Bipartisan Policy Center

Bipartisan Policy Center Response to OSTP RFI on Development of a Federal Environmental Justice Science, Data, and Research Plan

TO: Office of Science and Technology Policy

DATE: December 12, 2023

RE: OSTP RFI on Development of a Federal Environmental Justice Science, Data, and Research Plan

FROM: Bipartisan Policy Center
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The Bipartisan Policy Center is writing in response to OSTP's request for information on Development of a Federal Environmental Justice Science, Data, and Research Plan. The BPC actively fosters bipartisanship by combining the best ideas from both parties to promote health, security, and opportunity for all Americans through informed deliberations by former elected and appointed officials, business and labor leaders, and academics and advocates who represent all sides of the political spectrum.

The BPC Energy Program explores the opportunities and challenges of clean energy infrastructure deployment, and last year published an explainer on how energy infrastructure investment can support more equitable outcomes for communities.[1] We also put out a case study analyzing the federal government's role in supporting stakeholder engagement activities during a multi-year energy demonstration project for a geographically and socially diverse range of communities.[2] Regarding development of a Federal Environmental Justice Science, Data, and Research Plan, the BPC Energy Program's work has informed two key recommendations: (1) federal EJ research related to energy technology development and deployment should support interdisciplinary projects that include social science, and (2) a federal EJ research agenda on energy technology development and deployment should include long-term evaluation of and reporting on outcomes. These recommendations are elaborated upon in the attached documents.

Question 1. a. 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 or research you would prioritize?

Federal EJ research related to energy technology development and deployment should support interdisciplinary projects that include social science.

[1] Bipartisan Policy Center, "Improving Equity Outcomes for New Federal Investments in Clean Energy Infrastructure," July 2022. Available at: https://bipartisanpolicy.org/explainer/improving-equity-outcomes-for-new-federal-investments-in-clean-energy-infrastructure/.
[2] Bipartisan Policy Center, "The Federal Role in Stakeholder Engagement for a Carbon Capture and Storage Demonstration Project," March 2023. Available at: https://bipartisanpolicy.org/report/engaging-stakeholders-ccs-demo-projects/.

While the technology development process is well-understood in the energy sector and by the Department of Energy, the process of how technologies succeed in the marketplace is ill-defined. This is particularly true for energy technologies which as a whole face unique barriers to adoption including the need to overcome incumbent energy technologies and long development times. When it comes to EJ, these issues are exacerbated as low-income individuals are often the last to benefit from cleaner (and more expensive) technologies and product alternatives due to a lack of understanding of adoption barriers.

To address these challenges, a 2010 President's Council of Advisors on Science and Technology report recommended that DOE work with the National Science Foundation to develop an interdisciplinary social science research program to better understand the nature of and impacts of policy on energy technology adoption and rejection.[3] This recommendation has not yet been adopted and remains relevant today.

Some federal agencies, such as the National Science Foundation, the National Institutes of Health, and the Defense Department have a long history of supporting social science research in addition to supporting research on the physical sciences.[4] However, integration of interdisciplinary programs for technology development in the energy sector remains an open opportunity. This is particularly true for DOE, which is our nation's largest investor in climate technologies and therefore plays a key role in determining our nation's outcomes related technology adoption in EJ communities.[5]

While interdisciplinary research has steadily been gaining popularity in recent decades, long-standing issues such as the increasing specialization of STEM research and misaligned incentive structure in academia have posed barriers to further collaborative approaches to research.[6] OSTP can play a key role in addressing these issues by encouraging federal agencies to develop and administer interdisciplinary research programs related to climate technology development and coordinate a strategy for incorporating interdisciplinary research related to climate technology development across federal agencies. This can help ensure EJ communities are not the last to benefit from development of cleaner technologies, as has historically been the case.[7]

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[3] President's Council of Advisors on Science and Technology, "Report to the President on Accelerating the Pace of Change in Energy Technologies Through an Integrated Federal Energy Policy," November 2010. Available at: https://obamawhitehouse.archives.gov/sites/default/files/microsites/ostp/pcast-energy-tech-report.pdf.

[4] Lewis-Burke Associates, "Overview of Federal Funding Opportunities for Behavioral and Social Sciences, Arts, Humanities," October 24, 2022. Available at: https://www.bu.edu/ciss/files/2022/11/Overview-of-Federal-Funding-Opportunities-for-Behavioral-and-Social-Sciences-Arts-Humanities-20221.pdf.

[5] Government Accountability Office, "Climate Change: Analysis of Reported Federal Funding," April 2018. Available at: https://www.gao.gov/assets/gao-18-223.pdf.

[6] National Academies of Science, Engineering, and Medicine, "Facilitating Interdisciplinary Research," 2005. Available at: https://nap.nationalacademies.org/catalog/11153/facilitating-interdisciplinary-research.

[7] Vaishnav, Parth, "Implications of Green Technologies for Environmental Justice," *Annual Review of Environment and Resources*, 48: 505-530, 2023. Available at: https://www.annualreviews.org/doi/abs/10.1146/annurev-environ-120920-101002.

Question 1. b. 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?

A federal EJ research agenda on energy technology development and deployment should include long-term evaluation of and reporting on outcomes.

Energy technology interventions designed to improve the livelihoods of those residing in environmental justice communities must be designed thoughtfully and studied carefully in order to ensure the desired outcomes are met. Federal EJ research investments on energy technology development and deployment must include analysis of the long-term impacts and effectiveness of interventions through careful evaluation. Program evaluation, defined by the CDC as "a systematic method for collecting, analyzing, and using data to examine the effectiveness and efficiency of programs and, as importantly, to contribute to continuous program improvement," is key to ensuring that federal EJ research investments make measurable and long-term progress in achieving their goals.[8] While some agencies are well-versed in program evaluation and its role in examining the efficacy of federal research projects, it has not been widely adopted in the broader STEM community. As a consequence, many academic institutions conducting research do not employ staff who are qualified to carry out program evaluation and many researchers do not design research projects with measurability of impacts in mind at the outset. DOE in particular does not have an institutional strategy for evaluation.[9]

OSTP should work with federal agencies to require robust program evaluation plans when institutions apply for EJ research funding related to energy technology development and deployment. Some academic institutions have developed enabling infrastructure, such as the Evaluation Services offered by the Center for Science and Engineering Partnerships (CESP) at the University of California, Santa Barbara, which works with STEM faculty to develop evaluation plans, conduct evaluations, and measure progress towards program goals.[10] Availability of Evaluation Services should become standard practice at academic institutions to ensure that relevant EJ research programs are designed with outcomes and measurability in mind at the outset, and that program evaluation is conducted by qualified experts.

OSTP should also work with agencies to make available the findings of such evaluation studies so that the broader research community can learn from the types of energy technology interventions are effective and ineffective in making progress towards addressing EJ community needs. Making this information widely available will help researchers and practitioners learn from others to advance EJ goals more quickly than in the absence of such information.

[8] Centers for Disease Control and Prevention, "What is program evaluation." Available at: https://www.cdc.gov/evaluation/index.htm.

[9] Resources for the Future, "Tracking and Evaluation of Research, Development, and Demonstration Programs at the US Department of Energy," November 2023. Available at: https://www.rff.org/publications/reports/tracking-and-evaluation-research-development-and-demonstration-programs-at-the-us-department-of-energy/.

[10] Center for Science and Engineering Partnerships, University of California Santa Barbara, "Evaluation Services." Available at: https://csep.ucsb.edu/evaluation.