

# CLIMATE SOLUTIONS FOR FARMERS

Invest in Proven Federal Programs,  
Not Carbon Markets







Record-breaking Midwest flooding in 2019, intense land-falling hurricanes in 2017 and 2018, and historic droughts in California in 2014 to 2017 and wildfires in 2020 highlight the urgent need to help producers build the resilience of their operations to ongoing and future impacts of climate change. The scale and scope of the response to the climate crisis must be significantly increased to adequately secure our food and fiber production, keep farmers on the land, and prevent the worst impacts of a changing climate.

What is the best way to influence farmers' practices on the scale and in the timeframe needed to address the climate crisis? Some influential players find carbon markets tempting—they could create new revenue streams for farmers and ranchers hurting after years of low prices. Carbon markets pay those sequestering carbon or reducing greenhouse gas emissions, thereby generating “credits” which are then sold to buyers, typically large corporations interested or required to offset their own carbon emissions. However, carbon markets' poor track record suggests that this approach is unlikely to result in significant net decarbonization. Relying solely on these markets will not provide the support and incentives needed to help farmers transition to a more resilient climate future. Carbon markets should not be a substitute for strong federal programs that bolster the practices and people already in place that have been committed to sustainability and land stewardship for years.

**Policymakers should invest in programs with the longest successful track record of addressing on-farm stewardship – the farm bill conservation, research, renewable energy, and rural development programs – as the primary strategy to advance and scale up climate beneficial farming practices.** These programs support farmers and ranchers who implement a wide array of practices from increasing crop and livestock diversity, managing nutrients, and producing on-farm renewable energy.

Climate-beneficial practices and systems, including the use of cover crops, rotational grazing, and planting legumes, trace back to Indigenous, African, and other traditions from Communities of Color. The planting of the three sisters, maize, beans and squash, are rooted in Native American ancestral knowledge and underscore the harmony and efficiency provided by natural ecosystems.

Taking a holistic approach to land management can sequester carbon, while also improving air and water quality, water infiltration, and enhanced biodiversity – all crucial to building resilience to a changing climate and to other disruptions.

## CARBON MARKETS HAVE A RECORD OF FAILURE

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In 2006, the Chicago Climate Exchange was the first national effort to establish a carbon market. By 2008, farmers had over 3 million agricultural acres under contract in Minnesota, Wisconsin, Montana, the Dakotas, and Iowa. But in 2010, the exchange collapsed. Congress was unable to pass cap and trade legislation, leaving little incentive for polluting industries to buy offsets. The carbon market was swamped with offset credits from willing farmers but lacked buyers. The price of the carbon credits plunged from a high of roughly \$7 to just 5 cents per metric ton of carbon dioxide equivalent. **In December 2010, the Chicago Climate Exchange closed its doors, leaving farmers and ranchers, who had taken on additional costs, with unfulfilled contracts.**

The next efforts to create a carbon market came from the Regional Greenhouse Gas Initiative (RGGI), a carbon market consortium across several New England and mid-Atlantic states, in 2009, and then in 2012, when California launched its own cap-and-trade program. Both RGGI and the California market have very limited ways for farmers to participate, though both do offer dairy digester offset credits. California also established a rice offset protocol to reduce methane emissions; however, not a single rice producer has signed up for this protocol.

Thus, to date, the country's carbon markets have failed to significantly reduce greenhouse gas (GHG) emissions. The most comprehensive compliance carbon market is in California where the results are mixed, showcased in a [2019 report](#) that found that the state is not on track to meet its 2030 GHG emissions reduction target until 2060.

## CARBON MARKETS MAY WORSEN RACIAL AND ECONOMIC INEQUITIES

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Are carbon markets truly accessible to all types and sizes of farms? Who bears the burden of polluting industries? **Many in the environmental justice community oppose carbon markets because the markets allow power plants and other polluting industries, often situated in or near low-income communities and communities of color, to continue or even increase pollution that disproportionately harms those communities.**

Furthermore, carbon markets appear to prioritize large-scale operations over small- and mid-size operations. This will have a disproportionate impact on smaller-scale operations and on Black, Indigenous, and People of Color (BIPOC) producers, who tend to operate smaller scale farms and ranches. Some markets have acreage minimums, which effectively exclude small-scale farms. Nori, for example, requires that a minimum of 1,000+ acres are enrolled. Funneling more resources to the largest and best-resourced farmers will only worsen consolidation in the agriculture sector, making it more difficult for small, diversified, and BIPOC farmers to remain in the industry.

# CARBON MARKETS DO MORE TO ENRICH INDUSTRY THAN HELP FARMERS

The creation of a carbon bank at USDA is among the proposals to engage the federal government in the establishment of carbon markets. Other proposals intend to advance measures to facilitate carbon market transactions through private players.

Under the carbon bank proposal, USDA would use public dollars to purchase offset credits (to fund climate beneficial practices) from U.S. farms. When a federal carbon market is eventually established, the USDA would then sell those credits on the market to private entities to help them offset their emissions. This raises lots of questions about the proposal.

- Will farmers be paid based on the costs of their farm management practices? Or the much lower payment based on carbon stored?
- Who benefits from potentially low-cost offset credits bought initially by USDA and sold to corporations to meet their GHG emission reductions requirements?
- Will the carbon bank approach reduce emissions in a timely way to address the urgency of the climate crisis?

A private market won't adequately incentivize farmers to implement soil health practices. Historically, the price of carbon has not been high enough to compensate farmers for the cost of these practices. Also, the price on carbon takes no account of other ecosystems and societal benefits provided by climate stewardship practices, such as water quality and drinking water safety, soil health, agricultural resilience, and long-term food security.

For example, in Montana, NRCS will assist farmers to adopt multi-species cover crops to the tune of **\$53.41 per acre** over five years through the EQIP working lands program. According to the COMET planning tool, the carbon sequestration potential of adopting this practice is estimated to be 0.22 tons of carbon dioxide equivalent per acre per year of the practice. In the current private Indigo Agriculture carbon market, a farmer would only get paid \$15 dollars per ton of carbon dioxide equivalent sequestered, in this case amounting to a payment of **\$3.30 per acre** to adopt cover cropping.

**Any government subsidy should benefit farmers directly, rather than supporting companies trying to sidestep their way out of reducing their emissions.**



# CARBON MARKETS ARE AT ODDS WITH SCIENCE

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Carbon sequestration in agricultural lands is complex and nuanced, and the science is not yet in place for accurate and cost-effective measurement and quantification of soil carbon sequestration. Issues of permanence and additionality also need to be further researched. Finally, carbon markets rely on data and their quick proliferation calls into question who will benefit from amassing and controlling farmer data.

## **Methods**

Measurement methods and tools for soil carbon sequestration that are reliable, accurate, and practical have not yet been fully developed. Generating reliable estimates of carbon stored in a particular field or farm is still expensive and varyingly reliable in different soils, geographies and climate zones. Carbon sequestration varies from farm to farm and year to year.

## **Permanence**

In current private carbon markets, farmers and ranchers only have to maintain climate-friendly practices for 10 years, hardly a permanent change. There should be some confidence that the carbon will be permanently sequestered, effectively offsetting emissions elsewhere. Permanence is a tall order for agricultural working lands, in which weather volatility and other factors beyond human control can substantially alter soil carbon dynamics.

## **Additionality**

There is no guarantee that carbon sequestration through improved land use or soil management would not have happened even without carbon market credits. Unless the carbon credit program requires inclusion of an entire operation, there is no guarantee that a farmer did not simply shift carbon-intensive practices to other parts of the farm or continue carbon-negative practices elsewhere. The additionality requirement also places early adopters, all those farmers and ranchers that have been implementing climate-friendly practices for years, at a disadvantage, since they cannot receive credit for all of the carbon they have already sequestered.

## **Data Control & Privacy**

One reason companies are interested in carbon markets is to collect and then mine farmers' data in order to develop new products and services, leading to questions over who controls and who benefits from the data. Without adequate data privacy and control protections in place, farmer data can be leveraged in ways that enrich agribusiness companies instead of farmers.

## CARBON MARKETS UNDERMINE HOLISTIC AGRICULTURAL SOLUTIONS

The first priority for farmers and ranchers should be to emphasize long term soil health and conservation practices that are profitable, enhance their operations' climate resilience and advance the health of the land and water. **Paying farmers for soil carbon offsets treats their land narrowly as a carbon sink instead of encouraging integrated systems that offer multiple ecosystem services.** Public programs can and should be designed to support early adopters, regardless of scale, who already have holistic conservation systems in place. While climate stewardship practices may not sequester carbon every year, they will confer many other ecosystem services, and farmers should still be rewarded for providing these services.

Carbon markets have incentivized capital-intensive technologies like methane digesters that do not generate clean energy and that stall the shift to sustainable farming practices. The large-scale concentrated animal feeding operations (CAFOs) that implement and stand to benefit from methane digesters also contribute greatly to air and water pollution and harm local communities and agricultural workers. Promoting methane digesters and other capital-intensive technologies delays the move to smaller-scale and more sustainable pasture-based livestock production systems and puts small and mid-size dairy farms at a competitive disadvantage.





# FOCUS ON HOLISTIC CLIMATE SOLUTIONS FOR FARMERS

Many existing public policy solutions could be readily expanded to mobilize around the climate crisis. We should prioritize investing public funds to equip farmers and ranchers to address climate change by:

- reforming and expanding **existing federal research and conservation programs**, including the Sustainable Agriculture Research and Education Program (SARE), the Conservation Stewardship Program (CSP), the Environmental Quality Incentives Program (EQIP), and the Conservation Reserve Program (CRP)
- ensuring that these programs fully serve **small, mid-size, diversified** operations, as well as **BIPOC and beginning farmers and ranchers**
- providing greater **technical assistance** to farmers and ranchers
- prioritizing **soil health** and **water quality**
- supporting transition to livestock production systems based on **advanced grazing management**
- supporting **whole-farm approaches** to climate stewardship including transition to organic agriculture, agroforestry, and crop-livestock integrated systems
- incentivizing **on-farm renewable energy** production, including solar, wind, and geothermal
- minimizing **food loss and waste**

Producer-focused public policy solutions will directly benefit farmers and incentivize adoption of climate-stewardship practices that not only help sequester carbon and reduce GHG emissions but also build resilience, reduce soil erosion, improve water quantity and quality, and protect wildlife habitat and biodiversity. Such program support is not tied to a volatile carbon market, and is designed to encourage farmers to provide multiple environmental and natural resource benefits.

**Farmers can make a monumental contribution to reducing our nation's carbon footprint.**

Reformed and expanded conservation, research, rural development, and renewable energy programs can facilitate this, while creating more resilient food and farming systems and benefiting farmers directly.



# ADDITIONAL RESOURCES

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- [Potential For Carbon Markets in Agriculture to Address Climate Change](#)
- [The Climate Crisis Needs More Than a Silver Bullet](#)
- [Carbon markets lure farmers, but will benefits be enough to hook them?](#)
- [Fate of climate payment plans in hands of researchers](#)
- [Why we need a broader perspective to help farmers meet the climate crisis](#)
- [Proven programs, not false hopes — engaging farmers in climate solutions](#)
- [Why Carbon Markets Won't Work for Agriculture](#)
- [Don't Believe the Carbon Market Hype: Why states should not pursue carbon markets and what they can do instead](#)
- [Will Indigo Ag's New Private Carbon Market Pay Off for Farmers?](#)