

AGree Response to USDA's Climate-Smart Agriculture and Forestry Partnership Program Request for Information (RFI)

November 1, 2021

Introduction

For the last decade, the AGree initiative has focused on developing innovative and scalable policies and pilot programs that support farmers in improving agronomic and conservation outcomes while adapting to increasing weather variability. AGree partners believe there are real opportunities to use federal agricultural policy to support farmers and the environment by incentivizing and scaling agricultural practices that reduce greenhouse gas emissions, improve soil health, and enhance water quality and wildlife habitat while reducing farmer costs and improving profitability. AGree has built robust and powerful multi-stakeholder coalitions that use research and on-the-ground experience to develop concrete, practical policy recommendations. Through these coalitions—made up of farmers and representatives of farm groups, conservation and environmental groups, food companies, and agribusiness—we work together towards enduring policy change. The recommendations below are a distillation of these discussions and are offered to support USDA as it develops and promotes climate-smart commodities.

This submission is the work of AGree's [Climate, Food, and Ag Dialogue](#) (CFAD) and AGree's [Economic and Environmental Risk Coalition](#). AGree is housed at [Meridian Institute](#).

While the following recommendations do not follow the order of the RFI notice, core elements of many of the questions are embedded in our principles and recommendations. Notations throughout our submission indicate which RFI questions our comments address.

Recommendations for a Climate-Smart Agriculture and Forestry Partnership Program

GUIDING PRINCIPLES/CRITERIA

Climate change demands ambitious and durable federal policy solutions that are commensurate with the urgency and scale of the problem. These solutions must be inclusive of the diverse interests that make up our food and agriculture systems, which are both a contributor and a solution to climate change.

The scope of this effort demands that USDA adopt a systems approach to these interlocking issues. The section below outlines our criteria for how USDA's support for pilots can lead to sustainable, climate-smart agricultural system solutions that work for producers, the environment, and society. ***Our proposed criteria go to the heart of question 2.*** USDA's approach must:

- **Harness all of USDA's mission areas** to develop a systems approach to adopting policies that address the economic, social, and environmental sustainability of the U.S. food and agriculture and forestry sectors. Efforts should focus on making the business case for conservation, which is critical to incentivize widespread, voluntary adoption of climate-friendly practices.
- **Measure program success by shifting to an outcomes-based model that prioritizes** climate action and reflects the range of contributions that agriculture is making now and in the future to communities, the environment, and food availability.
- **Ensure that all American agricultural producers and forest owners can participate**, with a particular focus on including Black, Indigenous and Latinx farmers, young and beginning as well as established farmers, small-scale and large-scale farmers, and farmers who grow a diversity of crops and/or operate integrated crop-livestock systems.
- **Promote the coordinated research and science needed to take climate action** based on learning from the outcomes of varying strategies implemented.
- **Better align financial incentives in our risk management and farm finance systems to promote conservation**, e.g., by utilizing crop insurance products like the recently approved Post-Application Coverage Endorsement (PACE) for farmers who split-apply nitrogen fertilizers.
- **Improve and streamline delivery of climate-smart commodity programs** for maximum benefit, including support for the technical assistance system so that producers can take swift action on the ground.
- **Identify different strategies that can address the range of agricultural-related activities that emit various GHGs**, including CO₂, N₂O, and methane.

Our criteria for the pilots are further elaborated on below.

Climate-Smart Commodity Investments in Working Lands Conservation

Technical assistance is critical to providing the information and guidance needed for producers to feel confident in adopting new practices and to support new, beginning, and socially disadvantaged farmers in enrolling in USDA programs. USDA pilots should strengthen and modernize technical assistance through public private partnerships to both train existing providers in new technologies and practices and build the pipeline for new providers to participate. These partnerships should bolster and improve the technical assistance available to farmers and improve training and technology dissemination.

Rebuilding our technical assistance system is critical because we need to be able to accommodate broad participation – the rapid enrollment of hundreds of millions of acres. But at the same time, as we support processes to drive adoption at scale, we need to make sure that historically underserved, new and beginning, and small producers are not left out by rating systems that solely focus on climate outcomes. We need to do both. ***The key actions below answer Questions 3b, 4, and 8.***

KEY ACTIONS

- **Partner with third-party service providers through the use of cooperative agreements** to more effectively engage farmers on the ground.
- **Utilize funds to pay for the use of third-party advisors for climate management.**
- **Raise the ceiling on funding pools targeting historically underserved and new and beginning farmers and provide outreach and support** (e.g., workshops) to ensure uptake and participation.
- **Improve the standardization and transparency in the process** through which potential non-federal partners may submit proposals for creating cooperative agreements.
- **Make available grants, loans, and loan guarantees to producers** for equipment needed to implement climate-smart practices, which often require the use of capital-intensive technologies.
- **Invest in training and technology dissemination** for NGOs, the conservation community, extension, and NRCS personnel.
- **Invest through programs that create a pipeline for young people to become interested in agricultural and conservation careers in public service such as extension** (e.g., 4-H, Future Farmers of America (FFA), and the National Conservation Foundation Envirothon).
- **Support and promote peer-to-peer farmer networks.**
- **Continuously review and update the list of climate-smart ag and forestry practices, to ensure that all practices that can have a positive impact on reducing GHG emissions are included** (e.g., feed management).

Research

For USDA to advance the adoption of climate-smart practices and develop markets for climate-smart commodities, it must strategically align its vast research expertise and resources. A climate-smart agricultural research enterprise should be developed that coordinates economic, social, and environmental sustainability research across USDA mission areas, the US government, and non-federal research partners and builds the research infrastructure needed to facilitate this important work.

USDA research needs to be precompetitive, scalable, and in aggregate benefit all farmers, ranchers, and foresters to achieve near term impacts and position the diversity of U.S. agricultural systems to make ambitious and durable contributions to climate change mitigation. We recommend that USDA's research and science programs focus on targeted, specific goals and objectives to expand the use of climate-smart agricultural and forestry practices and aid in the marketing of climate-smart commodities. ***The key actions below address Questions 6a, 6b, 6c, and 6d.***

KEY ACTIONS

- **Coordinate science and research to maximize the effectiveness and impact of public investments.**
 - Engage the research community and other stakeholders in a coordinated way that shares results across USDA mission areas. External research stakeholders that should be engaged include all land grant institutions, with particular focus on engaging Historically Black Colleges and Universities, the Tribal Land-Grant Colleges and Universities, Hispanic-serving institutions, food and agriculture technology companies, foundations, think tanks, forestry and agricultural

groups, non-governmental organizations, and leading public and private sector researchers from the international community.

- **Build the business case for climate-smart agricultural practices, including the case for public benefits and public investments in farmer incentive programs.**
 - Estimate the cost of implementation and return on investment for individual growers that adopt individual or stacked climate-smart practices. This economic analysis needs to span USDA mission areas. The results need to be broadly shared with producers and commodity groups.
 - Quantify the public benefits derived from climate-smart practices, including landscape-level impacts. These could include linked benefits between working lands and built environments for flood risk reduction, water quality improvements, or fire risk, as well as efforts to quantify multiple benefits from farmland enrolled in existing farm programs like the Conservation Reserve Program.
 - Research the longevity and durability of environmental benefits from climate-smart practices, including dynamics such as the relationship between the length of practice implementation and accrual of soil carbon, the effects of practice reversion/termination and variability across geographies and production systems.
 - Study positive and negative impacts of current federal policy incentives on conservation practice adoption for crop and livestock systems, including the diversity of agricultural operations (e.g., region, farm size, crop and livestock diversity, and level of capitalization that can influence profitability).
 - Identify strategies in which non-federal entities and resources can help to optimize outcomes, especially as supplemented with federal resources/programs.
- **Improve USDA data sharing policies and infrastructure to facilitate research conducted by trusted partners.**
 - Engage trusted research partners in advancing USDA research priorities by developing a transparent data sharing and research infrastructure that allows qualified university researchers to access USDA datasets. Appropriate privacy protections are in place and should be enforced to protect farmers' personally identifiable information and ensure only anonymized and synthesized research results are released publicly.
 - Modernize data infrastructure in a way that respects farmer data privacy and autonomy, reduces reporting burden, and communicates useful research conclusions back to producers to inform decision-making. Data infrastructure should be designed to allow farmers to voluntarily share additional data with USDA and other researchers and to control how their information is being used.
- **When considering research initiatives, ensure research activity includes equitable engagement with diverse producers and agricultural systems.**
 - Partner with state Departments of Agriculture, land grant cooperative extension offices (particularly HBCU and 1994 extension offices) and NGOs to expand extension and outreach, particularly to small and disadvantaged farmers and non-operating landowners.

- Conduct engagement and extension to historically disadvantaged farmers and ranchers, drawing from examples of relevant projects undertaken in the Sustainable Agriculture Research and Education (SARE) program.
- Conduct social science research to identify barriers to adoption of climate-smart agriculture practices. In particular, study barriers to participation in USDA conservation incentive programs by diverse agricultural producers and producers who rent farmland. Use these findings to identify ways to adjust programs to encourage more robust participation.
- **Create new tools and practices to expand the climate-smart agriculture toolkit.**
 - Improve the modeling of greenhouse gas emissions and carbon sequestration in agricultural soils by funding and conducting research to improve baselines that account for regional variability, land-use change impacts, greater differentiation of crops and livestock, forestry systems, increased spatial resolution, and sources of uncertainty. Short-term, USDA can help build guidelines for best practices to model outcomes across varying agricultural systems.
 - Establish a national soil carbon and nitrous oxide emissions monitoring network, leveraging Agricultural Research Service and Natural Resource Conservation Service research sites together with similar sites maintained by land grant universities. Research the durability of carbon sequestration, including dynamics such as the relationship between the length of practice implementation and accrual of soil carbon and the effects of practice reversion and termination.
 - Integrate remote sensing tools (e.g., LIDAR, satellite imagery) with Forest Inventory and Analysis (FIA) and other field plots to improve accuracy and resolution of estimates of greenhouse gas emissions and sequestration in woody biomass (including forests, trees in croplands and grasslands, and urban trees).
- **Improve the rigor of climate models and measurements to support the U.S. Greenhouse Gas Inventory and reduce risk in private environmental markets for all agricultural production systems – row crops, specialty crops, livestock, forestry, etc. In addition, USDA should create best practice guidelines on the development and use of these tools. USDA should ensure that standards and models recognized by USDA are peer-reviewed and can incorporate data from a variety of sources. As USDA and other federal agencies build better tools, they must be made available to the private sector to improve their proprietary tools and technologies.**
 - Invest in research and development in crop breeding for deep-rooted or perennialized analogues to current commodity crops that would sequester more carbon in root systems.
 - Research, validate, and pilot commercial technologies, such as nitrogen inhibitors, soil carbon measurement tools, and livestock feed additives, to inform food and ag sector decision-making.
 - Conduct research into new ways to reduce emissions from nitrogen fertilizers, enteric fermentation, and manure management.
 - Invest in improving tools and practices for diverse farming operations, such as farms that grow multiple crops and integrate crop-livestock systems.
 - Research embedded energy in irrigation and other farm management as a basis for considering expansion of incentives for reducing on-farm energy use, including replacement of less energy efficient farming equipment.

- Review opportunities for utilization of agricultural biomass and food processing waste streams, including bioenergy production and pyrolysis to create biochar.
- Advance options for carbon sequestration and emission reductions through aquaculture technology advancements (e.g., animal feed, biofuels)
- Research plant genomics to identify varieties or specific genes that could be enhanced to provide benefits for climate change mitigation or resilience.
- Research natural habitats' ecosystem service contributions to agricultural sustainability and resilience.

Banking, Finance, and Risk Management

Banking, finance, and risk management companies have opportunities to create lending and insurance products that help farmers adopt climate-smart practices and enter emerging climate-smart commodities markets. This also includes ecosystem market developers who may bring capital to farmers through pay-for-performance contracting. It is imperative that pilots be established to explore incorporating the risk-related benefits of climate-smart practices into credit risk ratings, underwriting processes, and other valuations.

Likewise, it is critical to align incentives for producers adopting climate-smart practices and remove barriers currently limiting the development of new market opportunities for climate-smart commodities. This includes creating financial incentives and protections for producers transitioning to new conservation practice adoption as well as creating clear standards and authorities regarding emerging climate-smart commodities markets. ***The key actions below address Questions 8a, 5a, and 5b.***

KEY ACTIONS

- **Support pilots that are developing climate-smart risk management products. For example, pilots could explore:**
 - Use of the Whole Farm Revenue Protection product to support farmers who use crop diversification to reduce risk.
 - Implementation of procedures that facilitate access to insurance coverage to accommodate climate-driven shifts in production areas.
 - Application of recently revised premium rating methodology so that rates more quickly reflect the decrease in risk associated with implementing conservation practices.
 - Testing and monitoring of premium rating methodology, loss adjustment standards, underwriting standards, and other insurance program materials to ensure they are appropriate for new production regions or practice changes within regions.
 - Developing supply chain strategies to create value for farms and quantify lower carbon intensities for commodities.
 - Building initial supply and insurance pools for ecological market development.
- **Align financial incentives to recognize the financial and risk-reduction benefits of conservation and develop the regulatory infrastructure to scale climate-smart commodities markets.**

- Transition payments for producers adopting new conservation practices to help offset the economic risk of transition. Producers transitioning to new climate-smart conservation practices may experience temporary declines in farm profitability (e.g., no-till has a 5–7-year transition period), during which the ecosystem benefits of practices are also not fully realized and cannot be monetized.
- Climate-smart commodities offer the ability to value the contributions of all producers, including early adopters of conservation practices. Climate-smart agriculture pilot projects funded by USDA should require additional efforts from farmers but should not exclude early adopters. One opportunity for climate-smart agriculture pilots to include early adopters are supply chain strategies that value low carbon commodities.
- Provide funding to producer-led entities to develop voluntary GHG market credits to finance favorable climate adaptation or mitigation outcomes.
- Explore using the Agricultural Marketing Service (AMS) framework as a clearinghouse for price transparency for climate-smart commodities and carbon markets. The AMS does this for other commodities and can similarly report for climate-smart commodities.

Conclusion

As the Climate-Smart Agriculture and Forestry Partnership Program is implemented, USDA must leverage all its mission areas – Food Production and Conservation, Natural Resources and Environment, Research Economics and Education, Marketing and Regulatory Programs, etc., – to support the pilots. It is imperative that all American agricultural producers can participate, with a particular focus on including historically underserved producers, young and beginning as well as established farmers (both small and large), and farmers who grow a diversity of crops and/or utilize integrated crop-livestock systems. Fundamental to the pilots' success will be support for research efforts that are precompetitive, scalable, and benefit all farmers, ranchers, and foresters to make durable contributions to climate change mitigation. Finally, the pilots should be outcome based to support climate action, with modeled and measurable results to determine the contributions that agriculture and forestry are making now and in the future.