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Re: Comments of American Coalition for Ethanol and Cultivating Conservation for Request for Public Input About Implementation of the Inflation Reduction Act Funding (NRCS-2022-0015-0001)

Submitted via: <http://www.regulations.gov>

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On behalf of the American Coalition for Ethanol (ACE) and Cultivating Conservation, we appreciate the opportunity to provide comment on USDA's implementation of the Inflation Reduction Act funding provided for key NRCS conservation programs to spur farmer adoption of climate-smart practices.

Together with agricultural producers and following a ground-up approach, ACE and Cultivating have developed and implemented producer-supported, multi-million-dollar conservation projects using USDA's Title II conservation tools. Of particular relevance to this RFI, we are currently implementing the Expanding Soil Health Through Carbon Markets Alternative Funding Arrangement (AFA) Regional Conservation Partnership Program (RCPP) (Carbon Markets RCPP) in South Dakota to spur farmer adoption of climate-smart practices, to quantify the resulting carbon sequestration and greenhouse gas (GHG) benefits, and to help farmers monetize these gains in existing carbon markets to ensure the durability of climate-smart practice application.

As we will describe in these comments, this RCPP project provides key learnings for how NRCS can effectively implement this new IRA funding to ensure robust farmer adoption of climate-smart practices, while also positioning farmers to maximize returns in climate markets for the carbon sequestration and GHG benefits these practices provide.

Further, building on the existing RCPP, ACE and Cultivating have recruited a trans-disciplinary team to expand upon our successful RCPP across 10 states using IRA resources. This expanded project would greatly speed NRCS' implementation of IRA directives and has bipartisan Congressional support.

Background of the Expanding Soil Health Through Carbon Markets AFA RCPP

The existing South Dakota-based RCPP targets climate-smart practices to farmers in a seven county grainshed supplying a partner ethanol facility. As part of the project, South Dakota

State University (SDSU) and Sandia National Labs are conducting field sampling and modeling to validate the climate-smart benefits that occur as a result of farmer adoption of practices. Through the RCPP, we are encouraging adoption of no-till (NRCS Practice 329), reduced-till (NRCS Practice 345), cover crops (NRCS Practice 340), and nutrient management (NRCS Practice 590).

We currently have over three times the interest for the estimated 20,000 acres of practices the we can support through the RCPP. That said, these 20,000 acres are sufficient for SDSU and Sandia National Laboratory to conduct the data collection and modeling necessary to prove the carbon sequestration and GHG benefits of these climate-smart practices with statistical certainty necessary for acceptance in lucrative climate markets.

The conservation and economic potential of this project is significant. The partner ethanol company draws grain from 166,000 acres in the seven county grainshed. According to our initial analysis, gaining access to existing low carbon fuel markets would mean over \$225/acre in value for farmers who adopt no-till, cover crops, and nutrient management in the grainshed. This would equate to over 188,000 metric tons of carbon dioxide (CO₂) equivalent per year and over \$37 million in value to farmers in the grainshed annually. Importantly, this yearly economic market incentive would motivate farmers to continue to implement these practices into the future without the need for additional USDA incentives.

We have worked closely with NRCS to mobilize the flexibilities of the RCPP AFA to make this project work and are poised to broaden its reach geographically to help achieve Congressional directives for the IRA funding.

Answers to Questions Posed in the Request for Information

1) What systems of quantification should NRCS use to measure the carbon sequestration and carbon dioxide, methane, and nitrous oxide emissions outcomes associated with activities funded through IRA?

There is a significant need for localized quantification and verification of carbon sequestration and carbon dioxide, methane, and nitrous oxide emission reductions resulting from climate-smart practices. The economic potential of lucrative climate markets is currently impeded by market regulators lack of confidence in existing models' ability to predict GHG benefits at a localized level. Market regulators with whom our RCPP partners regularly engage have determined that localized quantification and verification of GHG reductions achieved through USDA no/low till, nutrient management and cover crop practices are needed to credit them in their markets.¹

The IRA's inclusion of \$300 million in Conservation Technical Assistance to carry out a program to collect field-based data to quantify, monitor and track the carbon sequestration benefits of scaled climate-smart practice adoption can be a critical piece to address these perceived shortcomings.

¹ <https://iopscience.iop.org/article/10.1088/1748-9326/ab794e/pdf>

A systematic approach of working with farmers to adopt practices in combination with a scientifically rigorous data collection, analysis and modeling approach is necessary to achieve the level of certainty required for market access. This effort must be coordinated across a multi-state geographic region that captures the diversity of soil type, precipitation and temperature variables necessary to validate existing model results.

Specifically, IRA funds should be used to:

- (1) secure on-farm soil carbon and nitrogen data from participating farmers across a multi-state region that incorporates a representative range of soil type, precipitation and temperature conditions of this major agricultural region;
- (2) cost-effectively quantify the economic, soil health and GHG benefits of the climate-smart practices using direct measurement, simulation/lifecycle analysis modeling, and remote sensing from satellite, aircraft, and unmanned aerial systems (to estimate evapotranspiration, crop biomass and yield);
- (3) use ensemble (ECOSYS, Daycent, and DNDC) process-based modeling (in contrast to current USDA greenhouse inventory which uses Daycent model in croplands and Tier 1 IPCC approach in other land uses) to predict the changes in soil organic carbon (SOC), nitrous oxide (N₂O) and methane (CH₄) emissions across the participating farmers;
- (4) estimate baseline and predict changes of SOC and GHG emissions of continental U.S. to reduce the uncertainty in current USDA GHG inventory through the use ensemble machine learning approach to generate high-resolution baseline maps of SOC stock estimates, its constituents, and GHG emissions of the continental U.S.; and
- (5) predict impacts of future climate extremes on SOC and GHG emissions and the impacts of changing soil carbon concentration on nutrient use efficiency and crop productivity of the continental U.S.

Building on the existing RCPP, ACE, Cultivating, SDSU and Sandia have identified and recruited a trans-disciplinary team of soil scientists, agronomists, climate modelers, economists, agricultural engineers, agro-ecologists and remote sensing experts as well as farmer outreach and technical assistance experts, including those with expertise serving underserved farmers and early adopters to deploy the program described above.

(2) How can NRCS engage the private sector and private philanthropy to leverage the IRA investments, including for systems of quantification?

We believe federal funding should be used to ensure that the economic return that results from quantification protocols primarily benefit farmers who are generating the climate benefits. This is especially true given the significant federal resources Congress provided NRCS in the IRA.

Unfortunately, in recent years, multiple market-based, business-led carbon markets where businesses voluntarily pledge carbon reductions have proliferated in a manner that undercuts the value to farmers. Private companies working to generate credits in these markets have in some cases devised proprietary measurement, monitoring, reporting, and verification (MMRV) systems and offer farmers nominal incentives for climate-smart practices and carbon credits for their participation. In many cases, these private markets are offering less than 10 percent of what they could be worth given prices offered for climate reductions in mandatory carbon markets.

NRCS should ensure that any participation by the private sector and private philanthropy result in non-proprietary, generally available quantification and verification protocols to maximize benefits to farmers.

(3) How should NRCS target IRA funding to maximize improvements to soil carbon, reductions in nitrogen losses, and the reduction, capture, avoidance, or sequestration of carbon dioxide, methane, or nitrous oxide emissions, associated with agricultural production?

We believe the goal of the IRA funding should be to incentivize sufficient farmer participation at scale within the necessary geographical diverse footprint to secure the data necessary to improve the robustness of the existing agroecosystem models so that on-farm practices can qualify for lucrative low carbon fuel markets. Once this is accomplished, farmers will be able to receive compensation from carbon markets removing the need for ongoing NRCS funding to drive farmer adoption of climate-smart practices.

For example, Argonne National Laboratory has reported that a farmer implementing a suite of carbon-smart practices in the upper Midwest could receive \$279/acre from existing mandatory carbon market programs if regulators would allow these practices to be credited.² This amount is more than what it costs farmers implement these practices and far outpaces existing NRCS payment rates generally being offered.

Using NRCS resources to unlock access to lucrative carbon markets is the ultimate way to maximize improvement in nitrogen losses, and the reduction, capture, avoidance, or sequestration of carbon dioxide, methane, or nitrous oxide emissions, associated with agricultural production.

(4) How should NRCS streamline and improve program delivery to increase efficiencies and expand access to IRA funded programs and projects for producers, particularly underserved producers?

In implementing the Expanding Soil Health Through Carbon Markets AFA RCPP, we have worked extensively with farmers to understand what they need to secure program participation and have negotiated specific flexibilities with NRCS using the authorities of the RCPP AFA provision.

First, existing EQIP payment rates for no-till, reduced-till, cover crops and nutrient management have not motivated widespread farmer adoption of practices. Increased costs

² <https://iopscience.iop.org/article/10.1088/1748-9326/ab794e/pdf>

associated with implementing practices are a significant hurdle especially when farmers will lose money when adopting practices in the near term. As noted above, lucrative carbon markets hold significant potential to allow farmers to increase revenues if they can sell these carbon benefits in the marketplace. In order to achieve this outcome, however, we need farmers to participate in programs that can allow us to sufficiently validate the climate gains. To attract participation, farmers need to be held harmless from a revenue perspective. To that end, payment rates offered by NRCS need to be increased. Using AFA authorities, we secured NRCS approval to offer farmers participating in our RCPP payment rates that account for increased costs associated with practice adoption. Overcoming this hurdle was critical in securing three times more interest in the RCPP than funds we have available.

Second, mechanisms are needed to include early adopters. Farmers who have already deployed certain climate-smart practices are extremely valuable for several reasons. Early adopters often act as first movers in helping encourage others to consider adopting specific practices. Finding ways for them to be involved helps recruit others. Historic and future data by early adopters significantly aides in the speed of the scientific analysis and quantification of climate benefits of practices adoption. This expedites access to climate markets. Finally, it allows for ongoing dialogue that may result in these early adopters implementing practices above and beyond what they are currently doing. Using AFA flexibilities, we worked extensively with NRCS to find a creative means to use a portion of the RCPP's technical assistance enhancement allocation to pay early adopters to share historical and future crop and soil data with us to increase the robustness of our effort.

Third, USDA should look to expand upon existing projects that are working with farmers to deploy climate-smart practices using NRCS program authorities. As mentioned, we have negotiated with NRCS over the course of the last year to leverage the flexibilities in the RCPP AFA program to ensure success. This work can now be leveraged to be efficiently replicated across a multi-state geographic region that meets the objectives of the IRA.

(5) *How can NRCS expand capacity among partners to assist in providing outreach and technical assistance to support the implementation of IRA funding?*

Understandably, there is tension between the breakdown of funds for financial assistance to producers for adopting practices and technical assistance available for NRCS and other partners to help farmers implement those practices. In RCPP, there is also friction between the division of technical assistance funds used to specifically help farmers implement practices (TA-I) and technical assistance funds used to conduct outreach, report environmental outcomes, among other items known as technical assistance enhancement (TA-E) with a bias towards TA-I allocations.

This delineation between TA-I and TA-E can hinder the data collection, quantification and verification required to accurately account for the climate benefits resulting from practice adoption. Allowing flexibility in the breakdown between TA-I and TA-E for scientific analysis by partners would aide in streamlining the implementation of projects and ensuring environmental outcomes can be accurately reported with sufficient scientific certainty.