrimination and bias (e.g., related to income, race, color, national origin, Tribal affiliation, or disability)?

- **For key environmental justice tools other than CEJST, such as the EPA’s EJSCREEN, we have identified the following data gaps:**
 - a. Within the development of an Environmental Justice Index, the “Demographic Index” dominates all environmental metrics, leading to a ranking of census blocks driven by economic—not environmental—factors in EJSCREEN. The influence of this index works to the exclusion of environmental factors in surfacing priority areas for remediation or federal investment.
 - b. The “Demographic Index” creates “Invisible Communities” by using misleading rankings of risk and hazard. By benchmarking the Demographic Index against the national average, many of the census blocks with the highest levels of environmental hazard are ranked at the *bottom* of EJ metrics. This means that communities that are significantly affected by pollution, but which don’t rank highly within the Demographic Index, could be left behind.
 - c. Top EJSCREEN percentiles predominantly focus on urban areas. Due to both the choice of environmental metrics considered by EJSCREEN and the inclusion of the “Demographic Index,” rural areas are entirely excluded from the top “hazard rankings” within EJSCREEN.
 - d. There are major environmental justice data gaps, and the existing data in EJSCREEN are predominantly focused on urban issues. The available data in EJSCREEN predominantly focuses on urban issues, while rural issues are largely ignored. Environmental issues related to agriculture, concentrated animal feeding operations (CAFOs), mining, energy (e.g., power generation, oil and gas pipelines, fracking, waste disposal, etc.), water quality data, and many other environmental issues—which are all crucial for evaluating and effectuating environmental justice goals—are not taken into account within EJSCREEN.

- **Avoid flattening environmental issues.** Environmental Justice scorecards and metrics inevitably reduce an issue or problem down to a few dimensions over a certain timeframe—and hence suffer from the implicit biases in the collection, analysis, and presentation of data. By design, data coverage, accuracy, completeness, and other characteristics should be considered along with the historic burden of communities. Federal efforts should acknowledge these realities and take steps to mitigate them; such as adding a data confidence scale or indicator to flag data that does not meet standard non-biased data criteria, and providing mechanisms to account for the history of environmental injustices in this country and who has truly borne the burdens. Including qualitative data may also be a means to recognize and contextualize key environmental justice issues.

- **Prioritize accountability beyond federal agencies.** We see a need to ensure objectivity while also evaluating how state and local funding is flowing to address environmental injustice. For example, many of the federal funds require a match by the communities receiving those funds. Most communities do not have the matches required or the capacity to develop dedicated revenue streams to take advantage of such federal funding.¹¹ Federal

¹¹ Read more about this issue [here](#).

tools can and should be configured to track all investments, programs, loans, and grants under federal law—including laws like the IIJA and the IRA—and matching private and tribal funds. Products like the Environmental Justice Scorecard should evaluate how these investments are distributed and whether they actually reduce burdens and provide benefits to environmental justice communities. Doing so will highlight where there are geographic gaps in funding streams and where to address those gaps through innovative programs, capacity building, targeted technical assistance, and more.¹²

- **Think systemically about benefits and harms tied to data.** To realize the full potential of environmental justice-focused tools, systemic thinking and attention to federal data silos are both critical—especially when it comes to avoiding the unintentional undermining of agency efforts to address environmental injustices. While it’s true that environmental data have been collected by agencies at all levels of government for decades, much of the data is not easily locatable, accessible, or usable in its current format. Worse, many datasets and applications are not connected or available to programs in other agencies or departments (at both the state and federal levels) due to a lack of standardization and digital infrastructure that limits cross-agency collaboration and coordination. In some cases these challenges result in agencies undertaking conflictual projects: one might be investing in improvements to a natural area only to have another agency permit a dam upstream that will affect the results *downstream*.
- **Prioritize new ways of doing interagency coordination and collaboration around key environmental data and technology.** Government software projects have a long track record of costing too much and delivering too little. [One recent report](#) found that only 13% of major government software projects succeed, and across all projects, they cost 5-10 times more than they should. The [GAO found](#) that of the \$90 billion that is spent on federal IT, 80% is allocated for maintenance of legacy software. As bad as that status quo is in general, it’s even worse respecting environmental data, related technology, and program management: the Internet of Water Coalition [found](#) that there were 25 different federal entities across 57 data platforms collecting 462 different data types *just for water data*. With historic federal investments in environmental justice efforts, we need to change how we access, build, and manage environmental data to equip federal agencies with what they need—tools and people—to deliver environmental solutions. The time is right to build [some version](#) of a [Digital Service for the Planet](#) (DSP). Indeed, the fact that many environmental programs across multiple federal agencies have overlapping data and technology needs means that a dedicated team focused on addressing these needs could significantly and cost-effectively advance the capacities of key agencies to deliver on our environmental justice goals. From issues ranging from water management and climate resilience to environmental justice and green infrastructure, a DSP would empower the federal government to be a better buyer, partner, and consumer of the data technology and innovations that are necessary to support the country’s conservation, stewardship, and environmental justice priorities.¹³

¹² For more on how state agency staff are grappling with administering Justice40 funds, see [this report](#).

¹³ Relevant agencies and organizations linked to a DSP would, at minimum, include: the U.S. Army Corps of Engineers (USACE), the Department of Energy (DOE), the Department of the Interior (DOI), the Environmental Protection Agency (EPA), the National Aeronautics and Space Administration (NASA), the National Oceanic and Atmospheric Administration (NOAA), the U.S. Department of Transportation (USDOT), the Department of Agriculture, the Federal Emergency Management Agency (FEMA), the Department of Defense (DOD), and the U.S. Global Change Research Program (USGCRP).

3. Encouraging Participatory Science and Meaningful Engagement for Communities

3a. What role should the Federal government play in collecting, storing, and managing community-derived data, including information collected from communities with environmental justice concerns?

- **Collecting community-derived data:**
 - a. Federal agencies should support community-led data collection and collaborative research. Re-granting agencies should also facilitate multi-directional learning processes to center community perspectives in the evaluation of grant programs, for example through listening sessions with previous grantees and key environmental justice stakeholders.
 - b. EPA should continue supporting community-led data collection efforts using mechanisms like the [Environmental and Climate Justice Block Grant program](#).
 - c. Research agencies like NSF, NOAA, and NASA should expand their support for collaborative research projects that require or incentivize meaningful community partnerships. They should also support capacity building among researchers (community-based or otherwise) to recognize the value of community data and collaborate with communities to incorporate it responsibly into research designs and protocols. (NSF examples include: [Civic Innovation Challenge](#), [Smart and Connected Communities](#), or [Arctic Research Coordination and Policy Support](#); NOAA examples include: [Climate Adaptation Partnerships Program](#) (Climate Program Office).)
 - d. Prioritize low-cost tools and open science hardware (OSH); [tools whose designs have been made public](#) to enable others to make, modify, distribute, and use them, including environmental sensors and monitors. These tools are increasingly being used in community data collection efforts as they can lower costs, promote adaptation, and support collaboration. By enhancing OSH in research and grantmaking, federal agencies can broaden access to sensing tools in communities.

- **Storing community-derived data:**
 - a. These same agencies should enable the integration of community data into existing digital repositories, or build new repositories that can accommodate this data. The NSF [Arctic Data Center](#), for example, holds thousands of datasets from NSF-funded research in the Arctic—including those from partner collaborations.
 - b. EPA's [Environmental Information Exchange Network \(EN\)](#) does not currently accommodate community-generated data; it should.

- **Managing community-derived data:** Recognizing the need for quality assurance/quality control processes and data standards in advancing robust, accurate research—as well as in regulatory decisions generally—there are several approaches agencies can take to support the integration of community data into their repositories, workflows, and decisions.
 - a. In the short-term, work to understand community needs and capacities with respect to meeting data standards, and support community actors in meeting these standards; for example, EPA's regional or local technical assistance (TA) centers.
 - b. Research agencies have specific programs that employ data stewards and librarians to support community actors in uploading data in accordance with repository standards. Data librarians are commonly employed by universities and other large research institutions to do this work, but rarely have the capacity to support

non-affiliated community members, or may not be connected to community data networks at all.

- c. In the long-term, engage community science stakeholders in a process of developing data standards that can accommodate community data and contextual information, and which prioritizes open hardware and low-cost tools.
- d. Rather than require strict adherence to open data practices where community capacity to meet them may be limited, agencies should work to ensure that data infrastructure and technical assistance enable the application of FAIR and CARE principles to the extent that they promote ethical sharing and reuse. To that end, apply open and [FAIR](#) (Findability, Accessibility, Interoperability, and Reusability) practices that account for use [beyond collectors' original intentions](#) so that new questions can be answered and diverse communities can use data to sensemake. Also apply [CARE](#) principles (Collective benefit, Authority to control, Responsibility, and Ethics) to protect Indigenous data sovereignty and reduce the risk of misuse or harm.

3b. What suggestions do you have for use of community-derived data in Federal decisions with varying needs for quality assurance, reproducibility, and peer review across different decision contexts?

- *See response to 3a. (above).*

3c. What are the priority decision contexts in which community-derived data should be applied?

- **In general, if there are no pathways for community data to funnel directly into regulatory decisions at agencies like EPA, there should at least be clear pathways for it to trigger further investigation by the relevant agency.** See, for example, the spectrum of citizen science data use framework (below) in the National Advisory Council for Environmental Policy and Technology's (NACEPT's) [2016 report](#) on the subject. We suspect there are more recent examples of these principles (and associated recommendations) OSTP might draw on, but this report and its findings are an excellent starting point.¹⁴

¹⁴ From the [report's](#) Executive Summary: "Citizen science is much more than collecting data. It provides a way to engage all parts of society in gaining a deeper understanding of human environments, build an informed population that can advocate successfully for environmental protection, and more effectively protect human health and the environment. Citizen science broadens environmental protection by working across boundaries that can separate policy makers, scientists and members of the public, harnessing the shared commitment of grassroots efforts, formal research and federal protection to create a safer and healthier Nation. Increasingly during the last decade, rapid technical advances have opened opportunities for broader and deeper interaction and participation among individuals, communities and governments, allowing all levels of government to engage previously uninvolved people in issues affecting their communities and local environments."



3d. What other actions could the Federal government take to encourage use of community-generated data in state or local decision making?

- Two high-level, but, we believe, important, considerations on this topic.** First, we think the term “encourage” should be interpreted broadly to mean everything from simply allowing states and localities to leverage federal resources (relevant data, policies, programmatic funding or mandates, targeted federal guidance on the topic, etc.), to actively facilitating/supporting critical data-gathering/standardization activities. In any scenario, we recommend that federal actors directly engage state and local staff working with (or around) community-generated data to *solicit their perspectives on the needs they themselves identify in this context*. We recommend that federal actors communicate deliberately with state GIS coordinators and/or state agency staff about what they see across communities in this context—and centrally, how and why communities want to use *their own data* instead of (or in tandem with) federal data. Moreover, it has long been our experience that—as dedicated as many state and local personnel are in this work—they have a variety of data needs and constrained capacity to meet them. Secondly, we recommend that OSTP and the Subcommittee revisit the very frame of this question—i.e., we suggest that federal organizations actively spend time learning about how *they can replicate* successful aspects of state and local models on community-generated data in environmental decision-making—rather than solely attempting to support such efforts from “the top down.”

3e. What recommendations do you have for encouraging, implementing, and institutionalizing community and/or participatory science, such as research or data collection undertaken by communities or the public, and, as appropriate, integrating such science into agency decision-making processes?

We think capacity-building and research/data infrastructure should be at the center of this topic as OSTP considers its strategy for using science, research, and data in agency decision-making. In

other words, if the federal government facilitates significant new investments in equipment or expertise for certain scientific research activities, it should also be able to design investments for the “relational” infrastructure needed to widely scale community and participatory sciences in the context of environmental justice-related agency activities. Relational or research infrastructure, in practice, looks like everything from data literacy and training to the incubation of communities of practice—key resources and mechanisms that connect community scientists with private, academic, and non-profit expertise and collaboration spaces. We see this crucial piece—communities of practice—as the social and skills-based connective tissue that enables tangible research outcomes in often shorter timelines. Without such forums and networks, innovation and collaboration in this space will be hampered by a status quo in which communities in need of researchers make do with limited, and frequently siloed or unsupportive, research institutions. See specific cases and recommendations below:

- **To ensure that the scientific enterprise itself is open and accessible, it is also critical to understand how current approaches to structuring scientific research can encourage the broad participation of communities, especially disadvantaged communities, that stand to benefit from accelerated equitable innovation.** Of course, achieving these goals of community and participatory science are challenging if communities lack the ability to participate. As of this writing, many local governments and community-based organizations do not have the capacity to engage in federally-funded scientific research. For instance, Headwaters Economics found that a [significant proportion of communities](#) in the United States do not have the staffing, resources, or expertise to apply to or receive—let alone manage—federal funding. Additionally, the community-based organizations (CBOs) that are most connected to people facing problems that the National Science Foundation’s Technology, Innovation, and Partnership’s (TIPs) investments, for example, might be activated to solve—such as health inequities and environmental injustices—also [face similar capacity barriers](#); particularly around compliance with federal grant regulations and reporting obligations. To make matters worse, relationships between communities and academia, companies, and the federal government are often facilitated on an “as-needed basis”—leading to relationships that consume time and resources from small CBOs without compensating members for their significant contributions.
- **There should be more federally-funded programs available to build out community capacity in this context, i.e., more programs designed to invest in the research infrastructure needed to scale community and participatory science.** We see the best models for this type of effort as enhancing capacity building for co-produced research and community-generated data “on the ground.” Many current programs still fund researchers who do outreach to communities, rather than *enabling communities* to do research aligned with their own priorities. Lastly, we recommend decoupling publication metrics from the funding of participatory community research—such that the selection of teams for these types of projects not be determined by their history of publications in the academic literature. We recommend OSTP look to the following resources for various models of how to do community-led and/or participatory science:
 1. The [CSI Division](#) at NOAA’s Climate Program Office (specifically, the [Climate Adaptation Partnerships Program](#))
 2. [A.49 Earth Science Applications: Equity and Environmental Justice at NASA](#) (see an overview of the program’s goals [here](#))
 3. [F.9 Citizen Science Seed Funding Program at NASA](#)
 4. [USFS Citizen Science Competitive Funding Program](#)

5. [USDA's Climate Hubs](#) (which have created interesting projects like the [Climate Change Response Framework](#))
 6. [NSF's Accelerating Research Translation Program](#) (focusing on connecting research to practice)
 7. [NSF's Civic Innovation Challenge](#)
 8. [NSF's Smart and Connected Communities Program](#)
 9. [NSF's Centers for Innovation and Community Engagement in Solid Earth Geohazards](#)
 10. [NSF's Arctic Community Engagement](#) (which encourages co-production practices¹⁵)
- **When it comes to infrastructure for participatory and community science practices, leverage a variety of tools and models to determine what works best.** Participatory science and innovation is still an emerging field. Yet, effective models for infrastructuring participation within scientific research enterprises have emerged over the past 20+ years to expand the community engagement capacity of research institutions. Looking ahead to OSTP's strategy for federal environmental justice-related efforts, [Participatory Research Infrastructure \(PRI\)](#) might take the following forms:
 1. Offices that develop [tools for interfacing with communities](#), like citizens' juries, online platforms, deliberative forums, and future-thinking workshops
 2. Ongoing [technology assessment projects](#) that [holistically evaluate](#) innovation and research along dimensions of equity, trust, access, etc.
 3. [Infrastructure](#) (physical and digital) for research, design experimentation, and open innovation led by community members
 4. Co-production frameworks and policies for guiding responsible and ethical [community-engaged research](#)
 5. [Organized stakeholder networks](#) for co-creation and community-driven citizen science
 6. Funding resources to build CBO capacity to meaningfully engage (examples include the [RADx-UP program from the NIH](#) and NSF's [Civic Innovation Challenge](#))
 7. Governance structures that place community members in decision-making roles and requirements that CBOs help to [shape the direction of the research proposals](#)
 8. Peer-review committees staffed by members of the public (demonstrated recently by [NSF's Regional Innovation Engines](#))
 9. Supporting [coalitions that utilize research](#) as an input for collective action and making policy and governance decisions to advance communities' goals
 - **Capacity constraints on CBOs and a frequent lack of valuation of community knowledge by cross-sector partners in federal grants also constitute significant barriers to participation by the public in the scientific enterprise.** As it builds its strategy for an

¹⁵ See this useful summary of NSF's approach in this context: "NSF identifies co-production of knowledge as the integration of different knowledge systems and methodologies to systematically understand the phenomena, systems, and processes being studied in a research project. In the Arctic, this often takes the form of Indigenous Knowledge holders and scientists working closely together to address shared research questions, pursue shared methodologies, and agree upon appropriate outreach and data sharing activities. A co-produced approach includes research in which local and Indigenous peoples and organizations fully engage in the complete research process from the development of research questions, to the collection, use and stewardship of data, and interpretation and application of results. Given the diversity of peoples, worldviews, ideas, approaches, and methodologies in the Arctic, the co-production of knowledge in NNA projects may take various forms, and the proposed plan of a co-produced approach should be well-justified in the Management and Integration Plan."

environmental justice research agenda, OSTP has the opportunity to shape the research coordinating infrastructure that bridges CBOs and federal environmental justice research priorities to accelerate equitable practices and policy. These “participatory research organizations” could perform the following functions:

1. Serve as a regional connector/convener of CBOs interested in participating in relevant research
 2. Source ideas from communities through relationship building and public deliberation and engagement
 3. Enhance local capacity of CBOs by facilitating the writing of funding proposals and ensuring that CBOs are compensated for knowledge generation
 4. Embed best practices for community-engaged research in federally-funded research projects—e.g., through establishing memorandums of agreement (MOAs)
 5. Ensure “openness” of innovations generated through facilitated partnerships as well as establishing credit (intellectual property, publications, etc.) for new interventions
 6. Regularly evaluate equity, in multiple contexts, throughout the research enterprise (e.g., thinking about equity alongside procedural equity, design equity, and distributional equity)
 7. Create a pipeline of community experts who are primed to serve on grant-review committees to evaluate the equity dimensions of future research funding
 8. Scale-up grants given directly to community-based organizations to increase their capacity and ability to engage meaningfully in co-design, collaborations, and larger-scale proposals
 9. Requirements for grants that involve community-based work should include some level of community-governance and oversight to receive distribution of funds¹⁶
 10. Peer-to-peer funding or outreach models that explicitly center diversity and equity, while not widely implemented, have shown some promise as well; [the Hypothesis Fund](#), for example, has been explicit about centering DEI in both their program design and selection of scouts, which, while still early, seems to be bearing fruit
- **As a practical matter, we also recommend the following¹⁷ relational infrastructure and capacity building measures:**
 1. **Relational Infrastructure:** To combat extractive patterns of institutional relationships with community partners, policy makers, funding agencies, and institutional decision makers need to dedicate resources to building and maintaining infrastructures for relationship building practices:
 - a. *Create more funding sources that would invest in relational infrastructure*
 - b. *Embed responsible partnership requirements and guidelines within federal R&D grant proposals and grant reporting structures to build relational infrastructure*
 - c. *Conduct ongoing assessments of the quality of relational infrastructure*
 2. **Relational Capacity Building.** Building authentic and reciprocal relationships between research institutions and community partners is a permanent capacity that requires investment at levels of individuals, institutions, and communities.

¹⁶ Similarly, some organizations—like the [Little Village Environmental Justice Organization](#)—design memoranda of understanding (MOUs) that ensure researchers and partners have agreed upon “ground rules,” alignment principles, accountability mechanisms, and clear compensation rates.

¹⁷ These specific recommendations are drawn from a manuscript recently accepted to the Journal of Science Policy and Governance. Publication forthcoming.

Fostering and bolstering such ongoing capacities requires deep and intentional investment in training and resource development programs, both of which suggest important policy implications for research institutions. Recommendations for potential policies to build relational capacity between communities and research institutions in civic science include:

- a. *Build community capacities to work with researchers through financial stipends, training, and educational resources*
- b. *Build researcher capacities to create authentic and reciprocal relationships with communities through training and investment in staff dedicated to managing partnerships*

- **We also recommend the following case studies and models for many of the forms of Participatory Research Infrastructure described above** (cases, models, and related resources are organized across topics in *italics*):

Methods for interfacing with communities, like citizens' juries, online platforms, deliberative forums, and future-thinking workshops:

- The [Center](#) for Science Policy and Outcomes Participatory Technology Assessment. Participatory technology assessments (pTA) are a class of methods for public deliberation on science and technology policy topics, including citizens' assemblies, citizens' juries, and consensus conferences. pTA occurs in three steps, each of which is shaped by public input: 1) problem framing, 2) deliberation, and 3) results and integration. When systematically integrated into R&D processes, pTA can be used for anticipatory governance—that is, to direct decisions, policies, and investments toward desired outcomes (and away from undesired outcomes). Most notably, one [pTA](#) led to NASA's creation of the Office of Planetary Defense.

Physical and digital tools for research, design experimentation, and open innovation led by community members:

- One relevant federal example is [Citizenscience.gov](#), authorized by the [Crowdsourcing and Citizen Science Act of 2016](#). Citizenscience.gov is a hub for robust cataloging efforts linked to federally-supported citizen science, providing toolkits to help realize citizen science projects and operating a community of practice to share knowledge. It has also helped support more than 500 projects since its inception. We also recommend OSTP learn from aspects of [Challenge.gov](#)—which contains excellent opportunities for external organizations to participate in relevant research.

Resources for building CBO capacity to meaningfully engage in R&D linked to sustaining partnerships with affected communities:

- Federal examples include the NIH's [RADx-UP program](#) and the NSF's [Civic Innovation Challenge](#), both of which provide capacity-building funding to CBOs to meaningfully engage in science and engineering research—as well as to propose their own studies to advance public priorities (e.g., RADx-UP supporting the distribution of COVID-19 diagnostics and vaccines by CBOs).

- Non-federal examples include: [Partners Advancing Climate Equity](#), a California government-led initiative which supported a cohort of climate justice leaders across the state by investing in their organizations, training them in community-asset mapping skills to identify transformative work opportunities, and aiding them in navigating funding to accelerate organizational growth.

Organized stakeholder networks for co-creation and community-driven innovation:

- Non-federal examples include: [Healthy Flint Research Coordinating Center \(HFRCC\)](#). HFRCC is an ongoing partnership between community organizations and academic institutions in Michigan. HFRCC evaluates, and must approve, all academic research conducted in Flint—and it helps design studies that align with community concerns and which are historically contextualized. The center also ensures that benefits flow directly back to the community, such as funding for implementation. Finally, all work done in Flint is made open access through this organization.

Coalitions that utilize research as an input for collective action, and for making policy and governance decisions to advance communities' goals:

- Federal examples include: EPA's [Participatory Science Initiative](#). The EPA supports community goals for environmental quality through funding, technical support, and tools. EPA's dispersed monitoring by the public demonstrates the power of testing new technologies at scale—and learning how the findings of large-scale public technology can inform vital policies linked to improving public health outcomes.

Community science examples relevant to grant design:

- The NASA Citizen Science Leaders [Program](#).
- One [NOAA-NASA project](#) using NOAA's Sea Grant Network (and NASA data) to look at sea level rise.¹⁸
- The Association for Advancing Participatory Sciences (formerly the Citizen Science Association) has a [working group](#) on Environmental Justice.

3f. What practices could ensure that effective, respectful, and meaningful public engagement is built into the research process?

To ensure that effective and thoughtful public engagement around environmental justice is built into the federal research process, agency practices should (at minimum) include things like:

- **Building trustful relationships with (and seeking to understand) the concerns of communities before considering any research project or making a request for community participation.** This not only helps to shift the focus from extractive research methods to a collaborative approach, but also enables the development of long-term partnerships that can support the co-creation of solutions for complex issues faced by these communities. Distrust of government research institutions or programs in communities that have been historically disinvested, under-resourced, and marginalized, is the result of a long history of broken promises and harmful policies/practices. Agencies

¹⁸ This project may be more educational in nature; but still relevant for collaborative research about the environment. NASA also has a [dedicated funding call](#) for environmental justice projects out of its Applied Sciences group.

must be mindful of this history and take it into account while making decisions and planning interventions that take steps to meaningfully build trust.

- **Addressing barriers for community members to partner and/or participate in agency research programs.** If language barriers are a hurdle, for instance, develop more targeted outreach strategies to address cultural and economic differences in a particular region. If there are economic barriers, such as the costs of childcare or access to transportation, then compensating people for those activities should be considered. In any case, research projects must allocate sufficient funds for public engagement and participation throughout the research timeline.¹⁹ On the same score, meetings with community members should provide multiple opportunities for input (e.g., virtual sessions as well as in-person meetings or forums).
- **Co-creating Memoranda of Understanding (MOUs) or Community Research Agreements (CRAs) that outline expectations, benefits, and terms of engagement that all parties agree upon.** These can be powerful accountability and trust-building tools. Such tools have been used in university-based or -led research when partnering or collaborating with communities to conduct research projects (e.g., the [University of Wisconsin-Madison's](#) Community Research Collaborative template).
- **Establishing a Community Research Advisory group for agency research projects.**
- **Utilizing collaborative data governance approaches that allow communities/community organizations to retain ownership and control of data collected by or about them.**
- **Supporting training and capacity building efforts, designed by or with community organizations, focused on translational and intermediary roles that can facilitate collaborative data governance and the responsible use of community data.** In practice, that means—as noted above in several examples—supporting training and capacity building efforts, designed by or with community organizations, that focus on translational and intermediary roles who can facilitate collaborative data governance and the responsible use of community data.
- **Develop metrics to evaluate meaningful community engagement and outreach efforts (by agencies) with community input.** Recent processes that should have taken the opportunity to build tools with communities have fallen short of engagement goals, as described in [previous comments](#) on CEJST. Proactive, intentional outreach with consideration for the time and resources needed to engage with government agencies is necessary to collaborate with the communities represented and affected by the dataset.
- **Encourage and utilize systems of regional “circuit riders” to facilitate engagement between state agencies and communities.** Circuit riders have proven quite useful for

¹⁹ Ideas for doing this might include (but are not limited to): Having dedicated agency staff accountable for nurturing, cultivating, and developing the relationship with communities of concern; Establishing processes to provide financial compensation, incentive or other benefit to community members who participate in activities (i.e., roundtables, surveys, interviews, focus groups, etc.) where they are providing time and building knowledge of research staff or providing insights that will inform research findings; or Hiring consultants to incorporate or translate research publications in culturally appropriate language, including Plain Language versions of all documents.

developing trusted avenues of engagement with state and local governments working in this context. Examples worth highlighting include:

- a. Maryland's (regional) [Envision the Choptank](#) created and funded a technical assistance circuit rider. Funding recipients—Caroline County and Chesapeake Bay Foundation—engaged communities across the watershed to figure out which grant proposals they needed to develop, where activities needed to be, and which partners to bring in for federal water funding. They were a pre-existing consortium of conservation organizations, government agencies, and local residents formed in 2015 to support oyster reef health and to restore water quality in the Choptank River—but were ultimately able to mobilize for engaging communities on federal water pollution funding as well.
- b. The new [Colorado Environmental Justice Community Connectors Program](#) funds and works with nonprofits (\$5-15k per organization) in disproportionately impacted communities to help community members access resources, environmental health information, and opportunities to engage state government.
- c. Hawaii's [Clean Energy Wayfinders Program](#) is a great example of a state-funded community engagement model linked to increasing the accessibility of federal and state climate/clean energy programs—as well as increasing funding “navigators” from impacted communities to receive engagement training and relay community feedback to the state.

4. Ethical Standards, Privacy Protections, and Other Requirements for the Development and Use of Science, Data, and Research

4a. What systems or approaches to privacy protections, attribution, and ethical standards have you encountered or developed that have been useful in community-derived experiential data?

- **When collecting community-derived data, be it qualitative or quantitative, we see the responsibility to evaluate and instill necessary standards and protections to fulfill community needs as central.** In our view, data work in this context should always begin with the premise that all data generated by a community is owned by that community. Issues of ownership, privacy, and use need to be considered and addressed, moreover, thorough community involvement and direction. Beyond those responsibilities, it is also important to recognize that different communities—and members or groups within communities—will have differing opinions about data ownership and rights. Some may believe the data should be completely free for distribution, while others might prefer or require significant restrictions on data use—such as anonymization or access limitations. Regardless of the spectrum of opinions on the subject, standardizing robust systems and documentation will help build trust with partners, and ultimately enable maximal data use within established limitations. Tangible outcomes of this approach might look like memoranda of understanding (MOUs), formal data sharing agreements, data visitation agreements, established attribution formats, or frameworks for evaluating data sharing with outside entities prior to project completion.
- For specific guidance and frameworks that might be useful for OSTP's consideration of privacy and ethics at different points in the data lifecycle, see these²⁰ resources:
 - a. GovLab's [Data Responsibility Journey](#)
 - b. IF's Data Patterns [Catalog](#)

²⁰ These examples are largely geared toward private sector data, yet we believe that many of the ideas could be adapted for community-derived data.

- c. [Research](#) on Differential Privacy and US Census data
- d. [Research](#) on European Union and User Data

4b. What suggestions do you have on ethical standards, privacy protections, and other requirements for the development and use of science, data, and research?

- **In terms of frameworks and resources, it's best to start with [FAIR](#) data standards—data should always be Findable, Accessible, Interoperable, and Reusable.** While these are hallmark tenets of the open source community, they can sometimes be at odds with community needs. For example, a community might be eager to collect interview experiences but mandate the data only be used for the immediate project. To accomplish reusability, establishing a form and process for vetting additional projects and data users could allow for expanded use, while still maintaining data sovereignty. Doing so might require password protected data sources and signed agreements among partners. In terms of licensing data, Creative Commons has an array of off-the-shelf frameworks and an [accompanying tool](#) to identify the correct license. It's important to note, however, that violations of data licenses can be difficult to enforce—especially for communities or organizations with limited financial capacity.²¹
- **Another approach to FAIR data standards aimed at ensuring data sovereignty for Tribal communities is [CARE data standards](#)—Collective benefit, Authority to control, Responsibility and Ethics.** Centered around intentional use and ethics, these data standards were developed to safeguard Indigenous knowledge and go beyond proper formatting to ensure the proper use of data (*proper* being defined by the community). While the framework is specific to Tribal communities, their concerns are not unique: many communities rightly have significant distrust of academic and government entities performing data collection related to their lives and experiences. Recognizing this reality—and developing methods to ensure agency and ownership—is crucial when promoting data collection in concert with historically underserved and marginalized communities. OSTP (and other federal actors) should thus place that recognition and cognizance at the center of its approach when dealing with Tribal data.

5. Research Coordination and Public Access to Federal Data

5a. Are there datasets not owned by the Federal government that you have utilized to help support the advancement of environmental justice? If you have used non-Federal data sets to advance environmental justice, which ones have you used and why?

- **Yes. BlueConduit utilizes a number of important non-Federal data sources to support the accelerated identification and replacement of lead water service lines with priority for regions facing compounding environmental and economic challenges.** These include:
 - a. [Local Government and State Data Repositories](#): State and local governments have their own databases with environmental data relevant to their regions. This can include environmental data on air and water quality, as well as data on residential and commercial properties and local industrial activities. Because all fifty states and thousands of county and municipal governments host open environmental and

²¹ Lydia Jennings and co-authors have a [recent paper](#) that includes a useful table and examples of the CARE principles' application in environmental research. See also, Local Contexts' labels for Traditional Knowledge (TK) and Biocultural (BC) information [here](#). While these were designed for Indigenous data—and shouldn't be co-opted for non-Indigenous data—they certainly have lessons for data from or about communities who have experienced extractive relationships or not seen the benefits of data collected about them. We highly recommend OSTP consider implications of these lessons.

other geospatial data on the ArcGIS Feature Service, data is more easily discoverable and promptly actionable. However, this does present security challenges, since some municipalities may host sensitive data publicly.

- b. [Redlining in New Deal America](#) (from the Mapping Inequality project): This data set is a compilation of Home Owners Loan Corporation (HOLC) records which convey how real estate appraisers historically used the apparent racial and cultural value of a community to determine its economic value. BlueConduit has found that in some cities, lead service lines are twice as likely to occur in neighborhoods designated by HOLC as “Definitely Declining” or “Hazardous” compared to those designated “Best” or “Still Desirable.”
- c. [Area Deprivation Index \(ADI\)](#): The ADI is a small-area composite index that primarily focuses on socioeconomic status. It measures factors related to income, education, employment, and housing quality to determine the level of deprivation of a particular area.
- d. [Water utility service area boundaries](#) (SABs): The geographic boundary of a public water system is an important tool for understanding who an individual’s water provider is. At scale, this data set, compiled by EPIC in association with public and private organizations, allows for sophisticated analysis of disparities in water quality along socioeconomic and racial lines. In our view, it is imperative to provide an accurate water quality metric in EJScreen.

5b. How can the Federal government better collaborate across Federal agencies, and partner with State, Tribal, territorial, and local governments, academic institutions, the private sector, the nonprofit sector, and other entities to accelerate the development of data, research, and techniques to address gaps and inadequacies in data collection and scientific research that may affect agencies' ability to advance environmental justice?

- **Ensure that all federal activities on this score help encourage—and grow—an “active feedback culture.”** In nearly every state and federal permitting or funding decision there are applicants searching for data who can’t find what they need. An active feedback approach should always center questions like: *What are touchpoints or forums for collaboration that federal agencies have, in near-real-time, to hear what stakeholders can’t find?*
- **Build and use a debrief survey form (or the equivalent) following application deadlines that asks about the needs/gaps of funding applicants** (i.e., to federal or state formula programs). We also suggest using info. sessions or “Q & A” webinars to ask and systematically categorize information or data that applicants can’t otherwise find.
- **Help program staff do productive retrospectives on their funding decisions** (be they federal or state). This means providing formal mechanisms for staff to detail what data or resources they wanted to provide to applicants, but couldn’t—as well as gaps they saw in the data or evidence that applicants provided.
- **Build user feedback features into data/tool platforms like EJScreen or CEJST.** Buttons on these tools could link to feedback or survey forms that ask users questions like: *Did you find what you were looking for?* Moreover, it may be beneficial to establish user experience (UX) focus groups or listening sessions on usability and data gaps once a tool has been live for 6-12 months.

- **Support and encourage state agency feedback to federal agencies.** Ask and attempt to answer key questions like: *Where have you (i.e., states) needed to develop your own data or tools (e.g., state spend on development) to fill federal data gaps?*
- **Create some form of a [Digital Service for the Planet](#) (DSP): a federal interagency team or White House initiative designed with the skill sets and mandate to make sure that data and technology are integrated and coordinated to improve environmental outcomes.** A key component of the DSP (whatever its organizational form and “home”) would place this type of interagency collaboration at the core of its mission, given that environmental agencies have overlapping and complementary data needs. Without a DSP, federal agencies will continue to address key environmental data problems separately, across siloed spaces and projects, leading to waste and duplicative work. Environmental management and justice projects are excellent candidates for this sort of innovation-focused approach, and distinct from what the USDS has done to date. Indeed, most USDS projects focus on a single federal agency, but environmental initiatives—and the data and tech needs they present—almost always involve multiple agencies. Key national challenges, including [flood-risk management](#), [harmful algal blooms](#), and [environmental justice](#), all demand an integrated approach to realize cross-agency benefits; a DSP would support this badly needed interagency digital infrastructure, ensuring that agencies can easily access and share the most up-to-date datasets across programs.

5c. What kinds of tools and resources would help communities and local decision makers better access data and information and address environmental justice in decision making?

- **A tool capable of centralizing the databases of all data required by regulatory action, hosted by the relevant federal agencies.** Currently, regulatory data is dispersed amid a myriad of websites operated by private companies, which presents serious hurdles to meaningful access by community members and decision makers. In place of this arrangement, federal agencies should host and store this data in comprehensive, centralized repositories. Additional reporting requirements, such as corrective action plans, should also be submitted to and stored in these federal repositories. Moreover, data in these repositories should be archived and made available to the public online for download through an HTTP application programming interface (API) or other widely recognized standard—ideally OpenAPI. Any measures instituted to prevent inauthentic requests should be designed in such a way that users need not ask permission to be able to access the data. Additionally, these centralized federal databases and their APIs should be optimized to minimize API latency when executing requests for data.²² User interfaces should be created to enable individuals with no programming background to select and download data in .csv format. Resources such as the [Web Content Accessibility Guidelines](#) (WCAG) may be helpful in this regard.
- **Federal agencies should also offer technical or financial assistance to local governments when they identify gaps in available data or models.** Several environmental professionals one of our organizations interviewed found that the available federal data on, for instance, flooding, was at times inadequate for local planning purposes. One interviewee who works in the sustainability office of a large US city, for example, found that 1) federal flooding data was not sufficiently granular, and 2) that federal flooding models did not integrate riverine,

²² Under most circumstances, users should not have to wait more than a few seconds for requested data to be delivered.

coastal, and rainfall related flooding. This interviewee's office ultimately purchased flooding models from a private firm. When such gaps have been identified, the federal government should offer technical support in searching out other useful datasets or seek to fill those gaps itself through targeted data collection programs. When these options are not viable, federal agencies might offer grants to help local governments access models from private ventures. If need be, federal agencies could triage to select those municipal, city, and county governments that have the greatest unfilled data needs and the largest gaps in available funding.

- **Create community snapshot reports—or spreadsheets—that include the values and percentile scores, including percentile *in-state*, as well as nationally, to support decision-making.** These could be at the census tract level as long as there is a way to roll up to the town level. Local planners or decision-makers may be interested in how their area/community compares to the state, rather than the federal, level. Moreover, state data is often dispersed across many agencies, and states may have a list of all of these different sites, databases, and maps—yet these are often not aggregated. In some cases there may be combined GIS layers (for example, of state hazard mitigation planning) which are useful for those inclined to maps; but GIS—without an accompanying download—may *not* be useful if a community or applicant is attempting to characterize a condition or experience quantitatively (e.g., percentage of an area exposed to X or experiencing Y, or a percentile score).

5d. What recommendations do you have for improving the public accessibility of data and information produced or distributed by the Federal Government, including through the use of digital and spatial formats, where appropriate?

- **One key area of potential improvement around access to federal data is *timing*.** Currently, regulatory data is gathered and published in annual or quarterly reports. This is convenient for the regulated entity and the regulatory agency, but is not in the best interest of the affected communities. Instead, regulatory data should be published on a rolling basis, on a timeline that is commensurate with the timeframe on which the data was collected, without sacrificing regulatory checks put in place to ensure data quality. Timely publication of data promotes industry accountability by enabling regulators to detect non-compliance earlier. By only requiring companies to submit data in annualized or quarterly reports, regulators and community members are already working with outdated data. To expedite timely access, federal agencies should have a system that allows community members to sign up for notifications when new data are published (e.g., a Push Notification Service or a feed like RSS).
- **All federal data should be published with clear licenses that support reuse.** Language from licenses such as the Creative Commons Attribution Generic license (CC BY 1.0) or the Open Data Commons Open Database License (ODbL) provide helpful language that might be adapted for these purposes.
- **The federal government also needs to prioritize interoperability in its datasets.** Interoperability is the ability to integrate or work across different datasets, and is a key feature of actual, meaningful access, in as much as interoperable data can be mobilized in derivative uses by independent parties. To maximize the interoperability of their data, the federal government should format its data consistently across types and agencies. Where

this is not feasible, maps or crosswalks should be created and used to translate from one standard to another.

- **The federal government must also make metadata available.** Metadata should be included with all published data to allow users to assess the context and quality of data collection. Relevant metadata should include but are not limited to structural metadata and reference metadata. In the case of the former, meta should include a list of all variables within the data and their meanings, code lists, classifications, and standards used. As it relates to reference metadata, agencies should include information regarding where, when, and how data was collected, an indication of what it is for, and an explanation of how it was validated.
- **We recommend a broader cultural and institutional shift across the federal government regarding data care.** In our view, federal agencies should take meaningful steps to ensure dedicated staff and the institutional capacity for maintaining data and data systems. This could include offering training and continuing education to staff involved in monitoring and analysis about evolving best practices in data management, or developing in-house expertise in data storage, management, accessibility, interoperability. Federal agencies should create new infrastructure to accommodate new data and metadata—ideally, via something like a [Digital Service for the Planet](#) (DSP), which would be designed to tackle interagency data needs and infrastructure effectively. When federal agencies task third parties with generating environmental data, either through regulation or grant-making, the agency should also ensure that the third parties have adequate staff and institutional capacity for maintaining data and infrastructures. Grants made to community groups and local governments should likewise include both requirements for data management plans and funding, or other resources, for training and infrastructure support.
- **Explain data limitations and caveats (including sampling areas) in plain language across key Census data—and revise aspects of that data to better serve environmental justice-related work and tools.** The Decennial Census is commonly misunderstood as being a “census” of everyone—but American Community Survey (ACS) data, which includes income data, is drawn from small samples with high margins of error at the level of small geographies (including census tracts). This is the level that localities and states usually use—and income data in particular is often taken at face value without consideration for the margin of error or overlapping income ranges. We see the question of how to aid decision-makers in considering that sample-based data may fall within a wide range—and the risks and equity concerns that accompany taking point estimates as absolute values—as central. Concrete measures to address these risks include:
 - a. Assigning a town name to census tract files (even if it’s not a 1:1 relationship)
 - b. Provide percentiles relative to state as well as national measures
 - c. Provide spreadsheet downloads for all GIS data as a button (rather than users being forced to search the GIS source files)
 - d. Allow state-level downloads (i.e., only the values for a relevant state)
 - e. Include metadata and/or a data dictionary—meaning a *plain language* description of how data was collected and potential limitations (such as high margins of error with respect to sampling)
 - f. Include a name for county subdivision (or equivalent entity) in data sets used by CEJST or EJScreen; tracts or block groups might also be helpful for state, county, or

local entities trying to find their area

- **At present, there is no uniform way to define “communities,” and federal agencies are using different approaches to defining and implementing the definition of communities; that’s a problem.** For instance, CEJST identifies disadvantaged communities at the census tract level which, as we discuss above, are small units of geography. Census tract boundaries are determined by the U.S. Census Bureau once every 10 years. CEJST uses boundaries from 2010 because many data sources for the various indicators use the 2010 census boundaries. In contrast, energy communities identified by the Inflation Reduction Act (IRA) are defined differently, with their geographic identification based on 2020 Census boundaries (which obviously differ from their 2010 counterparts). Such underlying inconsistencies create challenges for assessing and comparing where different burdens are prominent. For instance, [ongoing research](#) finds that there are significant overlaps between these two sets of communities, with a vast share of areas that are vulnerable to the transition away from fossil fuels also being disadvantaged and exposed to a wide range of environmental, health, and socioeconomic burdens. Ensuring consistencies in such definitions and mapping tools can help researchers, policy makers, and local stakeholders assess the challenges and needs of different communities holistically.²³

6. Data Analysis and Methodological Considerations

6b. What methods do you recommend for analyzing cumulative impacts (including risks) from multiple sources, pollutants or chemicals, and exposure pathways, and accounting for non-chemical stressors and current and anticipated climate change?

- *See generally, responses to section 1d. (above).*

6c. What methods, processes, or structures do you recommend for respectfully collecting, maintaining, and analyzing information, in collaboration with Tribal Nations, on consumption patterns of fish, wildlife, and plants related to subsistence and cultural practices of Tribal and Indigenous populations?

- **Environmental justice needs to be more responsive to Tribal communities by region and by individual tribe—instead of responding to Tribal concerns with a blanket approach to all 574 federally recognized tribes.** The impacts of climate change on ecosystems affect tribes' ability to hunt, fish, and gather, even when the point of impact extends well beyond the borders of a particular reservation. Permitted impacts often cause contamination of some kind, whether it be to the land, water, or other natural resources that tribes rely on for subsistence and cultural survival.
- **Additionally, we see a major problem with Tribal consultation policies in relation to environmental justice: they don’t work.** Under the current administration, several federal agencies were encouraged to update their tribal consultation and coordination implementation plan, reinforcing [Executive Order 13175](#) (issued November of 2000). Although a substantial number of agencies did so, tribes still experience the overriding of their concerns, and are ultimately left to deal with residual impacts. Tribal consultation does not equal tribal consent. We think a better approach than tribal consultation is “free, prior, and informed consent,” by tribes. Requiring free, prior, and informed consent shifts

²³ Incorporating the identification of energy communities within CEJST itself may also be one useful approach to help identify areas across the country that are exposed to both environmental justice concerns and challenges associated with a just energy transition.

the approach from one of “box checking” on tribal consultation policies to obtaining actual input and consent from tribes whose lands stand to be impacted. Indeed, tribes are left practically defenseless in a system of review and consultation that downplays the importance of tribal input and shuns their outcry for justice after an ecosystem begins to collapse. That is not a new story, of course, but one that we must work to rewrite.

- **Another approach to working toward environmental justice and improved equity in Tribal contexts is to bolster tribal-led initiatives and databases geared towards specific tribes (or regions of tribes).** Currently, there are a number of tribal coalitions that focus on areas that feed into tribal environmental justice work—such as restoration, protection of treaty or subsistence rights, clean energy implementation, database creation and data collection, etc. Implementing environmental justice work in a tribal community requires more than an issued policy from “on high,” later to be implemented; it requires deliberate action and inclusivity on the part of government organizations linked to relevant data and environmental justice goals.

7. Additional Considerations

7a. Is there anything else you would like to be considered in the development of the Environmental Justice Science, Data, and Research Plan as described in E.O. 14096?

Building on many of the recommended approaches detailed throughout this comment, the questions below might be used by federal staff in program design and planning relevant to the Research Plan. Indeed, we hope they serve, in one form or another, as a useful reporting model of what OSTP might ask agencies as it drives environmental justice efforts forward:

1. **Equity:** Does the project or investment provide tangible—direct and/or indirect—benefits to disadvantaged communities? Does it allow financial and other resources to reach new places? What does success look like now and into the future?
2. **Unintended Consequences:** Are there ways in which this program might contribute to environmental injustices? Is there a risk that disadvantaged communities will be disproportionately impacted by the investment? If so, are there opportunities to mitigate the risk?
3. **Systems Approach:** Does the project or investment help address systemic and institutional barriers that exacerbate poor health outcomes (or other conditions) for disadvantaged communities?
4. **Equity-Focused Leadership:** Does the project or investment partner adequately demonstrate a commitment to diversity? Is the leadership team or board diverse, and do they have internal policies that address diversity, equity, and inclusion (DEI)?
5. **Key Stakeholder Engagement:** Has the program staff meaningfully engaged impacted partners? Have outcomes/goals been co-created with the community?
6. **Improvements:** Are there changes in prioritization or design criteria that would ensure Americans who have long been underinvested in benefit from this investment?
7. **Measurable Co-Benefits:** Does the project or investment provide ancillary benefits to communities, or in other areas of work that are a priority for the agency?
8. **Alignment with Local Plans:** Will the project support the goals/objectives of local plans that address key environmental justice concerns, such as water, health and/or equity (e.g., climate action plans, health impact assessments, lead line replacement plans, etc.)?

Does the plan cover unique issues of any disadvantaged populations in the community?²⁴

Conclusion

When it comes to the monumental tasks associated with realizing our national environmental justice goals, we see no panacea. Yet by leveraging and targeting federal resources, we can and must do more, and do better—and OSTP’s ambitious approach to prioritizing scientific research and high-quality data in this context is commendable. We believe that to the extent such work is driven by meaningful engagement with communities long affected by environmental *injustice*, tangible progress toward our shared justice goals is more likely in the months and years to come.

Again, our organizations appreciate the opportunity to submit recommendations to OSTP on this vital matter, and we look forward to answering any questions about this comment.

²⁴ We’ll also add that there are models of large-scale program evaluation and goal-setting that the [Justice40](#) implementation teams can and should learn from. The critical components to keep in mind are: 1) that the initiative has bipartisan support and is a statutory process, rather than executive branch reform and 2) that equity and environmental justice components of a program are evaluated alongside program effectiveness. In our view, building off of current agency processes, or developing a new method that is equity-specific, is important for the long-term implementation and institutionalization of Justice40 work.