

RURAL CLIMATE INNOVATION VISION

EXTERNAL REPORT

Executive Summary

To mitigate the most damaging impacts of climate change, the United States must rapidly develop and deploy solutions to achieve net zero greenhouse gas emissions by 2050. In order to achieve this goal, the U.S. must ramp up today's climate solutions including clean energy deployment, electric vehicles, and energy-efficiency programs, while at the same time investing in research and development to identify future climate technologies and innovations. Many current clean energy technologies and future innovations that will be developed in the coming decades will be land-intensive and require large-scale changes in land management. At present, rural areas account for nearly 97% of the country's land area and 20% of the U.S. population.¹ This change in land management will have widespread impacts on rural communities and rural economies. This project aimed to develop a baseline knowledge through interviews and focus groups on how rural communities perceive these innovations, and who they trust to bring these investments into their communities. **Three key takeaways:**

Solutions for Today's Challenges

Rural communities recognize that climate change is a threat to their way of life and want to be part of the solution; however, they are first looking for solutions to today's problems. Given the partisan rhetoric around climate change, many rural communities have felt blamed for the impacts of climate change, which has left them feeling overlooked and isolated from policy conversations. Rural residents feel these impacts and recognize the potential their communities and landscapes have in driving positive policy change. Rural communities are looking for solutions to current climate impacts, such as wildfires, floods, droughts, and wildlife habitat loss, which can work to support long-term solutions.

Language Matters

While there is a growing recognition of the urgency of climate change within rural communities, these same communities will often use different language to describe the problem of climate

change. This language can be so distinct from the language used by climate and environmental advocates that it can appear like the two groups are describing different problems. Rural Americans will describe climate in terms of short-term weather changes or changes in their operations. They will often describe climate solutions in terms of infrastructure, resilience, and union jobs. This can sound quite different from climate advocates who will describe anthropogenic emissions, global temperature changes, and clean energy technology. It is important to recognize that rural communities are talking about solutions, but these solutions are often related to current climate impacts and are highly localized. Rural communities often have robust local knowledge and expertise of their landscapes which should be coupled with climate science to inform climate decision-making.

Prioritize Resilience and Sustained Economic Opportunities

Rural communities want to prioritize climate innovations that build resilience and provide sustained economic opportunities. Many communities need capacity assistance responding to the impacts of climate change, particularly for climate resilience planning. Rural communities want to see solutions prioritized that have community involvement for the life of the project and bring quality of life improvements to their communities. This could come in the form of infrastructure improvements, expansion of rural healthcare, and increases in investments in rural school districts.

In conclusion, rural America has the human capital and environmental capacity to be a driver of positive change in mitigating and adapting to climate change. Addressing the challenges posed by climate change in rural communities should encompass both the creative deployment of existing tools (policies and technology) and investments in new solutions, coupled with the tried-and-true stewardship practices rural communities are known for. This strategy, along with recognition of the agency of rural communities, is the only way to build prosperous communities and healthy landscapes.

¹ [Defining rural America: The consequences of how we count](#) (Center for Rural Innovation)

Project Introduction

Rural Americans, no matter their geographic region, are on the frontlines of climate change but often feel blamed or removed from climate policy discussions. As a result, climate change attitudes are highly polarized across the urban-rural divide, with rural voters being less supportive of climate action.² However, there is anecdotal evidence to suggest that the intensification of climate impacts in the last several years has contributed to a changing narrative of climate change in rural communities. Much of rural America's economy is directly tied to the welfare of natural resources and subsequently to the impacts of climate change. Of the 30 stakeholders interviewed for this project, none denied the profound impact climate change is having on their community. While climate change continues to be a politically polarized topic and some rural residents continue to claim disbelief in the causes or impacts of climate change, interview participants believe their communities are looking for solutions to respond and adapt to the problem — regardless of their perception of the cause of the problem. As a result of the direct experience of climate change impacts, there is an openness to talking about climate solutions in rural America.

The goal of this project was to develop an understanding of rural attitudes and perceptions of climate innovation that would enable nonprofit and advocacy organizations to align their federal climate innovation advocacy with the needs and expectations of rural communities. To develop this report, 30 stakeholder interviews were completed between July 2022 and October 2022 with rural, “grasstop” leaders from across the country and rural economy. Interview participants were selected based on their experiential knowledge of rural communities and their experience with federal and state policy. This knowledge base provided robust insights into how communities are experiencing and talking about climate change, and how stakeholders want to see federal investments show up in their communities to respond to these impacts.

Principal Findings

Rural residents have a strong place-based identity regardless of gender, age, or partisanship and, as a result, the wellbeing of the landscapes around them is a central part of their culture and identity.³ Climate change poses a threat to this way of life but the partisan rhetoric around climate change has caused many rural communities to feel blamed for climate impacts and therefore overlooked and isolated from climate policy conversations. There are also concerns about the short-term economic impacts climate policies and innovations will have on natural-resource dependent economies. At the same time, these communities recognize the potential of rural people and landscapes in driving positive climate mitigation and resilience.

Climate Resilience

Rural communities want to prioritize climate innovations that build resilience to the current impacts of climate change. Communities often feel that they can only be reactionary and cannot begin thinking about solutions beyond responding to the next problem given limited capacity and economic stability. For this reason, innovation solutions will largely encompass climate adaptation in the short-term and need to provide necessary planning capacity to state and local governments. At present, many rural communities struggle to meet federal resilience funding requirements (such as FEMA's BRIC program⁴), and do not have the human capital to develop these plans without targeted assistance. There are often requirements for local governments to submit hazard mitigation plans, cost-benefit analyses (CBA), and matching grants. For example, CBAs prioritize the amount of property value protected, and can therefore make it harder for lower-income and rural communities to qualify for competitive resilience funding.⁵ When these requirements are taken together, they can make these vital funding opportunities inaccessible for small, rural governments. These programs can even erode a local government's limited capacity. Kentucky reviewed BRIC funding following two

² [Understanding Rural Attitudes Toward the Environment and Conservation in America](#) (Nicholas Institute for Environmental Policy Solutions)

³ Ibid.

⁴ “Building Resilient Infrastructure and Communities.” FEMA.gov, 1 Dec. 2022, <https://www.fema.gov/grants/mitigation/building-resilient-infrastructure-communities>.

⁵ [Improving benefit-cost analyses for rural areas](#) (Headwaters Economics)

catastrophic floods in 2020 and 2021; however, given the limited capacity of local governments, the state did not utilize their entire state allocation in 2022.⁶

At present, higher education institutions play an important role in filling this capacity gap. The Environmental Resilience Institute at Indiana University⁷ connects rural governments in Indiana with undergraduate and graduate interns to assist those governments with climate action and resilience planning efforts. The Institute also publishes climate data resources to equip local governments with the real-time climate data they need for decision-making and to inform planning efforts. Programs like this not only assist local governments with meeting some of the program requirements for federal resilience funding, but also work to create a pipeline of climate professionals equipped with the skills to address rural climate needs.

Climate resilience investments are not limited to technical expertise or resilience planning capacity. Rural communities are often looking for resources to upgrade both public and private infrastructure to adapt to changing climate conditions. This could be infrastructure as simple as installing HVAC systems and HEPA air filters in homes experiencing increases in extreme summer temperatures or smoke exposure from wildfires. These investments could also be more robust. For example, electric utilities may need to adapt their budgets to strengthen the resilience of their energy infrastructure. Regardless of scale, rural communities are looking for resilience resources to increase affordability, protect public health, and ensure community wellbeing.

Affordability

In addition to balancing the needs of climate innovation and natural ecosystems, rural communities want to see investments in climate technology and capacity provide *sustained* economic opportunities. One-time investments or one-off opportunities do not build prosperous communities. As investments are deployed, rural communities want to see the benefits of climate innovation and clean energy technology stay within their communities.

Rural communities are experiencing disproportionate present-day climate impacts⁸, as a result of economic vulnerabilities, including stagnant job growth, high levels of poverty, and lack of social services. Many rural communities also face constraining fiscal policies which have created a dependence on a limited set of industries, including fossil fuels, and inhibited governments from investing revenues for economic diversification. In Wyoming and Utah, for example, local governments receive tax income from fossil fuel production but not from renewable energy.⁹ Under these conditions, it is reasonable for local governments and the communities they represent to continue to favor these extractive industries over renewable energy development.

Until the underlying conditions of rural climate vulnerability are addressed, rural communities will be limited in their ability to capitalize on their innovation potential. Investments in climate innovation have this capacity if those investments are designed to move resources to the community and develop collaborative solutions, such as programs like the Appalachian Solar Finance Fund.¹⁰ This program provides grants and technical assistance for solar projects in coal-impacted communities in Appalachia. Every stakeholder interviewed for this project was supportive of more clean energy jobs for their communities and was able to make the connection between climate investments and job potential. At the same time, nearly every stakeholder was also worried about rural affordability and unrestricted growth. Many rural communities enjoy being relatively small and isolated, and they want to see their community sizes protected. Investments just for the sake of moving money into a community is not desirable; however, creating opportunities for economic prosperity that protect rural identity is.

⁶ [How FEMA Can Build Rural Resilience Through Disaster Preparedness](#) (Center for American Progress)

⁷ "Indiana University." Environmental Resilience Institute, <https://eri.iu.edu/index.html>.

⁸ "Colorado State University." Sustainability, <https://sustainability.colostate.edu/humannature/climate-change-offers-opportunities-to-rural-communities>.

⁹ Fiscal Policy is Failing Rural America (Headwaters Economics)

¹⁰ 2022 SFF Impact Report - Solarfinancefund.org. <https://solarfinancefund.org/wp-content/uploads/2023/01/2022-SFF-Impact-Report.pdf>.

Land Management

Land management is an often overlooked or under-valued climate innovation, but it is one of the most important solutions to building a healthy landscape, community, and climate. Land and natural resource management should be prioritized as much as clean energy technology and other climate infrastructure investments. Rural communities are also looking for assurances that working lands are protected from conversion to non-agricultural and non-forestry uses. They want to see solutions that balance these needs of natural resources management with clean energy production.

At present, many rural practitioners and communities do not think there are ample opportunities for discussion between rural communities and renewable energy developers. For example, there is a strong correlation between sage grouse habitat — a critically important species in prairies — and wind energy potential. However, sage grouse do not thrive in environments with tall structures, such as wind turbines.¹¹ There must be policy incentives and interventions in place to align the renewable energy needs of the country and the needs of rural and natural communities. Without a dialogue, rural stakeholders are concerned that this local environmental knowledge will be minimized in the name of renewable energy development.¹²

Clean Energy Technology

'Climate innovation' and 'clean energy technology' feel like buzzwords that only appeal to urban residents, which may not necessarily provide meaningful impacts in the rural context. Clean energy technology often feels out of touch with the needs and economic realities of rural communities. There is a perception that rural communities will likely shoulder the financial and environmental burden of these technologies, while urban communities enjoy the benefits in the form of lower utility costs, access to public transportation, and decreases in air and water pollution. This is not to say that rural communities overall are adversarial toward clean energy technology, but this technology often feels designed for other people who have more economic resources.

Despite the rapid growth of clean energy technologies in the last decade, there are still limited examples for communities to show how these technologies positively impact them. As investments in clean energy technology increase, particularly in those with a focus on domestic manufacturing such as electric vehicle production, there is the potential for these investments to create a profound shift in the perception of climate energy technology by making this technology more accessible and a driver of increased economic opportunities. Lastly, a stated aversion to clean energy technology is not in and of itself a statement of opposition to this technology. Rural communities feel a deep sense of place, and therefore value their natural environment, and want to see technology investments that balance economic prosperity with environmental wellbeing. They recognize you cannot have sustained economic opportunities without a thriving natural environment and want to ensure those opportunities continue to protect the health and wellbeing of the surrounding landscape.¹³

Investment Design

Rural communities want to see federal investments in climate innovation and clean energy technology, but do not want to see these investments funneled through business-as-usual funding mechanisms. As established above, all investments need to include increases in on-the-ground capacity and prioritize opportunities for interagency collaboration to maximize technical expertise. In the last couple of years, there have been more federal policies and approaches that begin to address these concerns. A few examples include:

- In the 2023 Omnibus Appropriations bill passed in December 2022, the U.S. Forest Service was authorized through legislative language to spend appropriated funds on community capacity support whether through technical assistance, administrative functions, or costs. This type of authority for federal agencies is welcomed by rural

¹¹ Greater Sage-Grouse: Overview and Effects of Wind Energy Development. <https://www.energy.gov/eere/wind/articles/greater-sage-grouse-overview-and-effects-wind-energy-development>.

¹² Some programs are already making meaningful efforts to incorporate rural stakeholders in energy development. Smart from the Start in California provides a model for how these priorities can be effectively balanced. https://defenders.org/sites/default/files/publications/smartfromthestartreport12_print.pdf.

¹³ [Understanding Rural Attitudes Toward the Environment and Conservation in America](#)

organizations and local governments that often working in partnership with this federal agency and face challenges funding capacity needs. This type of clarity for federal agencies should be expanded to ensure federal partners can provide support to local communities to fill these capacity gaps.

- In April 2022, USDA launched the Rural Partners Network¹⁴ which brings communities on-the-ground support and technical assistance from full-time federal staff. These staff live and work within the rural communities they serve and work to identify community-driven solutions and navigate federal funding application processes. Currently, this program serves rural communities in 11 states/territories. The Biden-Harris Administration is seeking additional funding to expand this program into more states in fiscal year 2023. This is a prime example of how to increase federal staff capacity in a way that meaningful engages with rural communities.
- In December 2022, the Environmental Protection Agency and the U.S. Department of the Army held a series of regional stakeholder roundtables¹⁵ on the implementation of the “Waters of the United States” (WOTUS) rule. While this is not climate-related, it is a powerful example of leveraging regional partnerships and increasing federal staff capacity on the implementation of environmental policy.

While rural attitudes toward “big” government may be shifting from an historic anti-government attitude to a more accepting but cautious one,¹⁶ the lack of federal capacity within rural communities is prohibiting federal investments from getting to the community level, making it difficult to apply for future funding. As a result, this exacerbates communities’ ability to respond and adapt to their current climate change challenges. While rural stakeholders may claim they do not want more government programs or officials, they do want these systemic limitations addressed.

Conclusion

The stakeholders interviewed for this project highlighted the enormous need and opportunity for partnership on climate solutions, but at the same time, they cautioned against environmental advocacy organizations parachuting in with solutions. Climate solutions should build on existing regional partnerships and speak to rural values. Rural organizations working on regional, collaborative conservation (Western Landowners Alliance¹⁷ and Rural Voices for Conservation Coalition¹⁸), as well as community-based non-profits (Wallowa Resources¹⁹), and colleges and universities (University of Minnesota Morris²⁰ and Appalachian State²¹) have had tremendous success across the country bringing communities together to define solutions that prioritize the human innovation capital present in rural places. Rural communities know what their problems are, and, while they are looking for solutions to today’s problems, they want to be active participants in designing and shaping those solutions. In order balance the needs of rural communities, landscapes, and climate innovations, environmental organizations, including EDF, should work within these existing partnerships to develop the unique solutions that work in rural America.

¹⁴ “Rural Partners Network.” RURAL.gov, <https://www.rural.gov/>.

¹⁵ Summary: Regional Roundtables on Implementation of “Waters of the ...” <https://www.agri-pulse.com/ext/resources/2022/12/30/WOTUS-Regional-Roundtable-Summary.pdf>.

¹⁶ “The Pandemic Has Dramatically Changed Rural Attitudes Toward Government.” Yale School of the Environment, 18 Aug. 2020, <https://environment.yale.edu/news/article/the-pandemic-has-dramatically-changed-rural-attitudes-toward-government>.

¹⁷ Western Landowners Alliance, <https://westernlandowners.org/>.

¹⁸ Rural Voices for Conservation Coalition, <https://www.ruralvoicescoalition.org/>.

¹⁹ Wallowa Resources, <https://www.wallowaresources.org/>.

²⁰ “Sustainability: Morris, Minnesota.” Morris Model, 15 Feb. 1970, <https://www.morrismodel.org/>.

²¹ Appalachian State University - University Sustainability. “University Sustainability - Appalachian State University - Climate Action Plan.” Climate Action Plan / University Sustainability / Appalachian State University, <https://sustain.appstate.edu/initiatives/climate-action/>.

For more information, please contact Akin Olumoroti, Senior Analyst, Federal Climate Innovation, aolumoroti@edf.org

Environmental Defense Fund
1875 Connecticut Ave NW, Ste 600
Washington, DC 20009

T 212 505 2100
F 212 505 2375
EDF.org

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New York / Washington / San Francisco / London / Beijing / La Paz, Mexico
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