

Comments in response to the U.S. Department of Agriculture's Request for Information
Climate-Smart Agriculture and Forestry Partnership Program
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BIO represents 1,000 members in a biotech ecosystem with a central mission – to advance public policy that supports a wide range of companies and academic research centers that are working to apply biology and technology in the energy, agriculture, manufacturing, and health sectors to improve the lives of people and the health of the planet. BIO is committed to speaking up for the millions of families around the globe who depend upon our success. We will drive a revolution that aims to cure patients, protect our climate, and nourish humanity.

The following comments address questions: 1,2,3,5,6, and 8.

Introduction

To meet the challenge of climate change, it is crucial to lead with science and U.S. innovation. We must incentivize the adoption of innovative, sustainable technologies and practices; and streamline and expedite regulatory pathways for breakthrough technology solutions. Investment in and deployment of cutting-edge technologies will be crucial to ensure farmers, ranchers, sustainable fuel producers, and manufacturers are able to be part of the solution to climate change and maintain the U.S.'s global leadership in agriculture. This includes removing barriers and assisting beginning and socially disadvantaged farmers and ranchers to access and utilize these technologies, so all producers can adapt to the challenges ahead. By accelerating and deploying innovation, American agriculture can be resilient, self-sustaining, and drive our economic recovery.

BIO applauds the U.S. Department of Agriculture (USDA) for examining how the possible development of a Climate-Smart Agriculture and Forestry Partnership (CSAF) Program could encourage adoption of climate smart agriculture and forestry practices and promote markets for climate-smart commodities. This will enable U.S. agriculture to combat climate change while producing enough food, feed, fuel, and fiber for a growing world.

Question 1: How would existing private sector and state compliance markets for carbon offsets be impacted from this potential federal program?

BIO is committed to working with the Administration to ensure the establishment of voluntary carbon markets will enable American agriculture to be a solution to climate change, by accelerating investments in sustainable innovative technologies. To ensure voluntary carbon markets can be successful, the government should establish the infrastructure to measure and verify those carbon sequestrations at the local farm level. The government can and should play a catalytic role in providing guidelines for carbon markets to ensure credibility. Furthermore, farmers need assistance in understanding and accessing the current voluntary and compliance markets for these credits. Common sense policy will make sure that American agriculture continues to lead on this new frontier of climate change mitigation and restoration.

A federal program centered on CSAF practices could address variations and variability in state or regional initiatives, including low carbon fuels standards. It also stands to eliminate existing confusion over the ability to “stack” federal incentives with state or regional incentives, providing important predictability for accounting and verification methodologies. In either of these instances, without clear direction from USDA on its role, it is difficult for innovators to model the environmental benefits and financial resources needed to bring critical technologies to market. Additionally, it is virtually impossible for individual farmers, ranchers or foresters to comprehend the myriad programs in the marketplace and readily assess the impacts to their own operations.

Question 2: In order to expand markets, what should the scope of the Climate-Smart Agriculture and Forestry Partnership Program be, including in terms of geography, scale, project focus, and project activities supported?

Simply stated, BIO believes that the program should be available to all producers and landowners despite regional differences, crop and production types, total acreage under crop production, farm and forest size, race or gender. In developing its program, USDA should seek to maximize the efficacy of existing conservation programs and funding. BIO encourages USDA to contemplate both small acre, high value production, as well as larger acreage with low value crops.

Regarding project focus, we know that the development of carbon markets can foster acceptance for new technologies that reduce practices that negatively impact on the otherwise positive role that agriculture plays, including tools like precision plant breeding, biostimulants, and microbial inoculants, and enhanced animal feed with enzymes and other additives to reduce emissions in livestock. These improved agricultural practices increase crop yields and provide several environmental benefits including capturing nitrogen directly from the atmosphere and increasing root growth that binds carbon to the soil. These technologies can bolster producers' resiliency to the adverse stressors climate change will have on production, thereby protecting the stability of the agricultural supply chain.

Combined with modern agricultural techniques and sustainable farming practices such as planting cover crops and no-till, innovative technologies that enhance productivity can play a key role in sequestering carbon dioxide in the soil, improving soil health, and protecting waterways.

Incorporating climate-smart agriculture and forestry into biofuel and bioproduct feedstock production and scoring systems supports producer profitability and rural economies.

Combined answer to Questions 3,5 and 6: CSAF projects, practices and criteria.

Variability in cropping systems, environmental conditions, pest and disease pressure and historical practices all contribute to how agricultural producers and forestland owners make seasonal decisions about their operations. Therefore, USDA cannot take a one-size-fits-all approach to developing its CSAF program. Instead, we urge USDA to examine existing programs supported by BIO member companies that eliminate economic risk on the farm and facilitate participation in climate-smart farming practices. Creating a CSAF program at USDA will allow producers to participate in carbon credit markets and enable the manufacturers of biobased fuels, chemicals, plastics, food, animal feed, veterinary products, and everyday materials to reliably demonstrate their true environmental benefit.

A critical element to incentivize producers to adopt and maintain sustainable ag practices is a clear and trustworthy certification process that can measure and report on the carbon footprint of agricultural feedstocks at the farm gate. The process also must be acceptable by the various state and federal organizations such that downstream producers of the desired biobased fuels and chemicals can recognize the value of the lower carbon intensity (CI) feedstocks and pass some of that value back to the producer.

The USDA is in the best position to develop procedures to provide a certified CI score for agricultural products. USDA also may be well positioned to collect data for this endeavor, noting that producers are already accustomed to reporting to USDA, and the Department has a sizeable database of the relevant information on a county-level basis. Putting this type of structure in place would promote and support investment in biobased fuels and other materials and provide significant benefits to producers and rural economies.

The adoption of biotechnology over the past 25 years has enabled large shifts in agronomic practices that have led to significant and widespread environmental benefits. BIO encourages USDA to promote the following innovations and practices when developing criteria for the program:

- Biotech crops, such as those that provide ecosystem services.
 - Such innovations have saved 27.1 billion kg of carbon dioxide, equivalent to taking 16.7 million cars off the road;
 - Gene editing technology will play a vital role in making crops and livestock more resilient to pests, disease, and extreme weather variabilities caused by climate change, while reducing the usage of agricultural inputs like pesticides, fertilizers, and water; and improving the nutritional value of food;
 - Using gene editing, scientists have been able to modify the canopy architecture and root architecture of both sorghum and barley, to improve water use efficiency; and
 - The use of feed additives for ruminant livestock has been demonstrated to reduce methane levels produced by ruminants by up to 30 percent while the addition of enzymes to chicken feed promotes better protein digestibility, which helps reduce residual nitrogen emissions from manure.

- Synthetic biology to enable farmers to enhance soil health to grow more food on less land, help manufacturers create new food ingredients and alternative proteins, and revolutionize manufacturing by optimizing processes for producing sustainable chemicals, biobased products, and biofuels.

- New research shows emissions from sustainable fuels made from corn are 46 percent lower than gasoline. Advanced and cellulosic biofuel technologies can reduce emissions from 101 to 115 percent.

- Renewable chemicals and biobased products removed 12.7 million metric tons of CO₂ from the manufacturing sector in 2016 alone, and can continue to green our supply chains, reduce plastic pollution, and provide sustainable alternatives to fossil-based products.

To learn more about these technologies and the innovative breakthroughs that can reduce greenhouse gas emissions throughout agricultural supply chains, please see BIO's comments to USDA's [Request for Comments: Executive Order on Tackling the Climate Crisis at Home and Abroad](#); its [Solicitation of Input from Stakeholders on Agricultural Innovations](#) and BIO's recently released [Biotech Solutions for Climate Report](#).

Question 8: How can USDA ensure that partnership projects are equitable and strive to include a wide range of landowners and producers?

The agricultural innovations that BIO's member companies are developing will allow producers to sustainably provide the food, feed, fuel, and fiber needed for a growing world. New technologies can tackle hunger and malnutrition by addressing the lack of fresh fruits and vegetables in food deserts found throughout urban and rural communities, by extending the shelf life of produce and cutting down on food waste. The development and deployment of these technologies will be crucial to helping farmers and ranchers be a part of the solution to climate change and provide them with the tools to be self-sustaining and resilient to a volatile climate.

However, to be successful in confronting these challenges, we must foster an innovation ecosystem that unleashes the transformative potential of science and take steps to ensure the gains from these cutting-edge technologies are broadly shared for the benefit of humanity. Advancing programs that provides opportunities to socially disadvantaged farmers and support

Historically Black Colleges and Universities (HBCU) and other institutions of higher education that serve communities of color is a positive first step towards that goal.

USDA should avoid burdensome application and eligibility requirements in order to expand program delivery to producers who may not have the technical capability to apply. As called for in comments by the FACA, BIO encourages USDA to develop meaningful opportunities for early adopters of CSAF practices to recognize their contributions and propel additional practices for continued demonstration of climate-smart farming.

BIO is committed to championing broad access to biotech breakthroughs and scientific equality and welcomes the opportunity to work with USDA and the Administration to meet the challenges of inequity head-on. In 2020, BIO launched its BIOEquality Agenda, which aims to attack the systemic inequality, injustice, and unfair treatment of communities of color through the positive force of biotechnology. This agenda seeks to support stronger and healthier communities by promoting health equity; invest in the current and next generation of scientists; and expand opportunities for underrepresented populations.

Conclusion

BIO supports comments submitted to this docket by the Food and Agriculture Climate Alliance (FACA) and Field to Market: The Alliance for Sustainable Agriculture (FTM). As a member of FTM, we encourage USDA to leverage the fifteen years of shared learnings FTM can offer in providing both insights and potential solutions to inform the development of the Climate-Smart Partnership Program. The Alliance's diverse membership of nearly 150 organizations—representing every facet of the food and agriculture value chain—is eager to explore opportunities for deeper collaboration with USDA to design an effective and fruitful public-private partnership to scale climate-smart agriculture. FTM's convening platform, pre-competitive sustainability metrics, and Continuous Improvement Accelerator program offer the Department opportunities to test novel approaches to leveraging private-sector demand to support farmers in rapidly adopting climate-friendly practices at greater scale.

BIO applauds USDA for prioritizing the need to address climate change and is committed to working with the Department and the entire federal government to tackle the climate crisis. With science, we can return our Nation and the world to health and prosperity by taking bold and drastic action to address the climate crisis and reverse years of inequity and build a more just, sustainable, and resilient future