Climate Special Topic Request for Proposals (RFP) Scope Overview

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Motivation

The United States is currently the second largest emitter of greenhouse gasses in the world. Structural discrimination has led low-income populations and people of color to disproportionately experience a range of climate change-related hazards in both the United States and around the world. Reducing US greenhouse gas (GHG) emissions and adapting to climate-related disasters is therefore essential to addressing the dual global challenges of poverty and climate change.

US state and local governments are currently enacting a broad range of policies and programs to improve resilience to climate-related hazards and support the transition to a low-carbon economy. However, more research is needed to understand the impacts of policies and programs seeking to reduce the damages of climate change. Policymakers need clear and credible evidence on solutions that can effectively and equitably mitigate climate change and build resilience to extreme weather events in the United States. By embedding randomized evaluation into promising solutions, climate leaders can determine how to maximize changes in behavior in order to advance decarbonization and adaptation in the most cost-effective ways to benefit all communities.

Scope of J-PAL North America's Researching Climate Change RFP

Randomized evaluations can play a critical role in shaping policy with evidence. When designed intentionally, randomized evaluations studying climate change have the potential to: (1) accurately measure their impacts on emissions reductions, (2) improve understanding of the cost-effectiveness of the portfolio of interventions that are available to state/local governments, and (3) coordinate the development of an evidence-base that policymakers can use to design successful and scalable programs. At J-PAL North America, we believe this evidence can enable a broader set of policymakers to identify and allocate scarce resources to scale up the most effective and equitable climate solutions.

This RFP is intended to fund proposals that contribute to better understanding the costs and benefits of public investments in reducing greenhouse gas emissions, improve climate adaptation strategies and programs, and/or examine the distributional impacts of these policies. These studies may have decarbonization as central to the primary research questions, design, and outcomes, or examine how policies and interventions promote an effective transition toward low-carbon energy systems. We particularly encourage studies where:

- The research design is informed by or informs the energy savings from climate mitigation programs.
- The study identifies strategies to incentivize behavior changes or maximize take-up of programs intended to reduce greenhouse gas emissions.
- The study establishes consistent methodologies and practices for measuring carbon dioxide emissions reductions in the context of an experimental setting.
- The proposal is shaped by existing climate adaptation strategies and helps improve and advance them.
- The study directly targets low-income communities and communities of color. However, studies with a less direct connection to the nexus to poverty would still be in scope if they aim to reduce greenhouse gas emissions and make the case that effective mitigation disproportionately benefits low income populations around the world.

Example Topics and Studies

1. **Transportation:** Fleet transition, public and low carbon transportation, traffic congestion and TDM, electric vehicle (EV) charging infrastructure, and micro-mobility solutions
    - J-PAL researchers Fiona Burlig (University of Chicago), Ludovica Gazze (University of Warwick), and Michael Greenstone (University of Chicago) examined the potential of novel remote sensing technologies to detect high-emitting trucks at low cost. Heavy-duty trucks are major sources of particulate matter pollution but enforcing truck emissions regulations has proven prohibitively costly. The researchers are partnering with the California Air Resources Board (CARB), an air quality regulator, to measure the impact of the new technology on regulatory compliance, emissions, emissions leakage, and enforcement costs.
        - The study examines methodologies and practices—such as remote sensing technologies— for measuring carbon dioxide emissions and assessing reductions

2. **Energy efficiency:** Weatherization and home retrofits, appliance subsidies and rebates, and building standards
    - J-PAL researchers Peter Christensen (UC Santa Cruz), and Erica Myers

(University of Calgary) along with co-author Paul Francisco (University of Illinois Urbana-Champaign), study the effect of performance-based pay for contractors implementing air sealing retrofits as part of the Illinois Weatherization Assistance Program. Retrofitting has emerged as a critical approach to improving energy efficiency in the US building sector, which is responsible for approximately 30 percent of the nation's greenhouse gas emissions.

- This study examines strategies to incentivize behavior changes of contractors performing air sealings as part of the Weatherization Assistance Program, a program intended to improve energy savings, resulting in reduced greenhouse gas emissions.
- Additionally, the study examines consistent practices for assessing reductions in energy consumption, from utility data to blower door tests, specific to measure the effectiveness of retrofits.

3. **Renewable energy:** Solar subsidies and Property Assessed Clean Energy (PACE), renewable energy informational campaigns, and building standards
    - J-PAL researcher Ram Fishman and co-author Aditi Mukherjee are testing informational interventions to help farmers improve the generation and allocation of solar power and reduce power requirements. Flagship decarbonization programs seek to shift millions of grid-connected irrigation pumps to run on farmer-owned photovoltaic (PV) panels, while also allowing sales of unused energy to the grid.
        - This research proposal addresses climate mitigation effects from higher take-up of renewable energy programs by identifying strategies to motivate farmers to successfully generate and allocate solar power.

4. **Other topics that have impacts on climate change by reducing emissions: I**ncluding but not limited to solid waste management, water and waste water, agriculture and conservation, and carbon farming
    - J-PAL researcher Michael Greenstone investigated how to best use machine learning to increase the efficiency of climate and air quality regulations. The researchers have worked with the Energy Protection Agency to pioneer the application of machine learning (ML) to detect facilities most likely to violate hazardous regulations.
        - The study seeks to contribute to consistent methodologies and practices for detecting violations of regulations and monitoring carbon dioxide emissions reductions.

5. **Adaptation**: Including but not limited to public health and awareness initiatives,

promoting sustainable land management and urban green space, improving water infrastructure, and promoting climate-resilient buildings, to mitigate the damages from climate change.

- J-PAL researchers Patrick Baylis and Judson Boomhower study are testing interventions to encourage adoption of defensible space among low-income communities. In partnership with the Jackson County (Oregon) Fire Department and the Western Fire Chiefs Association, the researchers aim to produce critical evidence to inform strategies for adapting to climate-related disasters.
    - The study is shaped by an existing climate resilience strategy and aims to advance it and shape it into a more cost-effective program.

The following topics related to energy and environment are, on their own, insufficient for a study to be considered under this climate special topic request for proposals:

1. Research focused on strategies to overcome barriers to access to energy for vulnerable populations (with no explicit connection to emissions reduction).
2. Research examining the mobilization or health impacts of environmental toxins (e.g., heavy metals, persistent organic pollutants).
3. Simply noting that the proposal addresses a topic related to climate change without a clear connection to impacts on greenhouse gas emissions or climate change damages.
4. Research focused on improving adaptation to climate change that does not target communities experiencing or vulnerable to experiencing poverty.

To learn more about J-PAL's Climate work or to better understand our proposal criteria please email Erin Graeber, Environment, Energy, and Climate Change (EECC) sector lead, at egraeber@povertyactionlab.org

Frequently Asked Questions

Are all topics related to climate change in scope for this RFP?
All topics related to climate change are in scope as long as they have an explicit connection to investigating and addressing the damages of climate change, including mitigation and adaptation efforts.

How will proposals derived from the Climate Action Learning Lab be considered?
Proposals developed through the Climate Action Learning Lab are particularly encouraged to apply (Learning Lab participants should note their engagement within the proposal narrative).

J-PAL affiliates, post doctoral fellows, and invited researchers who did not participate in the Climate Action Learning Lab are also welcome to apply.

Is there a limit in the number of applications that can be submitted by one researcher? Applicants may submit a maximum of three proposals per 12-month period to a single initiative. The climate special topic RFP counts as a separate initiative from the Social Policy Research Initiative. PI and co-PI status are counted towards this limit**.**

How does J-PAL evaluate the nexus between climate change and poverty alleviation? J-PAL's mission is to reduce poverty by ensuring policy is informed by scientific evidence. Proposals should include an explicit discussion of how research questions or interventions have the potential to generate benefits for people who are low-income, living in poverty, or have risk factors associated with falling into poverty. While some submissions may directly target low-income communities and communities of color, all proposals intended to decrease greenhouse gas emissions are in scope—including those targeting high- or middle-income households, as well as industrial and commercial businesses.