Center for American Progress

Building a 100 Percent Clean Future Can Drive an Additional $8 Billion a Year to Rural Communities

By Bidisha Bhattacharyya, Ryan Richards, and Rita Cliffton January 8, 2020

Rural communities face many challenges, and climate change is only making matters worse. Flooding and drought are hitting rural communities hard, causing massive financial losses for farmers, who are also facing low commodity prices and bearing the brunt of an international trade war. And the rural landscape is changing as farmland is being lost to the same development pressures that are contributing to climate change. These challenges are creating a palpable sense among rural residents that their way of life is changing and under threat.

Shifting weather patterns are one of the most noticeable changes. For example, in Iowa, the past 18 months have been the wettest on record, according to the Iowa Department of Natural Resources.[1] Iowa climatologists cite climate change as one of the key causes of flooding in the state. Across the Midwest, flooding caused $3 billion in damage in 2019.[2] According to an August 2019 poll, 1 in 4 Iowans say that they or someone in their family has experienced property damage or other economic hardships as a result of flooding or severe storm damage in the past 12 months.[3]

Flooding has been especially devastating for farmers. Fields saturated with water forced farmers to leave more than 19 million acres of agricultural land unplanted in 2019.[4] Crops that they did manage to plant remained in the ground, as the wet soil coupled with propane shortages (due to pipeline distribution constraints) prevented farmers from drying and storing their grain. These challenges, along with a global trade war, rising input costs, and low prices have been a catastrophic combination, with farm debt projected to hit $415 billion in 2019.[5] In addition, from October 2018 through September 2019, Chapter 12 bankruptcies for farms increased 24 percent, with 40 percent occurring in the Midwestern states.[6] These factors raise serious questions about the prospects for agriculture and rural livelihoods in the future.

At the same time, the look and feel of rural America is changing, with significant swaths of farmland and natural lands being converted for other uses. A recent CAP analysis found that, every 30 seconds, a football field worth of America's natural areas are disappearing to development.[7] A study by American Farmland Trust found that almost 31 million acres of agricultural land were lost to development between

1992 and 2012, more than one-third of that land being some of the most fertile acreage in the country for food production.[8] Similarly, work by Conservation Science Partners suggests that this trend of agricultural land loss is continuing unabated.[9]

The rapid development of rural lands, along with oil and gas pipelines running through rural communities and fertilizer runoff and erosion from fields, make water quality a key issue for rural voters. For example, a Yale Program on Climate Change Communication poll found that 79 percent of Iowa voters say pollution of water bodies is a serious problem in the state, and 66 percent worry that floods could expose waterways to pollutants from damaged oil and gas pipelines.[10] There is good reason for their concern: A 2017 U.S. Department of Agriculture (USDA) study found that, nationally, 55 percent of assessed rivers and streams, 71 percent of lakes, and 84 percent of bays and estuaries have impaired water quality.[11]

Many of these problems will only worsen with climate change. Rural voters across America understand that the climate is changing, and many support climate action. In fact, an August 2019 Yale University poll of Iowa registered voters found that 70 percent support government action to address climate change. [12] However, these voters tend to have a low level of trust in the federal government's ability to address climate change the right way. A poll from the Yale Program on Climate Change Communication found that majority of rural Iowa voters say that politicians don't hear them and that politicians from across the political spectrum do not take their way of life into consideration when they talk about climate change.[13] This needs to change.

If done right, taking climate action will be a win-win for rural communities, counteracting the shifts to their way of life. Taking action will also help them to preserve a rich heritage. A recent report from the Center for American Progress outlines a framework for successful and durable climate action and recommends a move to a 100 Percent Clean Future that focuses on a big and ambitious "100 percent clean" target that puts the needs of communities at the center of climate policy.

This issue brief identifies ways climate policy can address the needs of rural communities by focusing on supporting rural livelihoods; protecting natural lands and farmland from development; and keeping water clean. Moreover, CAP finds that enacting such policies would drive an additional $8 billion in economic benefit to rural communities each year.

Support rural livelihoods

Climate action will do far more to help rural communities chart their futures than the policies of the current administration. Rather than upending commodities markets, investments in soil health and carbon sequestration will help farmers secure their operations—improving production long term and creating new revenue

streams that can smooth finances in the face of uncertain market forces and weather patterns. At the same time, conservation programs can help communities protect the open spaces that they value, diversifying their economies and protecting clean air and clean water for themselves and their neighbors.

New revenue streams from increasing soil health and sequestering carbon

A recent poll among farm state voters found that a majority of voters would be more likely to back a presidential candidate who supports soil health initiatives in rural communities.[14] This is good news: Lands are the world's largest, most powerful carbon sink, and farmers can play a role in fighting climate change by adopting practices that improve soil health, capture and sequester carbon, and prevent soil erosion and runoff into waterways.

Healthy soils are rich in organic matter and microbial activity, which means they sequester more carbon; absorb more water to prevent erosion and topsoil loss during flooding; and can improve crop yields.[15] The USDA's working lands programs—which reward farmers for improved soil health and land stewardship practices—are consistently oversubscribed, getting more applications for new projects every year than they can support.[16] Expanding these programs can bolster farm livelihoods and protect land and food supplies from the effects of climate change. According to the American Farm Bureau Federation, only 15 percent of U.S. farmland is currently under a federal conservation program.[17] Boosting the reach of these programs will provide new revenue streams that help landowners improve the soil health of millions of acres of crop and pastureland.

CAP recommends a target of adding 100 million acres of farmland to federal working lands programs by 2030, with a focus on planting of cover crops on these acres. To support this goal, Congress should double the nation's investments into farms made through the Conservation Stewardship Program (CSP), the Environmental Quality Incentives Program (EQIP), the Agricultural Conservation Easement Program (ACEP), and the Regional Conservation Partnership Program (RCPP). This investment could drive an additional $3.5 billion of annual revenues to farms and an estimated $1.4 billion in cost savings through practices such as planting cover crops[18] for a total average of $49 per acre. For the average-sized family farm, which has 443 acres,[19] that's up to $21,707 a year in additional annual income.[20]

To provide the USDA with more options to improve soil health and carbon sequestration beyond the investments above, Congress should consider new tools or authorities. One possible avenue is establishing stored carbon as a commodity, given existing voluntary and regulatory markets for carbon sequestration. The USDA could then support demand for carbon with carbon purchasing programs and a price floor for sequestration that would give landowners more confidence that building carbon in their soil will pay in the long-term, both through on-property resilience and through a market that rewards them for the public service they provide.

Renewable energy and energy efficiency improvements

The Rural Energy for America Program (REAP) provides grants, low-interest loans, and loan guarantees to farmers to install solar, wind, and make on-farm energy efficiency improvements.[21] REAP is extremely popular and enjoys strong bipartisan support. CAP recommends doubling the combined amounts of mandatory and discretionary funding for REAP each year from the current $400 million a year (total of mandatory and discretionary funds) to $800 million a year. Assuming 10 percent overhead costs, this would direct an estimated $360 million additional funding each year into farms and rural businesses for renewable energy and energy efficiency improvements, reducing their reliance on fossil fuels.

Another avenue to increase expansion of renewable energy in rural areas is through rural electric cooperatives (RECs)—nonprofit utilities that serve 42 million Americans in 48 states.[22] While RECs have increased their renewable energy capacity by 145 percent since 2010, renewables only comprise 8.2 percent of REC generation capacity, with 60 percent of their generation capacity coming from coal.[23] [24] As costs for renewables continue and states commit to 100 percent clean targets, RECs may be stuck with expensive coal-fired power plants and long-term generation contracts. As CAP recommended in a previous report,[25] the federal government can help RECs accelerate their transition to clean energy by forgiving the approximately $7 billion in outstanding Rural Utilities Service loans supporting coal power plants. This would enable RECs to shut these plants down and replace this capacity with clean energy generation over the next decade. This effort could be coupled with funding streams to help cooperatives invest in renewable energy generation. One option to explore is to offer funds through reauthorization and revision of the Section 1603 "grants in lieu of tax credits" program that ran from 2009 to 2011 as part of the American Recovery and Reinvestment Act.[26]

Access to broadband in rural communities

Nearly one-quarter of rural Americans do not have access to broadband internet, which has major financial implications for farmers.[27] According to the USDA, universal deployment of broadband-enabled precision technology could reduce water use by 30 percent, cut herbicide reliance significantly, reduce fuel use by 10 percent, and increase yields by 70 percent, generating cost savings of approximately $47 billion to $65 billion annually in additional gross benefit for the U.S. economy. [28] As part of rural infrastructure upgrades, CAP recommends a "dig once" approach that links upgrades to the rural electricity grid for renewable energy and expands broadband access. Congress should explore options for allocating grants, low-interest loans, and loan guarantees to rural electric co-ops—rather than wholly relying on large telecommunications companies—to expand broadband access in rural-remote areas left behind by the private market.[29] This could be accomplished by expanding and fully funding the existing USDA Rural Utilities Service programs such as the Broadband Reconnect Program, the Rural Broadband Access Loan and Loan Guarantee Program, and the Community Connect Grant Program.

Protect rural lands from development and keep water clean

To slow the loss of natural areas across rural America—which, as noted above, are the nation's most potent carbon sink—policies should be put in place to make land conservation profitable for farmers and private landowners, particularly for those lands that have high carbon sequestration potential. CAP recommends that the United States establish a national goal of protecting 30 percent of U.S. lands by 2030. Federal policies can also help protect waterways and groundwater; reduce pollution from power plants and factories; and help transition to cleaner sources of energy. The following policies can help achieve these goals.

Increase the number of acres of farmland and private lands in conservation

The USDA's Conservation Reserve Program (CRP) can be leveraged to increase the number of acres of farmland in conservation. The CRP—which pays farmers a per-acre rental rate for conservation contracts ranging from 10 years to 15 years—has a maximum acreage cap to ensure that the most vulnerable lands are prioritized and that conservation does not compete with cropland. The maximum acreage cap for the CRP was historically as high as 36 million acres but was lowered in recent farm bills to 27 million acres.[30] Restoring the cap to its historic high of 36 million acres would drive more than $1 billion in additional rental payments to farmers each year for protecting their most vulnerable lands from flooding and erosion while also storing carbon.

For other privately owned lands such as forests, wetlands, and grasslands, Congress can create a new vertical under the USDA Forest Legacy Program that specifically targets protection of privately owned lands that have the highest carbon sequestration potential. Such a program would pay a premium to private landowners, rewarding them for protecting these lands from development. These open spaces contribute to clean air and water but also provide opportunities for outdoor recreation that help communities stay healthy and diversify local economies. CAP proposes expansion of the USDA Forest Legacy Program to $200 million a year, driving an additional $140 million to rural landowners each year for carbon sequestration.

Prevent runoff and reduce farm electricity costs with methane digesters

Methane digesters provide the triple benefit of reducing on-farm electricity costs, preventing manure runoff into waterways, and preventing methane (a greenhouse gas 25 times more potent than carbon dioxide[31]) from entering into the atmosphere.

Methane digesters capture methane from manure pools and enable farmers to generate electricity with it, offsetting and potentially eliminating on-farm electricity costs. The EPA estimates that installing methane digesters on more than 8,000 dairy and swine operations across the United States where it's feasible could save farms $1.7 billion a year in electricity costs.[32]

The REAP and EQIP expansions discussed earlier would provide grants and low-interest loans to farmers to help defray the costs of installing methane digesters, with prioritization of small and beginning farmers. In addition, a national carbon price would enable digesters to become economical for even more dairies. For example, the USDA estimates that at a $13 a ton carbon price, digesters would have a positive net present value on almost 2,000 livestock operations under 1,000 head and close to 4,000 dairies under that size at a price of only $26 a ton.[33]

Additional policies

Move away from fossil fuels

In addition to methane capture, a federal climate mitigation policy would prevent water pollution from pipelines and powerplants by moving away from fossil fuels and toward cleaner sources of energy, such as solar and wind.

Encourage smart growth in cities and towns

Federal policies should support smart growth in cities and towns to rein in the uncontrolled development that has caused cities to sprawl outward into rural areas, changing the face of rural America. In addition to encouraging denser development in existing developed areas, these policies support restoring small town Main Streets to their role as commercial and social centers.

Conclusion

Policymakers must put the needs of communities at the center of climate policy, and they need to undertake a concerted effort to understand the problems rural communities face and design climate policies that address those concerns. Climate policy informed by rural voices can be a win-win by protecting and strengthening the rural way of life while harnessing the power of America's lands and rural communities to address climate change. This approach is essential for building a strong, durable climate policy that can move the United States toward a 100 Percent Clean Future.

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