U.S. Department of Agriculture
Natural Resources Conservation Service

NOTICE OF GRANT AND AGREEMENT AWARD

1. Award Identifying Number	2. Amendment Number	3. Award /Project Period	4. Type of award instrument:
NR233A750004G076		Date of final signature - 08/07/2027	Grant Agreement

5. Agency (Name and Address)	6. Recipient Organization (Name and Address)
USDA Partnerships for Climate-Smart Commodities c/o FPAC-BC Grants and Agreements Division 1400 Independence Ave SW, Room 3236 Washington, DC 20250 Direct all correspondence to FPAC.BC.GAD@usda.gov	GEVO, INC. 345 INVERNESS DR S BLDG C STE 310 ENGLEWOOD CO 80112-5892 UEI Number / DUNS Number: GDU5UW4RQ4J5 / 608639345 EIN:

7. NRCS Program Contact	8. NRCS Administrative Contact	9. Recipient Program Contact	10. Recipient Administrative Contact
Name: ALLISON COSTA	Name: LYN MILLHISER	Name: Travis Deppe	Name: Mark Ritter
(b)(6)			

11. CFDA	12. Authority	13. Type of Action	14. Program Director
10.937	15 USC 714 et seq	New Agreement	Name: Travis Deppe (b)(6)

15. Project Title/ Description: Expands markets for climate-smart corn in IA, MN, NE, SD and tribal areas and supports farmer implementation and monitoring of climate-smart practices.

16. Entity Type: Q = For-Profit Organization (Other than Small Business)

17. Select Funding Type

Select funding type:	☒ Federal	☒ Non-Federal
Original funds total	$30,000,000.00	$16,290,848.00
Additional funds total	$0.00	$0.00
Grand total	$30,000,000.00	$16,290,848.00

18. Approved Budget

Personnel	$0.00	Fringe Benefits	$0.00
Travel	$0.00	Equipment	$0.00
Supplies	$0.00	Contractual	$6,461,520.00
Construction	$0.00	Other	$23,538,480.00
Total Direct Cost	$30,000,000.00	Total Indirect Cost	$0.00
		Total Non-Federal Funds	$16,290,848.00
		Total Federal Funds Awarded	$30,000,000.00
		Total Approved Budget	$46,290,848.00

This agreement is subject to applicable USDA NRCS statutory provisions and Financial Assistance Regulations. In accepting this award or amendment and any payments made pursuant thereto, the undersigned represents that he or she is duly authorized to act on behalf of the awardee organization, agrees that the award is subject to the applicable provisions of this agreement (and all attachments), and agrees that acceptance of any payments constitutes an agreement by the payee that the amounts, if any, found by NRCS to have been overpaid, will be refunded or credited in full to NRCS.

Name and Title of Authorized Government Representative KATINA HANSON Acting Senior Advisor for Climate-Smart Commodities	Signature KATINA HANSON Digitally signed by KATINA HANSON Date: 2023.08.17 18:46:50 -05'00'	Date
Name and Title of Authorized Recipient Representative PAUL BLOOM Chief Carbon and Innovation Officer	Signature DocuSigned by: 4F532FC007764BB...	Date 8/16/2023

NONDISCRIMINATION STATEMENT

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, SW., Washington, DC 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

PRIVACY ACT STATEMENT

The above statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. Section 522a).

Statement of Work

Purpose

The purpose of this agreement, between the U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS) and Gevo, Inc. (Recipient), is to build markets for climate-smart commodities and invest in America's climate-smart producers to strengthen U.S. rural and agricultural communities.

Objectives

The objectives of this project are to support the production and marketing of climate-smart commodities by providing voluntary incentives to producers and landowners, including early adopters, to implement climate-smart agricultural production practices, activities, and systems on working lands; measure/quantify, monitor and verify the carbon and greenhouse gas (GHG) benefits associated with those practices; and develop markets and promote the resulting climate-smart commodities.

Budget Narrative

The official budget summarized below and described in the attached Budget Narrative will be considered the total budget as last approved by the Federal awarding agency for this award.

Amounts included in this budget narrative are estimates. Reimbursement or advance liquidations will be based on actual expenditures, not to exceed the amount obligated.

TOTAL BUDGET $46,290,848

TOTAL FEDERAL FUNDS $30,000,000
PERSONNEL $0
FRINGE BENEFITS $0
TRAVEL $0
EQUIPMENT $0
SUPPLIES $0
CONTRACTUAL $6,461,520
CONSTRUCTION $0
OTHER $23,538,480 (includes PRODUCER INCENTIVES $18,417,500)
TOTAL DIRECT COSTS $30,000,000
INDIRECT COSTS $0

TOTAL NON-FEDERAL FUNDS $16,290,848
PERSONNEL $7,127,758
FRINGE BENEFITS $2,779,826
TRAVEL $526,899
EQUIPMENT $0
SUPPLIES $0
CONTRACTUAL $3,135,630
CONSTRUCTION $0
OTHER $705,072 (includes PRODUCER INCENTIVES $0)
TOTAL DIRECT COSTS $14,275,185
INDIRECT COSTS $2,015,663

Recipient has elected to use the de minimis indirect cost rate.

Recipient has elected to use unrecovered indirect costs as match.

When equipment is purchased with Federal funds it must be used until no longer needed as described in the General Terms and Conditions and 2 CFR 200. If the residual value of the equipment is $5,000 or more at the time it is no longer needed, the recipient must request disposition instructions. The disposition instructions may direct the recipient to: 1) sell the equipment and return a proportionate share of the proceeds to the Federal agency; 2) transfer title to another eligible entity identified by the Federal agency; or 3) keep the equipment if desired and compensate the Federal agency for its proportionate share of the value.

Responsibilities of the Parties:

If inconsistencies arise between the language in this Statement of Work (SOW) and the General Terms and Conditions attached to the agreement, the language in this SOW takes precedence.

RECIPIENT RESPONSIBILITIES

Perform the work and produce the deliverables as outlined in this Statement of Work and attachments.

Ensure Paperwork Reduction Act (PRA) clearance is obtained prior to conducting data collection from producers or other project participants, including data collection performed by subrecipients.

Comply with the applicable version of the General Terms and Conditions.

Submit reports and payment requests to the ezFedGrants system as outlined in the applicable version of the General Terms and Conditions. Reporting frequency is as follows:

Performance Reports: Quarterly

SF425 Financial Reports: Quarterly

Detailed Progress Report: Quarterly
(The detailed progress report is in addition to the performance and financial reports referenced above and described in the general terms and conditions)

Expected Accomplishments and Deliverables

See attached Benchmarks Table and associated Project Narrative.

Resources Required

See the Responsibilities of the Parties section for required resources, if applicable.

Milestones

See attached Benchmarks Table and associated Project Narrative.

GENERAL TERMS AND CONDITIONS

Please reference the below link(s) for the General Terms and Conditions pertaining to this award:
https://www.fpacbc.usda.gov/about/grants-and-agreements/award-terms-and-conditions/index.html

Attachments:
Budget Narrative
Project Narrative
Benchmarks Table
Climate-Smart Practices List and Limitations
Data Dictionary
Climate-Smart Specific Terms and Conditions

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PROJECT NARRATIVE
3/31/2023

1. Executive Summary

1.1 Contact Information

Gevo, Inc. ("Gevo"), founded in 2005, is a growth-oriented corporation with the mission to reduce greenhouse gas ("GHG") emissions that contribute to climate change. Gevo transforms climate-smart agricultural commodities into energy-dense liquids, such as renewable gasoline and sustainable aviation fuel ("SAF"), to decarbonize the portions of the transportation sector that cannot be easily abated through electrification or hydrogen.

Gevo, Inc.
345 Inverness Drive South, Bldg. C Ste 310
Englewood, CO 80112
UEI: GDU5UW4RQ4J5

Dr. Paul Bloom
Chief Carbon and Innovation Officer
pbloom@gevo.com
(720) 267-8626

1.2 List of Project Partners:

Gevo, Inc, and the subaward Southwest Iowa Renewable Energy (SIRE), are pleased about the potential of the $30,000,000 Federal funding level for the implementation of the proposed project. To manage through this reduction from the original submission from May 6, 2022, the recommendation we would propose is to maintain the majority of all the original project goals around services and adoption approach for producers, but to reduce the number of total project acres by less than the overall 30 percent budget reduction. The purpose of this recommended approach is for two reasons, first the project goal is to maximize the potential per acre for the producer of GHG benefit potential and maintain the critical mass of technological support to enable success. The second reason for this approach is that most of the overall funding is based on per acre basis, including direct payment to producers and indirect funding that assists the producer to adopt new agriculture technology products and practices. (e.g. biological microbial soil amendments, soil testing technology). Under our current updated proposal, we are still committed and projecting in the plan that we will be able to deliver the level of GHG benefit on a per-acre basis of 0.9 to 2.0 MT CO2e/acre.

Gevo will oversee and manage the project with a world-leading team of partners. This project team will enable revolutionary change in the agricultural and aviation industries, first by creating critical structural market incentives for low carbon-intensity ("CI") corn, and second by accelerating the production of SAF to reduce the sector's dependency on fossil-based fuel.

Southwest Iowa Renewable Energy, LLC ("SIRE"), a regional U.S. leader in biofuels and decarbonized ethanol manufacturing, will create an immediate market opportunity to sell climate-smart, low-CI corn by attaching farm-level climate-smart practices to the sale of ethanol as a drop-in to gasoline deliveries or as a feedstock for SAF, creating both near term inset-based and longer term SAF climate-smart commodity sales.

South Dakota State University (SDSU) and other contracted partners (TBD) will provide IT cloud services, remote monitoring data, data intelligence, soil information management, and machine and sensor (IoT) data aggregation.

Yard Stick and other contracted partners (TBD) will provide soil sampling services and soil testing analysis.

A contractor (TBD) with regional expertise will provide technical assistance to producers to

implement cover crops rotations in their year-to-year farming operations.

Contractors (TBD) with expertise in biochar production will provide their own unique carbon soil amendment, which will be introduced into the acreage of the farm ground to increase carbon sequestration and organic matter.

Iowa State University (ISU) and other contractors (TBD) will provide recommendations to producers regarding the adoption of soil amendment technologies to bolster soil health, increase corn yield, and produce corn with a reduced carbon intensity.

Colorado State University (CSU) will provide technical assistance and training and will lend expertise in Life Cycle Analysis ("LCA"), DayCent COMET-Farm tool analysis, and soil profiles.

Further, additional agricultural products will be utilized from potential vendors, including but not limited to, Farmobile, Farmers Edge, PraireFood, Trace Genomics, Holganix, NewLeaf Symbiotics, and YieldMaster Solutions.

1.3 List of underserved/minority-focused project partners

The project team is committed to establishing trust, reducing barriers to access, and increasing capital investments for underserved communities, and specifically targets two historically underserved groups: women and Indigenous tribal organizations.

With the Federal funding being at the $30,000,000 level, there will be the same level of focus on the underserved as was originally submitted. For both the Indigenous Tribal focus and the also the Women majority owned farming operations., the project and Gevo are committed to maintaining the original level of acreage and total payment potential.

SIRE has established producer relationships with multiple majority female-owned farming operations in Iowa. Female-owned farming operations that SIRE will engage include Euken Farms, Inc. (primary female principal: Jill Euken) located in Atlantic, IA with an estimated corn/soy annual planting zone of 2,400 acres, and BRASS Acres (primary female principal: Billie Wilson) located in Griswold, IA.

On January 4, 2023, the Standing Rock Sioux Tribe passed a resolution to support Gevo's USDA Farm-to-Flight Project. The resolution state that Gevo will work with SAGE and Standing Rock Sioux Tribe Tribal Land Management Department and include Standing Rock enrolled and other tribal member row crop producers to participate in the project and to participate in the Gevo Grower Program advisory council.

1.4 Compelling need for the project

Decarbonizing aviation is essential to keeping the U.S. on track to meet its target of net zero emissions by 2050, as recognized by USDA as part of the SAF Grand Challenge. While electrification and hydrogen may unlock low-carbon air travel at a local and regional level, energy-dense drop-in biofuels like SAF will be required for medium and long-distance flights. Meanwhile, producers face an uncertain climate future as net farm income continues to decline. Rapidly increasing adoption of climate-smart practices, accurately accounting for CI reductions and financially rewarding producers for improving sustainability will create the incentive to boost agricultural climate resilience while reducing GHG emissions and enhancing carbon sequestration. Markets for biofuels, including SAF, can provide essential demand for climate-smart commodities, especially corn, the crop with the greatest acreage in the U.S.

Yet, major barriers still exist to supply and demand for climate-smart commodities like low-CI

corn, biofuels, and SAF, with both a measured and reduced carbon intensity. This project has the potential to catalyze the domestic SAF industry and improve returns for producers by promoting climate-smart corn production and creating a rapidly increasing supply of and demand for low-CI, crop-based SAF that acts as a drop-in replacement for fossil-based aviation fuel.

The proposed project will address and mitigate the two major market barriers to climate-smart corn-based biofuel commodities: 1) an inadequate supply of verifiable low-CI corn that can be delivered to biofuel facilities for SAF production, and 2) lack of availability of biofuels produced from low-CI corn, such as SAF, despite ongoing growth and demand.

The insufficient market supply of low-CI corn is the result of several factors including an absence of effective educational outreach and technical support to farming producers to promote the adoption of climate-smart practices, a lack of market demand for low-CI corn and the lack of an organized system to monetize low-CI corn for producers. Though many producers have already implemented climate-smart practices, carbon reduction is not fully accounted for at the field or commodity-level. Additionally, the GHG emissions data is not immutable through the entire business system and there is no efficient means of tracking or verifying the corn product's low-carbon intensity benefits to end products like biofuels. There is insufficient production capacity of biofuels in the U.S., particularly given the extraordinary, expected demand for SAF. According to the OPEC World Oil Outlook 2021 and the Life Cycle Association, demand for SAF will increase by approximately 40 percent, or 48 billion gallons by 2030. The proposed project will play a key role in driving and supplying this growth by taking advantage of a scalable supply of raw materials, including low-CI carbohydrates, while working with proven technologies that will scale as demand increases. The value of this low-CI commodity can then be recognized by the end user (SAF or ethanol buyers).

The project will also correct market deficiencies related to digital measurement, reporting, and verification ("dMRV") of carbon and climate benefits. These dMRV gaps are primarily due to four issues: 1) there is no currently accepted verifiable, scientifically modeled, CI score across the whole carbon lifecycle that is tracked back to field-level production; 2) there is little-to-no historical, or current, connectivity between physical production process-level data and market value; 3) the system relies too heavily on historical forms of carbon value (e.g., carbon credits, RECs, RINs) and manual, analog, and factor-based processes; and 4) there is a lack of transparency and inability to efficiently incorporate and price external factors relating to CI scoring and/or product or service-related carbon impact. These gaps mean there is little to no immutable, tradable, real-time climate-smart commodity data readily available to the market that would enable the creation of differentiated offerings (e.g., standard vs. low-CI corn, regular jet fuel vs. SAF), management of risk, fraud prevention, and defense against greenwashing claims—and ultimately engage the market and create the new value needed to drive producer adoption.

1.5 Approach to minimize transaction costs

The project will first minimize transaction costs by leveraging the existing extensive networks of the project partners to engage with producers for recruitment, outreach, training, and education – – enabling the project to avoid costs associated with identifying interested producers on an individual basis. Similarly, the partners that are already working with underserved stakeholders will ensure that the project is effectively reaching underserved communities.

Second, the project has established multiple partnerships to implement emerging technologies that will significantly reduce transaction costs associated with measuring soils and communicating that data.

Third, the project will digitize and minimize manual processes for the creation of low-CI SAF biofuel products. Verity Tracking ("Verity"), a business unit within Gevo, has developed a software platform for the dMRV, tracking, and transacting of differentiated commodities based on environmental and social performance metrics. As part of the project, Verity will utilize, deploy, and disseminate its flexible and extensible dMRV platform with blockchain-based smart contracts that create efficient market mechanisms to facilitate the monetization and scaling of climate-smart commodities, GHG benefit attributes, and related instruments.

1.6 Approach to reduce producer barriers to implement marketing climate-smart commodities

Gevo has identified a multi-stakeholder value chain approach to address the many hurdles currently preventing producers from engaging in climate-smart practices.

1.6.i Outreach, Training, and Risk of Market Entry

This project intends to educate producers on the importance of adopting climate-smart practices by launching a full-scale regenerative agriculture education plan with the aid of university partners and state Corn Growers Associations. This project allocates funds for up to twenty large-scale commercial field trials per year to evaluate the effectiveness of soil amendment microbials for CO2 sequestration in the northern plains region and the economic return value for adopting climate-smart practices, this project will be led by SDSU (see Page 11 / Section 2.3). These on-the-ground trials will be used as a basis for training producers on best practices for minimizing GHG emissions and increasing carbon sequestration.

Producers also lack access to the tools and training necessary to implement climate-smart practices. Our project will engage local agricultural retail companies and agronomists to deliver technical guidance. The project will also combine resources from local ag retailers that will train producers on the best practices for implementing climate-smart agriculture at the field level and cultivating longstanding relationships with producers.

Additionally, while many producers currently see value in pursuing climate-smart agriculture, they lack market access to receive a premium for low-CI commodities. This project will address the market entry risk by creating a differentiated standard for low-CI farm products, enabling them to be verifiably classified as low-CI. These low-CI commodities can then be used as a feedstock, which will accelerate SAF production and create climate-smart premiums for the producers.

1.6.ii Carbon Monitoring, Reporting, and Verification

One of the most significant barriers to the implementation of climate-smart practices is accurately and cost-effectively quantifying the reduced and avoided emissions and soil sequestered carbon in order to enable the realized value.

Conventional soil testing is generally slow moving and both capital and labor intensive – (e.g., not scalable). To address this barrier, Gevo will work to identify new technological approaches, bringing in Yard Stick and a set of contractors (TBD) to assess alternative approaches to minimize the frequency, intensity, and cost of current soil testing while maximizing accuracy.

Another barrier to the implementation of climate-smart agricultural practices is the measurement of nitrous oxide emissions. The application of synthetic nitrogen and salt-based urea fertilizers results in emissions of high Global Warming Potential pollutants like nitrous oxide and negatively impact water quality. Gevo is partnering with SDSU and (TBD) contractor (see Page 11 / Section 2.3) to monitor and quantify more accurately these air and water impacts, as well as encourage the adoption of climate-smart practices that reduce the need for synthetic nitrogen-

based soil amendments.

1.6.iii Monetization

Creating direct, easy-to-understand incentives for producers based on these accurate and cost-effective dMRV will help overcome the on-farm financial barriers to implementation of new climate-smart agricultural practices. Verity's dMRV platform enables the measurement, tracking, verification, and valuing of emissions reductions and soil sequestered carbon throughout the supply chain.

Because the Verity program can track and value environmental performance attributes such as GHG emissions resulting from production practices to climate-smart commodities like those associated with fuel production, biofuel producers like Gevo are able to verify the environmental benefits and pass that premium value by paying producers more per bushel of delivered low-CI corn feedstock. Rather than only relying on the existing carbon offset-based markets, which are limited in scope, this project will demonstrate use of an inset model to reduce and account for the GHG emissions associated with the entire supply chain. Producers that grow and sell low-CI grain to biofuel producers can realize the value of the carbon captured in their land and help keep their farms thriving. This strengthens farms and rural communities while rewarding producers for helping the fight against climate change.

1.7 Geographic Focus

The project will be centered primarily within the corn growing geographies of the north central U.S., specifically Minnesota, South Dakota, Nebraska, Iowa, and the Standing Rock Sioux Tribe in South Dakota and neighboring North Dakota. The project will deploy agricultural partner solutions and technologies across the corn growing regions. After analyzing multiple corn growing regions, Gevo selected this geography due to its high yielding ratio under relatively measured amounts of natural rainfall, which is ideal for CI scoring and soil carbon sequestration.

1.8 Project management capacity of partners

Gevo is uniquely positioned to oversee a project to commoditize low-CI corn for the production of SAF in the U.S. Gevo has a proven capacity to manage large-scale, multi-stakeholder projects on the supply side and successfully develop the demand side of the market.

For example, Gevo has been deploying relevant technology since 2011. Gevo's $130MM development site in Luverne, MN manufactures 1.5 million gallons per year ("MGPY") of decarbonized ethanol and isobutanol, which can be used to produce SAF. Gevo has worked to ensure producers and rural economies benefit from these opportunities with attention to cost, quality, and quantity of agricultural-based feedstock for producing SAF.

Gevo recently created an alliance with three local cow dairy operations for production of renewable natural gas ("RNG") in northwest Iowa, which is expected to produce approximately 355,000 MMBTU annually of RNG per year starting Q3 2022, and to be sold into the California LCFS market in Q1 2024. This facility has a total installed cost of $90MM and is expected to generate between $9-16MM in distributions per year.

1.8.i Prior and existing relationships with partners

Gevo has significant prior experience working with a team of partners on similar activities, helping ensure project success. Gevo has been working with Google to compile multiple geospatial data layers to better educate producers on climate-smart practices. Google also acts as a pipeline for further partnerships, including the full Alphabet, Inc. portfolio and all its

subsidiaries. Gevo has been collaborating with Farmobile and Farmers Edge on a proof of concept for amassing and organizing anonymous field-level data from North American farming producers to provide recommendations to optimize low-CI regenerative agricultural practices. Gevo has also been involved in a soil study research project with SDSU.

In the growing seasons of 2021 and 2022 Gevo worked in collaboration and conducted commercial tests with producers that are growing corn to measure the various benefits of climate-smart commodities through multiple regenerative ag practices techniques. Collaboration included companies like PrairieFood that offer carbon soil amendment product that producers can apply, Midstate Agronomy and Double H Ag Services that are Ag Retailers to provide support to producers on the best processes and approaches to implement climate-smart ag practices on the farm, and Trace Genomics to perform DNA type analysis of the soil health benefits that can be realized.

To manage the project scope, Gevo will engage in extensive research and bring forward leading-edge, climate-smart solutions for the producer. For the project Gevo has proposed to partner with multiple universities (SDSU, CSU and ISU) in support of the research aspect.

1.8.ii Producers and landowners

Gevo has substantial experience with agricultural producers across the U.S. For example, since 2011, Gevo has purchased millions of bushels of corn per year from producers in the Luverne, MN area for use as biofuel feedstock. Gevo has established working relationships with approximately 25 producers in the Lake Preston, SD area (which neighbors Luverne, MN) to better understand their farming operations, collect field data, and verify the successful implementation of climate- smart agriculture practices. Gevo is also building a 60 MGPY greenfield SAF plant in the Lake Preston area at a projected capital expense investment of $1,050MM. https://gevo.com/why-biofuels/food-and-fuel/gevo-breaks-ground-on-net-zero-a-construction/#:~:text=Gevo%20broke%20ground%20for%20the,around%2090%20full%2Dtime%20employees. This site is currently in front-end engineering stage of development and is expected to begin SAF production in 2025. Gevo has worked with state and county regulatory agencies to secure land lease agreements with multiple producers for the installation of wind turbines in the Lake Preston area.

SIRE routinely purchases millions of bushels of grain from producers in the Council Bluffs, Iowa area (which borders Nebraska) to produce ethanol, distillers grains, corn syrup, and corn oil. SIRE is currently building a 1.5-million-bushel corn storage facility on site to expand their capacity to purchase and commoditize farm products.

1.8.iii Climate-smart market development

Gevo has a global leadership position in the marketing of climate-smart commodities, specifically in the production and distribution of SAF. Gevo has signed financeable off-take agreements with Trafigura, Kolmar, Delta Airlines, Scandinavian Airlines, Total, British Airways, and others for approximately 200 MGPY of renewable fuels. Additionally, specific members of oneWorld Alliance, including Alaska Airlines, American Airlines, British Airways, Finnair, Japan Airlines and Qatar Airways, signed a memorandum of understanding with a plan to purchase up to 200 MGPY over a five-year period.

Other project partners are well versed in market development for climate-smart commodities. SIRE operates a bio-refinery that produces 130 MGPY of ethanol. The facility is projected to sell 5 percent of its ethanol with a CI score below 50 into California Low Carbon Fuel Standards

("LCFS") markets. SIRE also has more than five years of experience working directly with producers, developing specialized contracts to incentivize the production of low-CI corn. This existing network is a natural conduit for promoting the concept of climate-smart corn production and establishing premiums for farms who implement practices that result in higher margin sales of low-carbon fuel for SIRE's customer base.

Despite Gevo's immense success in developing markets, there is a risk of not being able to service these off-take contracts due to a lack of supply of low-CI corn and lack of production capacity. USDA funds will help ensure not only that low-CI corn and production capacity are available, but also help the project team create a sustainable support ecosystem around the sector.

2. Plan to Pilot Climate-Smart Practices on a Large Scale

2.1 Climate-smart practices to be deployed

The project will implement a wide variety of on-the-ground climate-smart practices with producers to increase the production of low-CI corn as an inset climate-smart commodity.

Gevo will partner with producers to implement multiple new tillage techniques, which will reduce or even eliminate traditional deep soil tillage passages and lower the CI score of the corn produced. Reduced tillage or minimum tillage practices leave a percentage of crop residue on the soil surface, allowing the existing root structure to maintain the soil health together as it decays. Strip-tillage practice creates narrow-width tilled strips, which utilize strategically positioned plantings in crop fields to offer improvements in soil biodiversity. This practice also allows for the planting of corn during cool periods and wet soil conditions. No-tillage practices conserve soil from wind and water erosion, increase the soil organic matter content, and conserve rain precipitation, all leading to improved soil health and higher yields of climate-smart commodities.

To enhance soil health, the project will partner with a set of contractors (TBD) to introduce and promote the increased adoption and application of a suite of soil biological amendments. This can result in reduced synthetic fertilizer application in producers' application practices by at least 10 to 15 percent per year, and therefore reduce nitrous oxide emissions and lower the CI score to produce their corn bushels. To accurately track and quantify GHG benefits from nitrous oxide reduction, Contractors (TBD) and SDSU will deploy the proper technology and facilitate dMRV via the Verity platform.

Gevo will also promote the use of cover crops after the harvest of the prior years' crop. Cover crops hold nutrients in their roots and stalks, as well as microbial biomass represented as soil organic matter that holds more water, more nutrients, and aerates the soil.

Finally, the project will work with producers to conduct biochar field trials to evaluate the efficacy and intensify the natural process of carbon removal and sequestration soils. The application of biochar directly adds GHG benefits to the soil and encourages the natural production of soil organic matter.

Climate-smart agriculture practices implemented through this project will meet NRCS practice standards and include:

- Reduced tillage (Residue and Tillage Management, Reduced Till, Code 345)
- No-tillage (Residue and Tillage Management, no Till, Code 329)
- Carbon Soil Amendments (Soil Carbon Amendment, Code 336). The NRCS CPS Soil Carbon Amendment (Code 336) will be followed, except that application of amendments produced from corn stover will also be allowed.
- 4R Fertilizer Management (Nutrient Management, Code 590)

- Rotational Livestock Grazing (Prescribed Grazing, Code 528)
- Cover Crops (Cover Crop, Code 340)

The practices listed above are part of a bundle of practices producers will be able to select for their farm operation, depending upon their soil type, equipment, management capacity and GHG reduction goals. Depending upon the practice selected, GHG benefits will be achieved through reduced cultivation which results in decreased diesel fuel consumption, reduction of fossil-based fertilizer and reduction in fossil-based chemicals for weed control.

Gevo Inc. will ensure that implementation of the project practices meet NRCS standards:

- NRCS standards are built into the Verity tracking platform business rules which will be used to track and validate agricultural practices and inputs.
- Project partners (TBD) and South Dakota State University to monitor and quantify air and water impacts and verify on Verity platform.
- Project partners (TBD), Yard Stick and other potential vendors to provide soiling sampling services and soil testing analysis.
- Project partners (TBD) and other potential vendors will educate and train producers on the adoption and application of soil biological amendments.
- Conduct up to 20 trials/year to evaluate effectiveness of soil amendments for CO_2 sequestration.

No practices will be implemented on land that is not currently used for agricultural production.

No practices will involve ground disturbance below the plow zone.

No potential project activities will involve concentrated animal feeding operations.

2.2 Plan to recruit producers and landowners

The project includes a multi-pronged approach to recruit and reward producers and landowners for the adoption of climate-smart practices. The project will pursue multiple marketing and educational strategies, including general marketing and promotion; incentives of local agricultural retail companies to promote on the project's behalf; and through subsidization of agricultural input products that will only be paid to the producer if purchased and applied to the crop or soil.

The project will work with agricultural retailers, agronomists, and rural companies to promote the program, and provide incentives to do so. The project partners, including Gevo, SIRE, and minority-facing institutions, will reach out to farming producers in their networks to engage in one-on-one conversations for recruitment purposes. Five newly hired Gevo employees will function as the primary points of contact for working producers and local agricultural companies. This staff will work to communicate, educate, and train the community. Participants will also be incentivized via payments for the total land acreage entered into the program, which rewards local agricultural retailers for building climate-smart, holistic farming systems. Gevo will also conduct town hall producer meetings and other grassroots efforts to build relationships within the farming community.

The project will additionally launch a communications strategy, spreading project awareness, and educating directly to the agricultural producers. The project recruitment strategy involves a comprehensive press release distribution, which will bring broad awareness to the program and highlight participating producers. As a secondary tactic, Gevo's communications team will deploy a multi-platform social media campaign and work with an agriculturally based marketing

agency to develop trust with the key audience groups. By developing a cohesive strategy across messaging channels, the project will effectively create awareness and build positive perceptions. The project will also disseminate printed and digital website education materials, which will explain the advantages of producer participation in the program, including environmental benefits and financial incentives, as well as outline the step-by-step process of adopting climate-smart agricultural practices.

Over the total span of 4 years, the project acreage will total 325,000 acres in Lake Preston and 110,000 acres in Council Bluffs (totaling 435,000). In year one (i.e., the 2023 growing season), the project will encompass 65,000 acres in Lake Preston, SD (and Luverne, MN) and 20,000 acres in Council Bluffs, IA (which borders Nebraska), respectively, totaling 85,000. In year two (i.e., the 2024 growing season), project acreage will grow to 75,000 acres and 25,000 acres in Lake Preston and Council Bluffs, respectively, totaling 100,000. Acreage will increase in year three (i.e., the 2025 growing season) 85,000 acres in Lake Preston and 30,000 acres in Council Bluffs, respectively (totaling 115,000). In year four (i.e., the 2026 growing season) 100,000 acres in Lake Preston and 35,000 acres in Council Bluffs, (totaling 135,000).

2.3 Plan to provide technical assistance, outreach, and training

Upon receipt of the grant reward in the spring of 2023 with the existing fifteen employees at Gevo that are outlined in the budget narrative.

Staffing Resources, Contractors, Outreach and Training

In the second quarter of 2023 Gevo expects to commence the recruitment of new employees where their focus will be on the education of providing technical guidance on the adoption of the best practices. Gevo's involvement in education, support and training efforts will continue throughout the four years of the proposed project.

The project will utilize a multi-prong approach of educating, onboarding, and technical assistance to inform and provide options to producers for the increased use of regenerative ag practices in their business operations, leading to optimal climate-smart commodities with the highest GHG benefits per acre. The planned approaches to providing technical assistance to the producer for this project are detailed below.

#1 - Gevo will hire five new employees to solely focus on one-on-one interaction with the producer on the adoption of regenerative Ag practices. This team will be led by the *Feedstock Procurement Director*, currently an employee at Gevo.

- The first hire will be an *Area Business Lead* that will oversee the team described below tasked with interacting with the producer.
    - Two *Field Service Managers* will work directly with both the producers and Agricultural Retailers to facilitate the adoption of regenerative ag practices and ensure the understanding of how to lower CI.
    - The *Customer Success Advisor* will work with producers during and after the growing season to ensure all data is properly entered, recorded, and calibrated to accurately capture GHG benefits resulting from the regenerative ag practices.
    - The *Regen Ag Field Agronomist* will provide diagnosis and support producers' agronomic technical competence in the field during the crop growing season.

Of these five positions they are projected to be local to the Lake Preston, SD and/or Council

Bluffs, IA geographical areas.

#2 - Agricultural Retailers that are local to the area, for example companies like Double H Ag Service and MidState Agronomy, have many years of local experience in the geographical areas. These Agricultural Retailers' employees are very strong in agronomic consulting, and many have deep knowledge of both Sustainability and regenerative ag practices that are best suited for the area, and in many cases even the specific producer's acreage. In addition, these companies already have close relationships with the producer that will likely enroll in the project.

Contained in this project's budget, there is designated funding available to Agricultural Retailers for the services provided to the producers and for the final acreage recruitment. As an example, in Years 1 and 2 of the project, an Agricultural Retailer has the opportunity to earn a commission revenue of up to $5.00 /acre revenue for providing technical assistance and guidance to producers for the adoption of regenerative Agricultural practices. The milestone for the payment to the Agricultural Retailer will be the enrollment by the producer and completion of all requirements, including final ag practices during the growing season and harvest.

#3 - Gevo will conduct an open bidding process to identify the best and most cost-efficient communication and marketing advertising agency that will be funded to create digital and printed content to provide technical information for producers and agricultural retailers. The materials developed will educate and identify methods for producers to deploy sustainable and regenerative ag practices that result in climate-smart commodities.

The marketing communications strategy will be spreading project awareness and providing education directly to the agricultural producers. This includes a strategy that involves comprehensive and regional targeted press release distribution, direct mail campaign, journal advertisements, trade show sponsorships, voice/podcasts, which will bring broad awareness to the program.

#4 - Gevo will implement a dMRV approach software tool through the use of Verity platform. This platform will provide the necessary verification to market, monetize, and finalize tokenization of carbon credits. This is required to have complete and accurate measurement, recording, and verification of GHG reductions and Carbon Intensity score resulting from the regenerative agricultural practices. This also applies to the production of SAF and Ethanol using the low-CI feedstocks.

Gevo has already hired professionals with many years of experience and expertise in markets related to dMRV creation for various differentiated commodities. Current positions that are retained are a Chief Product Officer, Vice President Data Engineering, Lead Product Designer, Principal Data Engineer, and Senior Data Engineer and Product Analytics Lead. Gevo is currently budgeting the hiring of two new positions of Agronomic Carbon Intensity Manager and GIS Data Engineer.

To supplement this team of in-field local employees, the team will engage specific project-focused consultants to address COMET-Farm and Argonne GREET modeling for computation needs. These domain experts will bring previously established relationships within their local agricultural communities and will assist the employees and producers. An agricultural consulting group (TBD) will assist with education and local training to increase the adoption and use of cover crops. Increased use of cover crops by producers has a substantial positive effect on increasing the GHG benefits calculated through the Argonne GREET model.

Technical Assistance, Research and Training

To implement technical assistance the project has partnered with three college universities of SDSU, CSU and ISU on producer-centric research study projects. These outlined studies have been carefully selected to provide producers academic training and technical knowledge with the changing dynamics of GHG benefits and new practices evolving in climate-smart commodities.

#1 - For the SDSU research (titled "Climate-Smart Commodities Gevo Conservation Practice Adoption") it includes three studies:

a) 4-year research project centered on the financial feasibility of climate-smart ag practices by working with twenty producers on producer scale large-strip trials to validate the best agricultural technology input product that will provide the highest expected return-on-investment (ROI) for climate-smart commodities. This study will provide direct information to producers on an annual basis, that can be used the next year to determine which agriculture products, such as biological microbials, will increase or maintain yield of grain, but also increase the levels of soil sequestration that could create additional revenue and increase the value of the climate-smart commodities created by the producer. SDSU, Gevo, South Dakota Corn Growers Association, and South Dakota Soybean Growers are coordinating the planting of 20 large-strip trial plots where SDSU will work field-scale producer equipment to plant Check A and Check B plots. This similar study has been completed in Soybeans at SDSU and proved to be very effective to validate increases in carbon sequestration and other agronomic attributes for that crop, and;

b) 4-year study around agricultural products and practices that can potentially reduce nitrous oxide (N_2O) emissions on corn planted acreage. This study will provide a research approach to validate improved measurement of nitrous oxide leakage into the atmosphere stemming primarily from the application of synthetic nitrogen. By the end of Year 4, the objective of the research is to develop the measurement of nitrous oxide reduction, to create new climate-smart commodities market potential and premium for producers. The research will use a portion of the funding to purchase the LI-COR 8100A chambers and Picarro G2508 instrument system to increase the accuracy of measurement of nitrous oxide emissions. SDSU, will collaborate with Gevo's contractors to utilize existing data pathways and discover newly found sensors to calculate the decreased levels of nitrate leakage more accurately, and;

c) 4-year study to quantify carbon stock levels and CI scores with commercially working farms under a mixture of conservation management practices. This study will provide producers a comprehensive study in a 25-mile radius around Lake Preston, SD including but not limited to the complete soil profile and the levels of carbon sequestration (deposition) that can occur at 0-5, 5-15, 15-30, 30-60, 60-90, 90-120, 120-150cm. This study will be with 8-10 producers. This study will start in Year 1 and be completed in Year 4. At the end of this study the outcome of the results should provide the producers in the project and across the agriculture industry of the U.S. to be able to understand the differences in farming practices versus the different soil types and soil depth zones and how that can affect carbon sequestration and the level of climate-smart commodities that can be generated.

#2 - This project will also pursue two research studies with CSU (titled "Developing climate-smart, net zero biofuel commodities from Northern Plains cropping system"):

a) Biogeochemical modeling and analysis for the "Farm to Flight" Climate Smart Commodity

Partnership project. CSU will use the most up-to-date version of the DayCent biogeochemical agro-ecosystem model to simulate soil carbon and GHG emissions, as well as water use and water quality metrics, at farm/field scale, for the feedstock production areas (Lake Preston and Council Bluffs) in the project. In the proposal for the work in the Gevo program, the model analyses will be done with the standard DayCent model. Using the stand-alone DayCent model will allow us to use the specific land use histories and specific past, current and projected management practices, where producers are able to provide that information to the project data collection teams, including the use of measured soil properties in the simulations. We will also be able to do batch runs for the entire feedstock "shed" to test alternative production scenarios for the two bio-refinery facilities. Results from the biogeochemical modeling will feed into the life cycle analysis system to produce farm-specific carbon and GHG footprints for the bioenergy feedstocks. In addition, the CSU team will develop a machine-learning emulator of the DayCent model to allow it to be coupled to multi-criteria optimization software to evaluate economic and environmental trade-offs for different feedstock production and management scenarios, and;

b) The Paustian research team at CSU also develops and maintains the COMET-Farm and COMET-Planner tools. COMET tools are designed for general use by non-experts and are available and encouraged to be used by all funded Climate Smart Commodity Partnerships (CSCP) and through the Cooperative Agreement between CSU and USDA/NRCS, the CSU COMET team will provide training to all CSCP projects that wish to use either or both of the COMET tools.

We will also provide the same access and training in the COMET tools to collaborators in the "Farm to Flight" project. Because the DayCent model is one of the models in the 'backend' of the COMET-Farm system, an independent application of COMET-Farm for farms in the project feedstock production areas would be expected to yield broadly comparable results to the "custom" DayCent model implementation described above. However, because COMET-Farm is set up as a standardized system applicable to the whole U.S. and includes standard generic past land use histories, management options, and model parameterization, it cannot fully represent the site-specific inputs and local model calibrations that can be done using our stand-alone DayCent model analysis. In addition, COMET-Farm does not output water use and water quality metrics nor crop yield estimates which will be produced using the stand-alone DayCent applications. A very useful bi-product of this research will be the comparison between the carbon and GHG results generated from the more detailed, customized implementation of the model versus outputs from the standard COMET-Farm platform.

#3 - This project will also pursue on a study with ISU (titled "Building soil carbon with biochar produced from corn stover"), to conduct physical and chemical characterization of a biochar product using an autothermal pyrolysis system. Authothermal pyrolysis is a single-step conversion process dedicated to the production of biochar, bio-oil, and gases for use as fuels. Pyrolysis characteristics (reaction kinetics, product yields, and composition) are influenced by many parameters such as biomass types, temperature, heating rate, particle size, reaction atmosphere, and vapor residence time.

2.4 Plan to provide financial assistance for producers/landowners

The project will initiate a three-part direct funding program to provide payment directly to producers.

First, producers will be compensated for the adoption of climate-smart agricultural practices prior to planting. These practices will be recorded, quantified, and verified via transferred field

data. This funding level will be directly dispersed to the producer producers in the amount of $2,560,000, or an average of $5.88/acre.

Second, an additional set of funding budgeted to be $3,572,500 will be designated for payment directly to producers that have purchased products that can lower the amount of synthetic nitrogen (e.g. through the application biological microbials) or that utilize Global Information Systems (GIS) technology to more accurately record the inputs and agricultural practices to produce climate-smart commodities. Examples of how this would work during the life of the project is: 1) $4.00 /acre (for GIS purchase) and; 2) $10.00 /acre (for biological microbials), this funding will be made on a per year basis of each period of the project and is to be paid out based on the invoice that is to be submitted by the producer to Gevo. The producer will have a choice in purchasing and utilizing products, although not limited, from companies like Holganix, NewLeaf Symbiotics, Yield Master Solutions, Trace Genomics, Farmobile or Farmers Edge.

Third, Gevo will track the actual acres for which climate-smart practices have been adopted, then establish the realized GHG benefits for the sale of inset-based climate-smart commodities. The end-of-year payments (which is projected to be $12,285,500) will be based on corn feedstock grain bushels delivered by the producers at the time of grain harvest.

This project will serve as a marketplace to connect producers with commercial buyers of carbon inset credits (also referenced as inset-based climate-smart commodities ("IBCSC")). The IBCSC premiums derived from the regenerative ag practices and the subsequent GHG benefits created by the producer are intended to be a premium above and beyond what the producer will receive for the sales of the hard commodity grain product (e.g. sale price of corn crop bushels). The portion of the IBCSC premium payments coming from the USDA Federal funds and paid to producers is designed to be reduced in years three and four, as the proceeds from the commercial sales of carbon insets are expected to increase and replace the reduced level of Federal funds.

Below is a breakdown of how the IBCSC premium will be distributed to the producers each year of the project from USDA Federal funding:

- In years one and two, respectively, the IBCSC premium will be $0.20/bushel and $0.22/bushel, only coming from the USDA Federal funding.
- In year three, this payment declines to $0.15/bushel coming from the USDA Federal funding.
- In year four, this payment declines to $0.05/bushel coming from the USDA Federal funding.

In years three and four, Gevo will work with its partners in the airline industry and other voluntary markets ("Non-Federal Commercial Sales") in an effort to provide the difference to what is paid to the producer versus the reduced amount of USDA Federal funding.

- In year three, Gevo forecasts that climate-smart commodity market has the potential to provide a $0.25 to $0.29/bushel premium (translating to a $49/acre and anticipated maximum of up to $57/acre based on corn yields of 195 bushels pers acre).
    - The amount of contribution from the USDA Federal funding will be $0.15/bushel.
    - The amount from Non-Federal Commercial Sales is expected to be $0.10 /bushel

with an anticipated maximum of up to $0.14/bushel based on Gevo's forecasts.

- In year four, Gevo forecasts that climate-smart commodity market has the potential to provide a $0.29/bushel to $0.33/bushel premium (translating to a $56/acre and anticipated maximum of up to $63/acre based on corn yields of 195 bushels per acre).
    - The amount of contribution from the USDA Federal funding will be $0.05/bushel.
    - The amount from Non-Federal Commercial Sales is expected to be $0.24 /bushel with an anticipated maximum of up to $0.28/bushel based on Gevo's forecasts.

The net project income created from the Non-Federal Commercial Sales of these IBCSC that is directly derived from the regenerative ag practices performed or implemented by the producer will be paid out to that enrolled producer for said bushels produced from applicable acreage (after reducing the project income for general and administrative costs relating to the sale of these IBCSC and any applicable regulatory fees and/or taxes). Any other GHG benefits revenue created from the production and sales of biofuels (e.g., SAF or Ethanol) will not be included in project income or net project income during the occurrence of this project.

The acreage/producers served is intended that in the first year of this project (2023) the number of recruited producers will be between 35 and 50 farm operations. This will correspond to 85,000 acres of corn – the feedstock that will be able to generate climate-smart commodities.

We are projecting that most producers from the first year sign up will continue to be enrolled through the end of the 4-year program. In subsequent years where the acreage volume is projected to increase, this will take additional producers to be enrolled in the program or prior year producers will enroll additional acreage.

A producer will be eligible to receive funds if they are actively enrolled in the program for the given year.

LOCATION	2023	2024	2025	2026	TOTAL
Lake Preston, SD	65,000	75,000	85,000	100,000	**325,000**
Council Bluffs, IA	20,000	25,000	30,000	35,000	**110,000**
TOTAL	**85,000**	**100,000**	**115,000**	**135,000**	**435,000**

For the 4-year project span, contracted acreage with producers will total 325,000 acres in the Lake Preston, SD area and 110,000 acres in the Council Bluffs, IA area, for a total of 435,000 acres. These two regions will engage 65 to 130 farming operations each growing season.

2.5 Plan to enroll underserved and small producers

This project will enroll 20 percent of the acreage from majority female-owned farms in the southeast Iowa and southeast Nebraska region on an annual basis. Program outreach efforts, materials, education, and training will be focused on majority female-owned farms and the direct programmatic and financial benefits will accrue primarily to female.

Gevo is working with the Standing Rock Sioux Tribe to enroll minority-based Indigenous Tribal agricultural producers in the target geography. Gevo will offer to enroll at least 10 percent of project acreage from Indigenous Tribal producers in the South Dakota (and parts of North Dakota) region. Program materials, education and training will be centered on minority-owned

farms and the benefits of enrolling their farm acreage in a climate-smart commodities program.

The project will create a Gevo Producer Program advisory council consisting of seven members that will meet twice per year starting in the spring / summer of 2023 and continuing through the four years of the project. The purpose of this advisory council is to ensure project design and implementation adequately account for underserved producers and communities. The advisory council will include members from underserved groups, specifically focusing on gender equality and minority representation from the Indigenous Tribal organizations.

Based on the forecasted commitment of enrolled producers that are designated to be as underserved population, it is estimated to be at 14 percent of the total project spend. Program acreage will be designated to underserved populations at a total of 73,000 acres over the four-year life of the project, and it is estimated the project will be enrolled with 58 underserved producers that will produce and generate low-CI climate-smart commodity corn.

Even with the reduction in Federal funding level, Gevo is still committed to maintain the same acreage and financial funding for both underserved populations.

3. Measurement/Quantification, Monitoring, Reporting, and Verification Plan

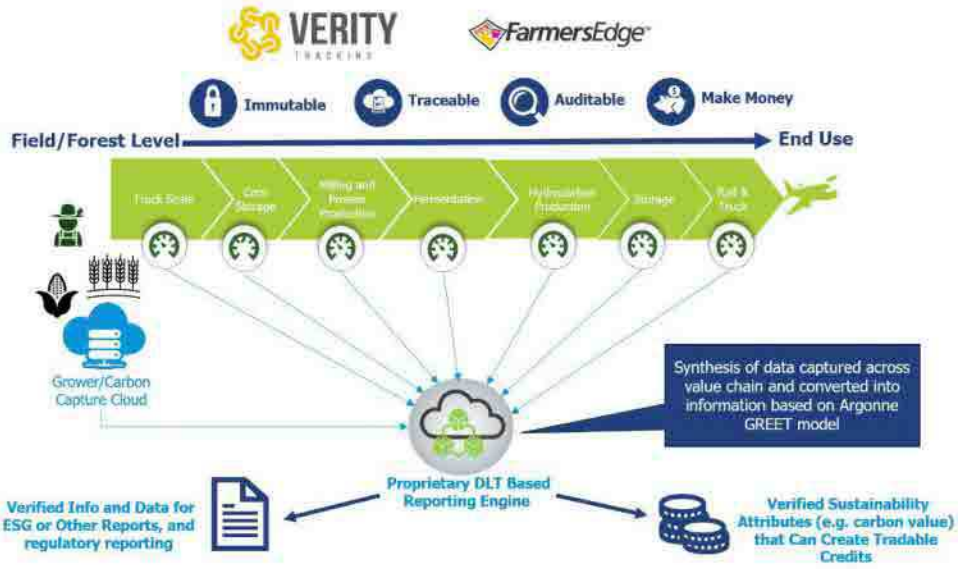
3.1 Approach to greenhouse gas benefit quantification

The project will utilize the Argonne GREET lifecycle analysis model (developed by Argonne National Lab) to quantify GHG benefits with the Verity platform. Argonne GREET will enable the quantification and tracking of CI scores through the entire value chain and verify CI claims throughout the entire carbon lifecycle. GREET will allow producers to track their feedstock-related CI score that can then be quantified all the way through the value chain into biofuels like SAF. GREET includes the Feedstock Carbon Intensity Calculator (FD-CIC), a transparent and easy-to- use tool that will help producers calculate feedstock-specific carbon intensity at the farm level. The project team believes Argonne GREET is the best carbon accounting model for U.S. based agricultural and biofuel producers as it reflects the most current science broadly available and accepted by many peers, and the model does not rely on outdated, boilerplate general market assumptions. GREET's pioneering lifecycle analysis considers a host of different fuel production pathways and includes results across the whole of the fuel pathway system, from capturing carbon via photosynthesis to the final burning of the fuel. GREET is also unique in its ability to adapt and incorporate new, innovative technology, making it the only model that can lead to every player in the lifecycle being appropriately compensated.

CSU will lead an initiative to integrate COMET (Carbon Management Evaluation Tool) Farm with project GHG methodologies for increased soil carbon quantification modeling and to evaluate potential carbon sequestration and GHG reductions from adopting production practices. Determined carbon stock levels in the soils will then be compared to the biogeochemical modeling completed within COMET-Farm to further validate and strengthen the model built by USDA. (see the description above on page 12 / Section 2.3 for further clarification from CSU).

Verity will enhance the quantification and dMRV techniques of GREET and COMET-Farm by encoding data from producers' agricultural practices, crop inputs and machinery applications into an immutable blockchain, which provides an extra layer of authentication. This will unlock further market potential that can return more value to agricultural producers. Figure 1 shows how Verity manages quantification data.

Figure 1: Verity dMRV Platform Value Chain



While many offset carbon markets and quantification methodologies rely on estimates based on factor-based models, analog systems, manual auditing, and paper ledgers to assess performance and attempt to mitigate double counting, Verity will utilize distributed ledger (blockchain) based smart contract technology. This will enable more accuracy, transparency, and auditability in quantifying environmental and climate impacts. It will also create more flexible and extensible markets that enable the transaction of new climate-smart commodities and their respective attributes and derivative products in an efficient, scalable, and cost improved manner. Verity's data is immutable, traceable, and auditable, which can be anonymously and publicly accessed on a blockchain platform, significantly reducing the probability of double counting.

For quantification of the carbon sequestered in the soil the project will appropriate funds for the "measure on measure" approach to quantify and verify the sequestration of carbon stock level in each producer level. "Measure on measure" is accomplished by a traditional soil sampling and soil analysis testing method of total organic carbon (TOC) and bulk density (BD). The proposed funding level to complete necessary soil sample testing and analysis is approximately $6,282,500. Although not limited, this work could be performed by companies like Double H Agronomy, Regen Ag Labs and Yard Stick.

Gevo projects that these traditional processes of soil sample testing and analysis (mentioned in the paragraph above), are not commercially scalable across hundreds of millions of acres for the U.S. agricultural industry. Due to this projection, a portion of the proposed project funding at the level of $1,167,500 is intended to discover alternative approach that can reduce the cost burden to producers of the current traditional approach soil sample testing and analysis. The project will validate that this be accomplished through ground penetrating spectral analysis by operating a vehicle that will simply drive over the acreage ground that is enrolled by the producer and measure the carbon stock levels in the soil that will be able to determine if an increase is occurring in the soil. This will help to accurately measure these carbon stock levels, while at the same time validating to future carbon buyers what is occurring in the soil for deposition of carbon dioxide. This budget cost was obtained by contacting and comparing different companies' estimated product prices and those ranged between $1.00 per acre and $3.50 /acre. The cost will be paid to the selected contractor that is selected through an open RFP process,

from the Federal funds and is estimated at $2.68 per acre. This technology will be deployed to all the 435,000 acres for the four years of the project.

In conclusion this project will focus on an insetting model, which provides significant, measurable sustainability benefits to all participants throughout the supply chain and buyers of climate-smart commodities. Ultimately, the Verity platform will enable multiple paths for monetization of climate-smart commodities by allowing market participants to route transactions to the markets with the highest liquidity and market depth, appropriate land, yields, emissions reductions, and soil sequestered carbon to both more traditional offset markets, and monetizing carbon in-setting by imbedding sustainable attributes within the project's own value chain.

3.2 Approach to monitoring of practice implementation:

The project team will integrate a range of innovative climate-smart ag practices through on-the-ground at the farm-level interactions with the producer. Combining that the project team will also utilize the Verity digital platform to assess these implementations of climate-smart practices to help the producer accurately count the GHG benefits (creation of climate-smart commodities). Yard Stick and contractors (TBD) will provide innovative soil sampling and analysis. A contractor (TBD) will utilize human genomics sequencing technology to help grow crops more sustainably, by using science-backed management systems to target the use and enhance the management of nitrogen and phosphorus. A contractor (TBD) will leverage its geospatial cloud products to analyze multi-layer field data. SDSU will track and quantify nitrous oxide emissions reduction with producers that are applying different agricultural practices. This combined approach helps producers monitor their sustainability score and soil health of their soil. Other partners such as Yard Stick and contractors (TBD) will monitor fields for the determined levels of GHG attributes such as carbon stock levels.

Verity's dMRV technology will creates a digital ledger of transferred data from these project partners and producers themselves on the implementation of climate-smart practices, including tillage passes, application of crop inputs, fertilizer application and fuel energy consumption. This enables efficient and transparent quantification and data aggregation.

3.3 Approach to reporting and tracking of greenhouse gas benefits

Verity will immutably link real-time or near real time sensor data (e.g. rates of fertilizer, tillage passes or gallons of diesel used) to the grain yields of the corn feedstock, all within a tightly defined geospatial area and time period These calculations are drawn directly from the sensors on the field equipment, other third-party data such as weather data and satellite imagery. These combined data form a comprehensive characterization of the climate-smart commodity that can then be reported and transferred to a buyer, such as a biofuels plant where the commodity's attributional profile can be transformed into a new climate-smart commodity (i.e. differentiated gallon of SAF or ethanol) for a product with a full, auditable, and immutably attached history. This Verity platform will result in more accurate reporting and transparency in sustainability claims for producers and down-stream users or buyers of carbon credits.

Verity can track climate-smart commodities and carbon impact starting with agricultural production at the field level and continuing through the biofuel manufacturing process. By tracking every aspect of the supply and value chain, Verity provides a verifiable CI fingerprint across the whole carbon lifecycle. Using Argonne GREET model as a master framework, CI scores will be tracked via blockchain to report and track carbon intensity across the collective ecosystem.

The anticipated GHG benefits of the proposed project are as follows:

- The project is projected to maintain the same level of GHG benefits on a per acre basis, maintaining the potential revenue value for the climate-smart commodity. The overall project acres are only reduced to maintain the original proposal project intention.
- Per project: 0.9-2.0 MT CO2e/acre, for a total benefit of the removal of 391,500 to 870,000 MT CO2e /acre, based on the 4-year project acres being at a total of 435,000.
    - o Anticipated GHG reduction normalized to MT CO2e/acre.

- Per commodity produced:

GHG Reductions (MT CO2e/acre)	gCO2e/ Bu Corn	gCO2e/MJ EtOH	gCO2e/MJ Hydrocarbon (SAF)
0.90	**-4,620**	**-20.4**	**-21.1**
2.00	**-10,300**	**-45.4**	**-47.0**

Assumptions: 195.0 Bu corn/acre
2.88 gal ethanol/Bu corn

- Per dollar expended: $47.30-105/MT CO2e during program
    - o = (MT CO2e/acre)(program acres)/program cost

This project is designed to deliver significant market-driven, sustainable returns to producers by providing a tracked CI reduction at a premium paid of $0.26/bushel corn by year four of the program. When the completed U.S. industry is catalyzed and scaled to meet the 2030 target of three billion gallons of SAF per year. This program could result in the delivery of over $450MM/year in additional returns to U.S. corn producers (formula: $/year = $0.26 /Bu premium paid to producer. Bushels of corn*(0.583Bu corn required/1 gallon hydrocarbon-SAF produced)*(3B gallons SAF produced/year).

3.4 Approach to verification of greenhouse gas benefits

Verity will provide a scientific and empirically based measurement, monitoring, reporting, and verification system that is based on utilizing multiple data sources ranging from process level (field-level) data to log and quantify the impact of farming activities, such as tillage practices, fertilizer and chemical application(s), equipment energy consumption, harvest yields, drying, and other information. Soil carbon measurement technologies, like referenced in Section 3.1, Pag16, and other direct field measurements will be utilized to enhance the digital twin of the field to assess, quantify record and develop a time-series record of soil heath metrics, soil organic matter, and soil carbon levels. Additional data layers with contractor (TBD) providing services such as, but not limited to, weather data, satellite imagery, and other aerial imagery and sensor data as available and applicable for: 1) additional digital twin enhancements; and 2) validation and verification of climate-smart, sustainability, and 3) GHG benefit claims including avoided emissions and sequestered carbon in soils. These data, analytical models, and actual and modeled results will all be recorded on the Verity platform to ensure their immutability and audibility.

Verity employs various methods to ensure the veracity of the data that not only includes the synthesis of multiple independent data streams as described (e.g., field-level data with aerial and satellite imagery and spectral analyses), but also will use signal processing, machine learning, and artificial intelligence to detect anomalies and discontinuities in the data. These irregularities are flagged for further investigation prior to any claim being validated.

Argonne GREET, COMET-Farm, and other assessment models will be validated against standardized datasets to ensure accuracy. In addition to the validation and verification of the model outputs, the models and software platform codebase are also version controlled, verification, and hashed onto the blockchain to preserve the version used over a defined timeframe and provide the immutable audit trail down to the codebase level.

The analytical models deployed will also be continuously re-assessed and compared against newer models to determine differences in outputs, strengths and weaknesses, and identify the models (or model components) best suited to calculate the most comprehensive and most accurate results.

Verity's verification functionality will bolster market confidence in the GHG benefits related to climate-smart commodities, and additionally ensure that inset revenue benefits flow back through the value chain. These market returns will provide further incentives for the implementation of climate-smart agricultural practices and production of SAF.

3.5 Agreement to participate in the Partnerships Network

Gevo agrees to have project team representatives participate in the Partnerships Network for up to two virtual meetings and two in-person meetings per year throughout project duration.

4. Plan to Develop and Expand Markets for Climate-Smart Commodities Generated as a Result of Project Activities

4.1 Partnerships designed to market resulting climate-smart commodities

Gevo has a unique capacity to catalyze the SAF industry and connect these climate-smart commodity markets to climate-smart ag producers. Gevo will use existing relationships with Delta Airlines, Trafigura, Kolmar, British Airlines, oneWorld members (like American and Alaska Airlines), SAS, and other partners in the airline industry to secure additional offtake agreements for low-CI SAF. Gevo anticipates establishing these airlines as repeat customers, as no other SAF producer can deliver immutable CI scoring of the product. Gevo will extend its reach through these airline partners' networks to market the resulting climate-smart commodities throughout the global aviation industry. Several other agreements are currently being negotiated with other SAF off-takers.

Partnerships with companies like Google, will assist in developing markets for the climate-smart commodities resulting from the project, not only through the visibility of the Alphabet brand, but also via its impressive and longstanding alliances with downstream partners, including organizations in the chemical recycling, waste, Consumer Processed Goods ("CPG"), freight, and supply chain management sectors. Partners with potential interest in biofuels include Unilever, J.B. Hunt, and many others.

SIRE is actively engaged in market development for climate-smart commodities, leveraging its connections in the ethanol industry to enable market access to areas of the country (currently, California, Oregon, and Washington) that have adopted low carbon fuel standards.

Gevo expects the inset-model to result in heightened marketing of climate-smart commodities via partnerships flowing back to the producers. To market these inset-focused commodities, the Verity dMRV platform will allow the seamless facilitation producers, brokers, processors, and market-makers across the value chain to create a market around differentiated farm products.

4.2 Plan to track climate-smart commodities through the supply chain

Verity's dMRV platform will have the capacity to receive data from each actor in the value chain, calculate the carbon impact at each stage, and track carbon intensity throughout the whole life cycle of the climate-smart commodity—from field/farm level to end use (as represented in Figure 1 above). Verity's use of blockchain based smart contracts will address the fundamental issue of at source and immutable data, making it transparent, quantifiable, and traceable through the entire carbon value chain and enabling new market mechanisms in an efficient inset process. This degree of tracking has not been accomplished to date and Verity is the pioneer in this area with both human, technology, and farm-driven inputs to populate the model.

4.3 Economic benefits for participating producers

The proposed project articulates three large areas of economic benefit to participating producers.

First, the project will provide upfront payments to participating producers at the beginning of the planting season to help reduce onboarding costs for the adoption of climate-smart practices.

Second, the funding for this project will reduce the cost of implementing various climate-smart practices and technologies, including data analytics tools, microbial biologicals from various subcontractors, and in-depth soil testing analysis.

Third, in addition to these direct-to-producer payments, the project has the potential to create additional market returns via the sale of high-value, fully verified inset carbon credits and through truly offering differentiated climate-smart commodities.

Verity will demonstrate multiple forms of value across the ecosystem, including agriculturally driven de-carbonization value, digital asset verification and tracking, creating value driven approaches to regenerative and climate-smart ag at the field level, and unlocking "inset" value, which has not yet realized in market as a digital financial asset.

4.4 Post-project scaling and impact potential

The project's goal is to catalyze the development of U.S. producers' capacity to produce climate-smart commodities and expand the market for SAF buyers. The project will support a scaling pathway set forth by Gevo for the partners to produce and sell at least one billion gallons of SAF by the year 2030. To provide the tools and support needed to achieve the government's goal of three billion tons of SAF by 2030, the project establishes partnerships that allow for rapid technology deployment and production scale-up using new and existing infrastructure.

For example, utilizing the production network established by the U.S. ethanol industry, Gevo has established a Memorandum of Understanding with Archer Daniels Midland Company to potentially decarbonize up to three existing ethanol plants in the Midwest corn growing region to manufacture SAF derived from low-CI corn. In addition, Gevo is establishing collaborations with multiple greenfield biofuel and existing ethanol production plants (e.g., SIRE). This project will develop the essential tools and provide the critical demonstration for how these large-scale projects can establish, quantify, and verify a complete low-carbon supply chain that fairly partitions the increased market revenue amongst supply chain partners.

The Verity dMRV platform to be utilized as part of this project has broad applications and can help enable the marketing of climate-smart commodities in markets outside transportation and low-carbon fuels. Potential future customers include soybean biofuels producers, energy companies, CPG brands, trading firms, market producers, reporting and auditing agencies, lenders and insurers, data information firms, hedge funds, and carbon registries like CAR and VERRA.

To better inform future USDA actions in support of climate-smart commodities, Gevo and Verity will create a long-term demand horizon for biofuel manufacturers and create premium demand for low-CI corn from many types of U.S. producers. Verity will collect sensor-driven data directly from the field. Upon analysis, this data will inform best practices for lowering CI score in corn production, tied specifically to yield and market volume across the carbon intelligence, regenerative agriculture, and climate-smart agriculture sectors. This will be on-the-ground, holistic, immutable data tracking every aspect of the farm, including volume, yield, field inputs, and the lowered carbon intensity of the farm product—providing data and analysis that USDA can use to inform its activities and priorities.

USDA has improved agriculture considerably over the last 30 years by improving productivity and efficiency on land currently in use. The project team believes USDA is right on track with programs that promote climate-smart agricultural practices, count carbon, and re-power rural communities in the U.S. To facilitate wider adoption of these practices, the team urges USDA to fund projects which lower GHG emissions for farming producers, commoditize low-CI corn, produce net zero biofuels, and create an advanced carbon insets market. By substantively reducing GHG emissions for farming producers, this project will enable climate change solutions that reach far beyond its four-year duration.

BENCHMARKS AND MILESTONES
4/17/2023

Q2 2023 milestone (April 2023 through June 2023)

Establish subcontracts with partners and facilitate a project meeting to assure project goals and processes are understood by all parties. Develop a producer enrollment outreach plan and marketing tools to promote and inform producers of project objectives, Initiate work to identify and establish control parameters for soil and CI tests. Marketing tools printed and made available to the public. Producer enrollment outreach meetings and initiatives conducted. Regenerative agriculture practices and agriculture technology payments distributed to producers. Control parameters for soil and CI tests to be developed and initial soil testing to establish baseline values. Biochar and microbial soil amendments applied to acreages on participating farms. Plant first year enrolled acres and research tests plots.

Deliverables:

- Submit Request for Proposals and execute contracts with contractors and subawards
- 2023 Kick-off meeting of Gevo Farm-to-Flight Program in both South Dakota and Iowa
- Conduct environmental review of producer enrolled acres and mitigate any environmental clarifications
- Conduct 55 producer one on one outreach meetings with a minimum of one group producer event in each service area (performed by Gevo, subaward SIRE and Contractors TBD e.g. Ag Retailers)
- Enroll 20 to 25 producers which includes 4 to 6 underserved enrolling 65,000 acres in Lake Preston, SD area for 2023 season (performed by Gevo personnel)
    - To include 8,500 acres within the Indigenous Tribal Reservations of North Dakota and South Dakota (including Standing Rock Sioux Tribe) for 2023 season
    - With contractors (TBD) perform soil probing, sample collection and shipment of samples on 65,000 acres at $4.50 /acre
    - With contractors (TBD) perform TOC and BD soil testing analysis from representative sample of 65,000 acres at $2.10 /acre
    - With contractors (TBD) perform spectral analysis of soil carbon level by mapping the enrolled acres of 65,000 acres at $3.00 /acre
- Enroll 10 to 15 producers which includes 3 to 6 underserved enrolling 20,000 acres in Council Bluffs, IA area for 2023 season (performed by subaward SIRE and Gevo personnel)
    - Enroll female-owned farming operations totaling 5,000 acres for 2023 season
    - Subaward Yard Stick to perform soil sampling, while in conjunction TOC and BD soil testing analysis on 20,000 acres
    - With contractors (TBD) perform spectral analysis of soil carbon level by mapping the enrolled acres of 20,000 acres at $3.00 /acre
- Distribute direct payment to producers for the following segments of the 2023 season
    - Regenerative Ag Practice adoptions payments $0
    - Agriculture Technology Product reimbursement payments at a maximum amount of $865,000 at a rate of $5.88 /acre
    - Climate-Smart Commodity contract payments $0

- Enrollment of 100 acres for the application of a carbon soil amendment for crop year 2023 Contractor (TBD) $1,500 /acre at $150,000
- Creation of marketing, social media and communication pieces for the education and training to producers for adoption of regenerative ag practices, at a rate for agency hours of $216,000 for 1,200 hrs @ $180 /hour, in addition the completion of printing and production materials of OOP at $100,666
- Contractor (TBD) that will provide strategy approaches for project employees to provide guidance on planting of cover crops, to accomplish grower meetings and ability to provide plans for proper crop rotation for a quarterly cost of $38,250
- Provide guidance and education for producers around the options of changes to be made to the farming operation for the adoption of climate-smart commodities, these Ag Retailers will be determined through Contractors (TBD), and will be acreage for 85,000 acres at $5.00 /acre
- Establish engineering protocols for cloud data storage and development of dMRV platform tool for artificial intelligence (AI)/machine learning (MI) from a Contractor (TBD) at $48,166 at $1.70 /acre
- Contractor (TBD) project work with grain elevators, producers and dMRV platform to develop a protocol and implementation plans for GREET model and grain handling approaches for CORSIA compliant SAF sales into International markets. 260 hours of contractor work per quarter at a rate of $121/hour
- First year of work on nitrous oxide emission detection at commercial field scale detection in conjunction with geospatial data and cloud data storage management tools with a contractor (TBD) at $116,000 per quarter (in collaboration with SDSU)
- Identify agricultural practices to build foundation of LCA (CSU)
- Plant trial plots on 15 to 20 producer farm-scale for large-scale commercial study on the financial feasibility of climate-smart practices (SDSU)
- Identify agricultural practices to study for reduction of nitrous oxide emissions on corn production acreage (SDSU)
- Plant research plots to study reduction of nitrous oxide emissions on corn production acreage (SDSU)
- Deep soil testing for study on different soil types/zones to determine GHG benefits (SDSU)
- Q2 2023 Progress Report to include summary of marketing and outreach efforts conducted by Gevo, advisory council meetings (Council Bluffs and Brookings) and winter planning meeting, research developments, lessons learned, summary of dMRV activities and project overview

$3,135,365 USDA Grant disbursement (via Federal funds)

Q3 2023 milestone (July 2023 through September 2023)

Provide technical assistance, outreach, and training to producers on CI management practices. Soil test enrolled acres to document soil health. Implementation of best practices at farm level and initiate harvest of 2023 crop.

Deliverables:

- Distribute direct payment to producers for the following segments of the 2023 season
    - Regenerative Ag Practice adoptions payments at a maximum amount of $765,000
    - Agriculture Technology Product reimbursement payments $0
    - Climate-Smart Commodity contract payments $0
- Creation of marketing, social media and communication pieces for the education and training to producers for adoption of regenerative ag practices, at a rate for agency hours of $216,000 for 1,200 hrs @ $180 /hour, in addition the completion of printing and production materials of OOP at $100,666
- Contractor (TBD) that will provide strategy approaches for project employees to provide guidance on planting of cover crops, to accomplish grower meetings and ability to provide plans for proper crop rotation for a quarterly cost of $38,250
- Establish engineering protocols for cloud data storage and development of dMRV platform tool for artificial intelligence (AI)/machine learning (MI) from a Contractor (TBD) at $48,166 at $1.70 /acre
- Contractor (TBD) project work with grain elevators, producers and dMRV platform to develop a protocol and implementation plans for GREET model and grain handling approaches for CORSIA compliant SAF sales into International markets. 260 hours of contractor work per quarter at a rate of $121/hour
- First year of work on nitrous oxide emission detection at commercial field scale detection in conjunction with geospatial data and cloud data storage management tools with a contractor (TBD) at $116,000 per quarter (in collaboration with SDSU)
- Data collection of life cycle analysis (LCA) data (CSU)
- GIS delineation for DayCent modeling (CSU)
- Data collection from 20 producer's farms for large-scale commercial study on the financial feasibility of climate-smart practices (SDSU)
- Data collection from research plots to study reduction of nitrous oxide emissions on corn production acreage (SDSU)
- Deep soil testing for study on different soil types/zones to determine GHG benefits (SDSU)
- Conduct 2023 Summer Gevo plot tour
- Conduct 2023 SIRE plot tour
- Q3 2023 Progress Report to include summary of outreach activities, research developments, lessons learned, summary of dMRV activities and project overview.

$1,105,278 USDA Grant disbursement (via Federal funds)

Q4 2023 milestone (October 2023 through December 2023)

Calculation of CI score and distribution of climate-smart commodity payment to producers. DayCent model simulations will be run and analyzed. Application of biochar and microbial soil amendments on participating producer's acreages. Implementation of fall best practices at farm level and complete harvest of 2023 crop.

Deliverables:

- Final data collection of 85,000 enrolled acres harvested and reported bushels for 2023 season

- Distribute direct payment to producers for the following segments of the 2023 season
    - Regenerative Ag Practice adoptions payments $0
    - Agriculture Technology Product reimbursement payments $0
    - Climate-Smart Commodity contract payment at a maximum amount of $3,315,000 at $0.20 /bushel for 85,000 acres
- Creation of marketing, social media and communication pieces for the education and training to producers for adoption of regenerative ag practices, at a rate for agency hours of $216,000 for 1,200 hrs @ $180 /hour, in addition the completion of printing and production materials of OOP at $100,666
- Contractor (TBD) that will provide strategy approaches for project employees to provide guidance on planting of cover crops, to accomplish grower meetings and ability to provide plans for proper crop rotation for a quarterly cost of $38,250
- Establish engineering protocols for cloud data storage and development of dMRV platform tool for artificial intelligence (AI)/machine learning (MI) from a Contractor (TBD) at $48,166 at $1.70 /acre
- Contractor (TBD) project work with grain elevators, producers and dMRV platform to develop a protocol and implementation plans for GREET model and grain handling approaches for CORSIA compliant SAF sales into International markets. 260 hours of contractor work per quarter at a rate of $121/hour
- For 2024 season in the Lake Preston, SD area complete the following;
    - With contractors (TBD) perform soil probing, sample collection and shipment of samples on 75,000 acres at $4.50 /acre
    - With contractors (TBD) perform TOC and BD soil testing analysis from representative sample of 75,000 acres at $2.10 /acre
    - With contractors (TBD) perform spectral analysis of soil carbon level by mapping the enrolled acres of 75,000 acres at $3.00 /acre
- For 2024 season in the Council Bluffs, IA area complete the following;
    - Subaward Yard Stick to perform soil sampling, while in conjunction TOC and BD soil testing analysis on 25,000 acres
    - With contractors (TBD) perform spectral analysis of soil carbon level by mapping the enrolled acres of 25,000 acres at $3.00 /acre
- 2024 launch meeting of Gevo Farm-to-Flight Program
- Propose quantification standards of GHG benefits - 76,000 to 170,000 tons of CO_2 reduced in year one
- Analyze dMRV data to validate system robustness and operation
- First year of work on nitrous oxide emission detection at commercial field scale detection in conjunction with geospatial data and cloud data storage management tools with a contractor (TBD) at $116,000 per quarter (in collaboration with SDSU)
- Identify producers to participate in commercial-scale strip trial work (SDSU)
- Development of farm level LCA and DayCent/COMET biogeochemical soil emissions model. Identify potential alternative management scenarios (CSU)
- Analyze data collected from 20 producer's farms for large-scale commercial study on the financial feasibility of climate-smart practices (SDSU)
- Analyze data collected from research plots to study reduction of nitrous oxide emissions on corn production acreage (SDSU)
- Analyze data collected from deep soil testing for study on different soil types/zones to determine GHG benefits (SDSU)

- Establish physical and chemical characterization of biochar products (ISU)
- Q4 2023 Summary Report to include summary of outreach and enrollment activities, advisory and 2024 launch meetings, research developments, lessons learned and project overview.

$4,496,152 USDA Grant disbursement (via Federal funds)

Q1 2024 milestone (January 2024 through March 2024)

Conduct producer enrollment outreach meetings and initiatives. Analyze and evaluate 2023 crop data and revise project assumptions as needed.

Deliverables:

- Conduct 65 producer one on one outreach meetings with a minimum of one group producer event in each service area (performed by Gevo, subaward SIRE and Contractors TBD e.g. Ag Retailers)
- Enroll 25 to 30 producers which includes 6 to 11 underserved enrolling 75,000 acres in Lake Preston, SD area for 2024 season (performed by Gevo personnel)
    - To include 11,000 acres within the Indigenous Tribal Reservations of North Dakota and South Dakota (including Standing Rock Sioux Tribe) for 2024 season
    - With contractors (TBD) perform soil probing, sample collection and shipment of samples on 75,000 acres at $4.50 /acre
    - With contractors (TBD) perform TOC and BD soil testing analysis from representative sample of 75,000 acres at $2.10 /acre
- Enroll 14 to 20 producers which includes 4 to 8 underserved enrolling 25,000 acres in Council Bluffs, IA area for 2024 season (performed by subaward SIRE and Gevo personnel)
    - Enroll female-owned farming operations totaling 6,250 acres for 2024 season
    - Subaward Yard Stick to perform soil sampling, while in conjunction TOC and BD soil testing analysis on 25,000 acres
- Conduct environmental review of newly enrolled acres and mitigate any environmental clarification (performed by Gevo personnel)
- Enrollment of 100 acres for the application of a carbon soil amendment for crop year 2024 Contractor (TBD) $1,500 /acre at $150,000
- Creation of marketing, social media and communication pieces for the education and training to producers for adoption of regenerative ag practices, at a rate for agency hours of $112,500 for 625 hrs @ $180 /hour, in addition the completion of printing and production materials of OOP at $52,500
- Contractor (TBD) that will provide strategy approaches for project employees to provide guidance on planting of cover crops, to accomplish grower meetings and ability to provide plans for proper crop rotation for a quarterly cost of $38,250
- Provide guidance and education for producers around the options of changes to be made to the farming operation for the adoption of climate-smart commodities, these Ag Retailers will be determined through Contractors (TBD), and will be acreage for 100,000 acres at $5.00 /acre

- Establish engineering protocols for cloud data storage and development of dMRV platform tool for artificial intelligence (AI)/machine learning (MI) from a Contractor (TBD) at $36,125 at $1.70 /acre
- Contractor (TBD) project work with grain elevators, producers and dMRV platform to develop a protocol and implementation plans for GREET model and grain handling approaches for CORSIA compliant SAF sales into International markets. 260 hours of contractor work per quarter at a rate of $121/hour
- Second year of work on nitrous oxide emission detection at commercial field scale detection, defining method detection pathway in conjunction with geospatial data and cloud data storage management tools with a contractor (TBD) at $51,000 per quarter (in collaboration with SDSU)
- Evaluate financial feasibility of climate-smart practices for large-scale commercial study (SDSU)
- Evaluate agricultural practices for reduction of nitrous oxide emissions on corn production acreage (SDSU)
- Q1 2024 Progress Report to include summary of marketing efforts, winter planning meeting, research developments, lessons learned, summary of dMRV activities and project overview

$477,403 USDA Grant disbursement (via Federal funds)

Q2 2024 milestone (April 2024 through June 2024)

Distribution of regenerative agriculture practices and agriculture technology payments to participating producers. Conduct soil tests to evaluate soil health and carbon sequestration. Application of biochar and microbial soil amendments. Plant second year enrolled acres and research tests plots.

Deliverables:

- Distribute direct payment to producers for the following segments of the 2023 season
  - Regenerative Ag Practice adoptions payments $0
  - Agriculture Technology Product reimbursement payments at a maximum amount of $1,027,500 at a rate of $5.88 /acre
  - Climate-Smart Commodity contract payments $0
- Creation of marketing, social media and communication pieces for the education and training to producers for adoption of regenerative ag practices, at a rate for agency hours of $112,500 for 625 hrs @ $180 /hour, in addition the completion of printing and production materials of OOP at $52,500
- Contractor (TBD) that will provide strategy approaches for project employees to provide guidance on planting of cover crops, to accomplish grower meetings and ability to provide plans for proper crop rotation for a quarterly cost of $38,250
- Establish engineering protocols for cloud data storage and development of dMRV platform tool for artificial intelligence (AI)/machine learning (MI) from a Contractor (TBD) at $36,125 at $1.70 /acre
- Contractor (TBD) project work with grain elevators, producers and dMRV platform to develop a protocol and implementation plans for GREET model and grain handling

approaches for CORSIA compliant SAF sales into International markets. 260 hours of contractor work per quarter at a rate of $121/hour
- Second year of work on nitrous oxide emission detection at commercial field scale detection, defining method detection pathway in conjunction with geospatial data and cloud data storage management tools with a contractor (TBD) at $110,000 per quarter (in collaboration with SDSU)
- Plant trial plots on 20 producer's farms for large-scale commercial study on the financial feasibility of climate-smart practices (SDSU)
- Plant research plots to study reduction of nitrous oxide emissions on corn production acreage (SDSU)
- Deep soil testing for study on different soil types/zones to determine GHG benefits (SDSU)
- Q2 2024 Progress Report to include summary of marketing efforts, advisory council meeting, research developments, lessons learned, summary of dMRV activities and project overview.

$2,204,903 USDA Grant disbursement (via Federal funds)

Q3 2024 milestone (July 2024 through September 2024)

Provide technical assistance, outreach, and training to producers on CI management practices. Soil test enrolled acres to document soil health. Implementation of best practices at farm level and initiate harvest of 2024 crop.

Deliverables:

- Distribute direct payment to producers for the following segments of the 2024 season
  - Regenerative Ag Practice adoptions payments at a maximum amount of $700,000
  - Agriculture Technology Product reimbursement payments $0
  - Climate-Smart Commodity contract payments $0
- Creation of marketing, social media and communication pieces for the education and training to producers for adoption of regenerative ag practices, at a rate for agency hours of $112,500 for 625 hrs @ $180 /hour, in addition the completion of printing and production materials of OOP at $52,500
- Contractor (TBD) that will provide strategy approaches for project employees to provide guidance on planting of cover crops, to accomplish grower meetings and ability to provide plans for proper crop rotation for a quarterly cost of $38,250
- Establish engineering protocols for cloud data storage and development of dMRV platform tool for artificial intelligence (AI)/machine learning (MI) from a Contractor (TBD) at $36,125 at $1.70 /acre
- Contractor (TBD) project work with grain elevators, producers and dMRV platform to develop a protocol and implementation plans for GREET model and grain handling approaches for CORSIA compliant SAF sales into International markets. 260 hours of contractor work per quarter at a rate of $121/hour
- Second year of work on nitrous oxide emission detection at commercial field scale detection, defining method detection pathway in conjunction with geospatial data and cloud

data storage management tools with a contractor (TBD) at $110,000 per each quarter (in collaboration with SDSU)
- Data collection of LCA data (CSU)
- GIS delineation for DayCent modeling (CSU)
- Data collection from 20 producer's farms for large-scale commercial study on the financial feasibility of climate-smart practices (SDSU)
- Data collection from research plots to study reduction of nitrous oxide emissions on corn production acreage (SDSU)
- Deep soil testing for study on different soil types/zones to determine GHG benefits (SDSU)
- Conduct 2024 Summer Gevo plot tour
- Conduct 2024 SIRE plot tour
- Q3 2024 Progress Report to include summary of research developments, lessons learned, summary of dMRV activities and project overview.

$1,052,403 USDA Grant disbursement (via Federal funds)

Q4 2024 milestone (October 2024 through December 2024)

Calculation of CI score and distribution of climate-Smart commodity payment to producers. DayCent model simulations will be run and analyzed. Application of biochar and microbial soil amendments. Implementation of fall best practices at farm level and complete harvest of 2024 crop.

Deliverables:

- Final data collection of 100,000 enrolled acres harvested and reported bushels for 2024 season
- Distribute direct payment to producers for the following segments of the 2024 season
    - Regenerative Ag Practice adoptions payments $0
    - Agriculture Technology Product reimbursement payments $0
    - Climate-Smart Commodity contract payment at a maximum amount of $4,290,000 at $0.22 /bushel for 100,000 acres
- For 2025 season in the Lake Preston, SD area complete the following;
    - With contractors (TBD) perform soil probing, sample collection and shipment of samples on 34,000 acres at $4.50 /acre
    - With contractors (TBD) perform TOC and BD soil testing analysis from representative sample of 34,000 acres at $2.10 /acre
    - With contractors (TBD) perform spectral analysis of soil carbon level by mapping the enrolled acres of 85,000 acres at $3.00 /acre
- For 2025 season in the Council Bluffs, IA area complete the following;
    - Subaward Yard Stick to perform soil sampling, while in conjunction TOC and BD soil testing analysis on 25,000 acres
    - With contractors (TBD) perform spectral analysis of soil carbon level by mapping the enrolled acres of 25,000 acres at $3.00 /acre
- Creation of marketing, social media and communication pieces for the education and training to producers for adoption of regenerative ag practices, at a rate for agency hours of

$112,500 for 625 hrs @ $180 /hour, in addition the completion of printing and production materials of OOP at $52,500

- Contractor (TBD) that will provide strategy approaches for project employees to provide guidance on planting of cover crops, to accomplish grower meetings and ability to provide plans for proper crop rotation for a quarterly cost of $38,250
- Establish engineering protocols for cloud data storage and development of dMRV platform tool for artificial intelligence (AI)/machine learning (MI) from a Contractor (TBD) at $36,125 at $1.70 /acre
- Contractor (TBD) project work with grain elevators, producers and dMRV platform to develop a protocol and implementation plans for GREET model and grain handling approaches for CORSIA compliant SAF sales into International markets. 260 hours of contractor work per quarter at a rate of $121/hour
- Second year of work on nitrous oxide emission detection at commercial field scale detection, defining method detection pathway in conjunction with geospatial data and cloud data storage management tools with a contractor (TBD) at $110,000 per quarter (in collaboration with SDSU)
- 2025 launch meeting of Gevo Farm-to-Flight Program
- Complete 20 field trials/year to evaluate effectiveness of soil amendments microbials
- Amend best practices for minimizing emissions
- Amend quantification standards of GHG benefits - 90,000 to 200,000 tons of CO2 reduced in year two
- Analyze dMRV data to validate system robustness and operation
- Summarize findings of commercial-scale strip trial work (SDSU)
- Refinement of farm level LCA and DayCent/COMET biogeochemical soil emissions model. Review potential alternative management scenarios (CSU)
- Analyze data collected from 20 producer's farms for large-scale commercial study on the financial feasibility of climate-smart practices (SDSU)
- Analyze data collected from research plots to study reduction of nitrous oxide emissions on corn production acreage (SDSU)
- Analyze data collected from deep soil testing for study on different soil types/zones to determine GHG benefits (SDSU)
- Summarize finding on physical and chemical characterization of biochar products (ISU)
- Q4 2024 Summary Report to include summary of outreach efforts, advisory council and 2025 launch meetings, research developments, lessons learned and project overview.

$5,549,277 USDA Grant disbursement (via Federal funds)

Q1 2025 milestone (January 2025 through March 2025)

Conduct producer enrollment outreach meetings and initiatives. Analyze and evaluate 2024 crop data and revise project assumptions as needed. Begin development of machine-learning emulator of the DayCent model.

Deliverables:

- Conduct 75 producer one on one outreach meetings with a minimum of two group producer events in each service area (performed by Gevo, subaward SIRE and Contractors TBD e.g. Ag Retailers)
- Enroll 30 to 35 producers which includes 8 to 12 underserved enrolling 85,000 acres in Lake Preston, SD area for 2025 season (performed by Gevo personnel)
    - To include 11,000 acres within the Indigenous Tribal Reservations of North Dakota and South Dakota (including Standing Rock Sioux Tribe) for 2025 season
- Enroll 17 to 20 producers which includes 5 to 8 underserved enrolling 25,000 acres in Council Bluffs, IA area for 2025 season (performed by subaward SIRE and Gevo personnel)
    - Enroll female-owned farming operations totaling 7,500 acres for 2025 season
- Conduct environmental review of newly enrolled acres and mitigate any environmental clarification (performed by Gevo personnel)
- Enrollment of 100 acres for the application of a carbon soil amendment for crop year 2024 Contractor (TBD) $1,500 /acre at $150,000
- Creation of marketing, social media and communication pieces for the education and training to producers for adoption of regenerative ag practices, at a rate for agency hours of $85,500 for 475 hrs @ $180 /hour, in addition the completion of printing and production materials of OOP at $18,250
- Contractor (TBD) that will provide strategy approaches for project employees to provide guidance on planting of cover crops, to accomplish grower meetings and ability to provide plans for proper crop rotation for a quarterly cost of $38,250
- Provide guidance and education for producers around the options of changes to be made to the farming operation for the adoption of climate-smart commodities, these Ag Retailers will be determined through Contractors (TBD), and will be acreage for 110,000 acres at $3.25 /acre
- Establish engineering protocols for cloud data storage and development of dMRV platform tool for artificial intelligence (AI)/machine learning (MI) from a Contractor (TBD) at $34,500 at $1.50 /acre
- Contractor (TBD) project work with grain elevators, producers and dMRV platform to develop a protocol and implementation plans for GREET model and grain handling approaches for CORSIA compliant SAF sales into International markets. 260 hours of contractor work per quarter at a rate of $121/hour
- Begin to develop product concepts and feasible tools for producer on nitrous oxide emission detection at commercial field scale detection, defining method detection pathway in conjunction with geospatial data and cloud data storage management tools with a contractor (TBD) at $32,125 per quarter (in collaboration with SDSU)
- Evaluate financial feasibility of climate-smart practices for large-scale commercial study (SDSU)
- Evaluate agricultural practices for reduction of nitrous oxide emissions on corn production acreage (SDSU)
- Q1 2025 Progress Report to include summary of outreach efforts, winter planning meeting, research developments, lessons learned, summary of dMRV activities and project overview.

$385,841 USDA Grant disbursement (via Federal funds)

Q2 2025 milestone (April 2025 through June 2025)

Distribution of regenerative agriculture practices and agriculture technology payments to producers. Conduct soil tests to evaluate soil health and carbon sequestration. Application of biochar and microbial soil amendments. Plant third year enrolled acres and research tests plots.

Deliverables:

- Distribute direct payment to producers for the following segments of the 2025 season
  - Regenerative Ag Practice adoptions payments $0
  - Agriculture Technology Product reimbursement payments at a maximum amount of $835,000 at a rate of $5.88 /acre
  - Climate-Smart Commodity contract payments $0
- Creation of marketing, social media and communication pieces for the education and training to producers for adoption of regenerative ag practices, at a rate for agency hours of $85,500 for 475 hrs @ $180 /hour, in addition the completion of printing and production materials of OOP at $18,250
- Contractor (TBD) that will provide strategy approaches for project employees to provide guidance on planting of cover crops, to accomplish grower meetings and ability to provide plans for proper crop rotation for a quarterly cost of $38,250
- Establish engineering protocols for cloud data storage and development of dMRV platform tool for artificial intelligence (AI)/machine learning (MI) from a Contractor (TBD) at $34,500 at $1.50 /acre
- Contractor (TBD) project work with grain elevators, producers and dMRV platform to develop a protocol and implementation plans for GREET model and grain handling approaches for CORSIA compliant SAF sales into International markets. 260 hours of contractor work per quarter at a rate of $121/hour
- Begin to develop product concepts and feasible tools for producer on nitrous oxide emission detection at commercial field scale detection, defining method detection pathway in conjunction with geospatial data and cloud data storage management tools with a contractor (TBD) at $32,125 per quarter (in collaboration with SDSU)
- Plant trial plots on 20 producer's farms for large-scale commercial study on the financial feasibility of climate-smart practices (SDSU)
- Plant research plots to study reduction of nitrous oxide emissions on corn production acreage (SDSU)
- Deep soil testing for study on different soil types/zones to determine GHG benefits (SDSU)
- Q2 2025 Progress Report to include summary of marketing efforts, advisory council meeting, research developments, lessons learned, summary of dMRV activities and project overview.

$1,845,216 USDA Grant disbursement (via Federal funds)

Q3 2025 milestone (July 2025 through September 2025)

Provide technical assistance, outreach, and training to producers on CI management practices. Soil test enrolled acres to document soil health. Implementation of best practices at farm level and initiate harvest of 2025 crop.

Deliverables:

- Distribute direct payment to producers for the following segments of the 2025 season
  - Regenerative Ag Practice adoptions payments at a maximum amount of $690,000
  - Agriculture Technology Product reimbursement payments $0
  - Climate-Smart Commodity contract payments $0
- Creation of marketing, social media and communication pieces for the education and training to producers for adoption of regenerative ag practices, at a rate for agency hours of $85,500 for 475 hrs @ $180 /hour, in addition the completion of printing and production materials of OOP at $18,250
- Contractor (TBD) that will provide strategy approaches for project employees to provide guidance on planting of cover crops, to accomplish grower meetings and ability to provide plans for proper crop rotation for a quarterly cost of $38,250
- Establish engineering protocols for cloud data storage and development of dMRV platform tool for artificial intelligence (AI)/machine learning (MI) from a Contractor (TBD) at $34,500 at $1.50 /acre
- Contractor (TBD) project work with grain elevators, producers and dMRV platform to develop a protocol and implementation plans for GREET model and grain handling approaches for CORSIA compliant SAF sales into International markets. 260 hours of contractor work per quarter at a rate of $121/hour
- Begin to develop product concepts and feasible tools for producer on nitrous oxide emission detection at commercial field scale detection, defining method detection pathway in conjunction with geospatial data and cloud data storage management tools with a contractor (TBD) at $32,125 per quarter (in collaboration with SDSU)
- Data collection of LCA data (CSU)
- GIS delineation for DayCent modeling (CSU)
- Data collection from 20 producer's farms for large-scale commercial study on the financial feasibility of climate-smart practices (SDSU)
- Data collection from research plots to study reduction of nitrous oxide emissions on corn production acreage (SDSU)
- Deep soil testing for study on different soil types/zones to determine GHG benefits (SDSU)
- Conduct 2025 Summer Gevo plot tour
- Conduct 2025 SIRE plot tour
- Q3 2025 Progress Report to include summary of research developments, lessons learned and project overview.

$982,403 USDA Grant disbursement (via Federal funds)

Q4 2025 milestone (October 2025 through December 2025)

Calculation of CI score and distribution of climate-smart commodity payment to producers. DayCent model simulations will be run and analyzed. Application of biochar and microbial soil

amendments. Implementation of fall best practices at farm level and complete harvest of 2025 crop.

Deliverables:

- Final data collection of 115,000 enrolled acres harvested and reported bushels for 2025 season
- Distribute direct payment to producers for the following segments of the 2025 season
  - Regenerative Ag Practice adoptions payments $0
  - Agriculture Technology Product reimbursement payments $0
  - Climate-Smart Commodity contract payment at a maximum amount of $3,363,750 at $0.15 /bushel for 115,000 acres
- For 2026 season in the Lake Preston, SD area complete the following;
  - With contractors (TBD) perform soil probing, sample collection and shipment of samples on 40,000 acres at $4.50 /acre
  - With contractors (TBD) perform TOC and BD soil testing analysis from representative sample of 40,000 acres at $2.10 /acre
  - With contractors (TBD) perform spectral analysis of soil carbon level by mapping the enrolled acres of 100,000 acres at $3.00 /acre
- For 2026 season in the Council Bluffs, IA area complete the following;
  - Subaward Yard Stick to perform soil sampling, while in conjunction TOC and BD soil testing analysis on 35,000 acres
  - With contractors (TBD) perform spectral analysis of soil carbon level by mapping the enrolled acres of 35,000 acres at $3.00 /acre
- Creation of marketing, social media and communication pieces for the education and training to producers for adoption of regenerative ag practices, at a rate for agency hours of $85,500 for 475 hrs @ $180 /hour, in addition the completion of printing and production materials of OOP at $18,250
- Contractor (TBD) that will provide strategy approaches for project employees to provide guidance on planting of cover crops, to accomplish grower meetings and ability to provide plans for proper crop rotation for a quarterly cost of $38,250
- Establish engineering protocols for cloud data storage and development of dMRV platform tool for artificial intelligence (AI)/machine learning (MI) from a Contractor (TBD) at $34,500 at $1.50 /acre
- Contractor (TBD) project work with grain elevators, producers and dMRV platform to develop a protocol and implementation plans for GREET model and grain handling approaches for CORSIA compliant SAF sales into International markets. 260 hours of contractor work per quarter at a rate of $121/hour
- Amend quantification standards of GHG benefits - 103,000 to 230,000 tons of CO2 reduced in year three
- Draft differentiated standard for low-CI farm products that can be verifiable
- Analyze dMRV data to validate system robustness and operation
- Begin to develop product concepts and feasible tools for producer on nitrous oxide emission detection at commercial field scale detection, defining method detection pathway in conjunction with geospatial data and cloud data storage management tools with a contractor (TBD) at $32,125 per quarter (in collaboration with SDSU)
- Summarize findings of commercial-scale strip trial work (SDSU)

- Refinement of farm level LCA and DayCent/COMET biogeochemical soil emissions model. Review potential alternative management scenarios (CSU)
- Analyze data collected from 20 producer's farms for large-scale commercial study on the financial feasibility of climate-smart practices (SDSU)
- Analyze data collected from research plots to study reduction of nitrous oxide emissions on corn production acreage (SDSU)
- Analyze data collected from deep soil testing for study on different soil types/zones to determine GHG benefits (SDSU)
- Summarize findings on physical and chemical characterization of biochar products (ISU)
- Draft scaling pathway to 3B tons of SAF by 2030
- 2026 launch meeting of Gevo Farm-to-Flight Program
- Q4 2025 Summary Report to include summary of outreach activities, advisory council and 2026 launch meetings, research developments, lessons learned and project overview.

$4,292,427 USDA Grant disbursement (via Federal funds)

Q1 2026 milestone (January 2026 through March 2026)

Conduct producer enrollment outreach meetings and initiatives. Analyze and evaluate 2025 crop data and revise project assumptions as needed. Testing and development of machine-learning emulator of the DayCent model.

Deliverables:

- Conduct 85 producer one on one outreach meetings with a minimum of two group producer events in each service area (performed by Gevo, subaward SIRE and Contractors TBD e.g. Ag Retailers)
- Enroll 37 to 45 producers which includes 10 to 14 underserved enrolling 100,000 acres in Lake Preston, SD area for 2026 season (performed by Gevo personnel)
    - To include 14,000 acres within the Indigenous Tribal Reservations of North Dakota and South Dakota (including Standing Rock Sioux Tribe) for 2026 season
- Enroll 20 to 25 producers which includes 7 to 11 underserved enrolling 35,000 acres in Council Bluffs, IA area for 2026 season (performed by subaward SIRE and Gevo personnel)
    - Enroll female-owned farming operations totaling 7,500 acres for 2026 season
- Conduct environmental review of newly enrolled acres and mitigate any environmental clarification (performed by Gevo personnel)
- Creation of marketing, social media and communication pieces for the education and training to producers for adoption of regenerative ag practices, at a rate for agency hours of $67,500 for 375 hrs @ $180 /hour, in addition the completion of printing and production materials of OOP at $13,750
- Contractor (TBD) that will provide strategy approaches for project employees to provide guidance on planting of cover crops, to accomplish grower meetings and ability to provide plans for proper crop rotation for a quarterly cost of $38,250
- Provide guidance and education for producers around the options of changes to be made to the farming operation for the adoption of climate-smart commodities, these Ag Retailers

will be determined through Contractors (TBD), and will be acreage for 85,000 acres at $5.00 /acre
- Establish engineering protocols for cloud data storage and development of dMRV platform tool for artificial intelligence (AI)/machine learning (MI) from a Contractor (TBD) at $47,250 at $1.40 /acre
- Final completion and conclusion of project work for GREET model and grain handling modules for dMRV platform, completed by Contractor (TBD) of 100 hours * $121/hour
- Wrap-up and final analysis of products tools that could be used by producers for the optimized detection of nitrous oxide emission reductions at commercial field scale through geospatial data and cloud data storage management tools with a contractor (TBD) at $10,750 per quarter (in collaboration with SDSU)
- Evaluate financial feasibility of climate-smart practices for large-scale commercial study (SDSU)
- Evaluate agricultural practices for reduction of nitrous oxide emissions on corn production acreage (SDSU)
- Q1 2026 Progress Report to include summary of marketing efforts, winter planning meeting, research developments, lessons learned, summary of dMRV activities and project overview.

$359,528 USDA Grant disbursement (via Federal funds)

Q2 2026 milestone (April 2026 through June 2026)

Distribution of regenerative agriculture practices and agriculture technology payments to producers. Conduct soil tests to evaluate soil health and carbon sequestration. Application of biochar and microbial soil amendments. Plant fourth year enrolled acres and research tests plots.

Deliverables:

- Distribute direct payment to producers for the following segments of the 2025 season
    - Regenerative Ag Practice adoptions payments $0
    - Agriculture Technology Product reimbursement payments at a maximum amount of $845,000 at a rate of $5.88 /acre
    - Climate-Smart Commodity contract payments $0
- Creation of marketing, social media and communication pieces for the education and training to producers for adoption of regenerative ag practices, at a rate for agency hours of $67,500 for 375 hrs @ $180 /hour, in addition the completion of printing and production materials of OOP at $13,750
- Contractor (TBD) that will provide strategy approaches for project employees to provide guidance on planting of cover crops, to accomplish grower meetings and ability to provide plans for proper crop rotation for a quarterly cost of $38,250
- Provide guidance and education for producers around the options of changes to be made to the farming operation for the adoption of climate-smart commodities, these Ag Retailers will be determined through Contractors (TBD), and will be acreage for 85,000 acres at $5.00 /acre

- Establish engineering protocols for cloud data storage and development of dMRV platform tool for artificial intelligence (AI)/machine learning (MI) from a Contractor (TBD) at $47,250 at $1.40 /acre
- Wrap-up and final analysis of products tools that could be used by producers for the optimized detection of nitrous oxide emission reductions at commercial field scale through geospatial data and cloud data storage management tools with a contractor (TBD) at $10,750 per quarter (in collaboration with SDSU)
- Plant trial plots on 20 producer's farms for large-scale commercial study on the financial feasibility of climate-smart practices (SDSU)
- Plant research plots to study reduction of nitrous oxide emissions on corn production acreage (SDSU)
- Deep soil testing for study on different soil types/zones to determine GHG benefits (SDSU)
- Q2 2026 Progress Report to include summary of marketing efforts, advisory council meeting, research developments, lessons learned, summary of dMRV activities and project overview.

$1,542,028 USDA Grant disbursement (via Federal funds)

Q3 2026 milestone (July 2026 through September 2026)

Provide technical assistance, outreach, and training to producers on CI management practices. Soil test enrolled acres to document soil health. Implementation of best practices at farm level and initiate harvest of 2026 crop.

Deliverables:

- Distribute direct payment to producers for the following segments of the 2025 season
  - Regenerative Ag Practice adoptions payments at a maximum amount of $405,000
  - Agriculture Technology Product reimbursement payments $0
  - Climate-Smart Commodity contract payments $0
- Creation of marketing, social media and communication pieces for the education and training to producers for adoption of regenerative ag practices, at a rate for agency hours of $67,500 for 375 hrs @ $180 /hour, in addition the completion of printing and production materials of OOP at $13,750
- Contractor (TBD) that will provide strategy approaches for project employees to provide guidance on planting of cover crops, to accomplish grower meetings and ability to provide plans for proper crop rotation for a quarterly cost of $38,250
- Provide guidance and education for producers around the options of changes to be made to the farming operation for the adoption of climate-smart commodities, these Ag Retailers will be determined through Contractors (TBD), and will be acreage for 85,000 acres at $5.00 /acre
- Establish engineering protocols for cloud data storage and development of dMRV platform tool for artificial intelligence (AI)/machine learning (MI) from a Contractor (TBD) at $47,250 at $1.40 /acre
- Wrap-up and final analysis of products tools that could be used by producers for the optimized detection of nitrous oxide emission reductions at commercial field scale through

geospatial data and cloud data storage management tools with a contractor (TBD) at $10,750 per quarter (in collaboration with SDSU)
- Data collection of LCA data (CSU)
- GIS delineation for DayCent modeling (CSU)
- Data collection from 20 producer's farms for large-scale commercial study on the financial feasibility of climate-smart agricultural practices (SDSU)
- Data collection from research plots to study reduction of nitrous oxide emissions on corn production acreage (SDSU)
- Deep soil testing for study on different soil types/zones to determine GHG benefits (SDSU)
- Conduct 2026 Summer Gevo plot tour
- Conduct 2026 SIRE plot tour
- Q3 2026 Progress Report to include summary of preliminary research results, lessons learned, summary of dMRV activities and project overview.

$764,258 USDA Grant disbursement (via Federal funds)

Q4 2026 milestone (October 2026 through December 2026)

Completion of a high fidelity of a farm level life cycle model. Calculation of CI score and distribution of climate-smart commodity payment to producer. Final DayCent model simulations will be run, analysis and development of machine-learning emulator with optimization procedures. Application of biochar and microbial soil amendments. Implementation of fall best practices at farm level and complete harvest of 2026 crop.

Deliverables:

- Final data collection of 135,000 enrolled acres harvested and reported bushels for 2026 season
- Distribute direct payment to producers for the following segments of the 2026 season
    - Regenerative Ag Practice adoptions payments $0
    - Agriculture Technology Product reimbursement payments $0
    - Climate-Smart Commodity contract payment at a maximum amount of $1,316,250 at $0.05 /bushel for 135,000 acres
- Creation of marketing, social media and communication pieces for the education and training to producers for adoption of regenerative ag practices, at a rate for agency hours of $67,500 for 375 hrs @ $180 /hour, in addition the completion of printing and production materials of OOP at $13,750
- Contractor (TBD) that will provide strategy approaches for project employees to provide guidance on planting of cover crops, to accomplish grower meetings and ability to provide plans for proper crop rotation for a quarterly cost of $38,250
- Establish engineering protocols for cloud data storage and development of dMRV platform tool for artificial intelligence (AI)/machine learning (MI) from a Contractor (TBD) at $47,250 at $1.40 /acre
- Completion of data collection for 2026 season and evaluation of effectiveness of soil amendments

- Wrap-up and final analysis of products tools that could be used by producers for the optimized detection of nitrous oxide emission reductions at commercial field scale through geospatial data and cloud data storage management tools with a contractor (TBD) at $10,750 per quarter (in collaboration with SDSU)
- Quantification of GHG benefits - 121,000 to 270,000 tons of CO2 reduced in year 4 Summarize findings of commercial-scale strip trial work (SDSU)
- Preliminary report on farm level LCA and DayCent/COMET biogeochemical soil emissions model and propose potential alternative management scenarios (CSU)
- Preliminary report of the large-scale commercial study on the financial feasibility of climate-smart practices (SDSU)
- Preliminary report of the study on reduction of nitrous oxide emissions on corn production acreage (SDSU)
- Preliminary report on study of deep soil testing on different soil types/zones to determine GHG benefits (SDSU)
- Preliminary report on physical and chemical characterization of biochar products (ISU) Q4 2026 Progress Report to include preliminary research results, lessons learned and project findings.

$1,702,884 USDA Grant disbursement (via Federal funds)

Q1 2027 milestone (January 2027 through March 2027)

Final project analysis of soil test results and submission of best practices recommendations along with final data submission and final report to USDA.

Deliverables:

- Submit recommendation of best practices for minimizing GHG emissions
- Submit differentiated standard for low-CI farm products that can be verifiable
- Final analysis on dMRV validation to track CI from field to fuel production
- Final report on farm level LCA and DayCent/COMET biochemical soil emissions model and propose potential alternative management scenarios.
- Final report on Cloud data storage and utilization of artificial intelligence (Contractor TBD).
- Final report of the large-scale commercial study on the financial feasibility of climate – smart practices (SDSU)
- Final report of the study on reduction of nitrous oxide emission on corn production acreage (SDSU)
- Final report on study of deep soil testing on different soil types/zones to determine GHG benefits (SDSU)
- Final physical and chemical characterization of biochar products (ISU)
- Propose recommendation of scaling pathway to 3,000,000,000 gallons per year of (Sustainable Aviation Fuel (SAF) by 2030
- Final Project report to include summary of project field and research activities, final research results, lessons learned and project recommendation and discoveries.

$104,366 USDA Grant disbursement (via Federal funds)

Gevo, Inc.: The Gevo Climate-Smart Farm-to-Flight Program

Climate-Smart Practices and Limitations

Climate-Smart practices under this grant shall be limited to the following practices:

NRCS Practice Code	Practice Name
329	Residue and Tillage Management, No-Till
336	Soil Carbon Amendment
340	Cover Crop
345	Residue and Tillage Management, Reduced Till
528	Prescribed Grazing
590	Nutrient Management

All practices applied under this grant will follow NRCS practice standards unless noted below:

NRCS Practice Code	Practice Name
336CS	Soil Carbon Amendment with Corn Stover – This alternative practice will follow the NRCS CPS 336, except that application of amendments produced from corn stover will be allowed.

Partnerships for Climate-Smart Commodities Data Dictionary for Recipients

February 2023

Version 1.0

USDA Partnerships for Climate-Smart Commodities Data Dictionary for Recipients
February 2023

Table of Contents

Overview of Reporting Requirements

Grant recipients are required to submit reports to document their performance under the *Partnerships for Climate-Smart Commodity* funding opportunity. These submissions will be required to use the Microsoft Excel workbook templates provided by USDA. The workbooks contain a series of worksheets that collect data in a standardized format to ensure data quality and allow for aggregation and summary of this information. The entire workbook must be submitted quarterly, with updates to all applicable worksheets. This guide is divided into three sections. The *Overview of Reporting Requirements* section summarizes the layout of the reporting workbook and presents the data elements included in each worksheet. It also describes additional documents that must be submitted to supplement the performance reports. The *Data Definitions* section provides descriptions and allowable response options for each data element. The guide also indicates whether each data element is required, applicable at times, or optional; as well as how frequently each data element must be updated. Finally, the *Appendices* contain practice and commodity lists that will be used for these reports. Reporting is necessary for USDA oversight of this effort. The data elements required for inclusion in the quarterly performance reports allow USDA to conduct selected audits to review whether producers are receiving federal funds from multiple sources for the same purpose; to determine whether GHG benefits from implementation of climate-smart agriculture and forestry (CSAF) practices are being estimated accurately; and for other purposes deemed appropriate by USDA.

The reporting worksheets collect information at four levels: project, partner, producer, and field. Descriptions of each level:

> **Project level**: Information about activities and impacts at a whole project/aggregate level (i.e., reflecting all activities under the grant agreement). Some project-level reporting is further subdivided by commodity type or a combination of commodity and CSAF practice(s) (commodity x practice).
> **Partner level:** Information about activities related to a single organization (recipient, subrecipient, contractor, or other partner) within a project.
> **Producer level**: Information about individual producers who have one or more farms enrolled in a project.
> **Field level**: Information about individual fields enrolled in a project.

Certain data elements are required to be reported for each producer and field enrolled in a project. In order to minimize the burden associated with data collection and to enable USDA to match data to existing records, these producer- and field-specific records must use the producer's established FSA Farm, Tract and Field IDs, and report the State and County associated with the Farm ID. Associated data entered in conjunction with these data elements, such as Producer Name, must match the data contained in the customer's Business Partner record, and the Farm Operating Plan in Business File for that Farm ID. Disclosure of this information is protected under Section 1619 of the Food, Conservation, and Energy Act of 2008 (PL 110- 246), 7 U.S.C. 8791. Additionally, Departmental Regulation 4370-001 provides USDA's policies for collecting demographic data, including race, ethnicity and gender. Providing demographic information is voluntary and at the discretion of the customer. Demographic information is used by USDA for statistical purposes only and will not be used to determine an applicant's eligibility for programs or services for which they apply.

Note: For purposes of this guide, "farm" refers to the operation from which climate-smart commodities are produced and may represent farms, ranches, forests or other operations. Similarly, "field" refers to the individual land units at which climate-smart practices are being implemented to produce climate-smart commodities and may represent lots, farmsteads or other units, depending on the type of operation and commodity. The use of "Farm", "Tract" and "Field" align with the FSA definitions; for example, "A field is a part of a farm that is separated from the balance of the farm by a permanent boundary, such as; fences, permanent waterways, woodlands, croplines in cases where farming practices make it probable that this cropline is not subject to change, and other similar features."

USDA Partnerships for Climate-Smart Commodities Data Dictionary for Recipients
February 2023

The following tables list the data elements included in each reporting worksheet, along with a brief description of each item.

Project Summary

These data will be collected about each project. Cumulative results are reported each quarter. Report last quarter's entry if there has been no change in this quarter.

Table 1. Project Summary elements

Data element name	Description	Frequency
Commodity type	Type of commodity(ies) incentivized by the project	Quarterly
Commodity sales	Indicates sales of the commodity(ies) related to the project occurred this quarter	Quarterly
Farms enrolled	Indicates enrollment activities occurred this quarter	Quarterly
GHG calculation methods	Methods used to calculate greenhouse gas (GHG) benefits	Quarterly
GHG cumulative calculation	Method used to calculate cumulative GHG benefits	Quarterly
Cumulative GHG benefits	Whole project estimate of total GHG (CO2e) emission reductions	Quarterly
Cumulative carbon stock	Whole project estimate of total carbon sequestration	Quarterly
Cumulative CO2 benefit	Whole project estimate of total CO2 emission reductions	Quarterly
Cumulative CH4 benefit	Whole project estimate of total CH4 emission reductions	Quarterly
Cumulative N2O benefit	Whole project estimate of total N2O emission reductions	Quarterly
Offsets produced	Amount of carbon offsets produced by project	Quarterly
Offsets sale	Name of marketplace where carbon offsets were sold	Quarterly
Offsets price	Price of carbon in offset sales	Quarterly
Insets produced	Amount of carbon insets produced by project	Quarterly
Cost of on-farm TA	Cost of on-farm technical assistance (TA) provided to producers	Quarterly
MMRV cost	Cost of measurement, monitoring, reporting, and verification (MMRV) activities	Quarterly
GHG monitoring method	Methods used by project to monitor GHG benefits (up to 5)	Quarterly
GHG reporting method	Methods used by project to report on GHG benefits (up to 5)	Quarterly
GHG verification method	Methods used to verify GHG benefits (up to 5)	Quarterly

Partner Activities

These data will be collected at the project level. Each row in this worksheet will represent one organization involved in the project, including the recipient and all contributing partners. A partner is any organization that is receiving project funds or providing matching contributions (funds or in-kind contributions) to the project. While the recipient must complete one row for their own organization, not all data elements apply to the recipient. These exceptions are noted in the detailed descriptions of the specific elements in the *Data Definitions* section of this guide. Data are reported cumulatively each quarter. Report last quarter's entry if there has been no change in this quarter.

Table 2. Partner Activities elements

Data element name	Description	Frequency
Partner ID	Unique ID for each partner	One-time
Partner name	Name of partner organization	One-time
Partner type	Type of organization	One-time
Partner POC	Partner point of contact name	As applicable
Partner POC email	Partner point of contact email	As applicable
Partnership start date	Start of partnership on project	One-time
Partnership end date	End of partnership on project	As applicable
New partnership	Indicator for partner organizations that have no prior work with the recipient	As applicable
Partner total requested	Total amount requested to date by partner from recipient	Quarterly
Total match contribution	Total amount of match contribution by partner to date	Quarterly
Total match incentives	Total amount of match contribution by partner for incentives	Quarterly
Match type	Top 3 types of match contribution by partner, other than incentives	Quarterly
Match amount	Value of match contributions by type	Quarterly
Training provided	Top 3 types of training provided to the partner through project	Quarterly
Activity by partner	Top 3 types of activities provided by this partner to producers or other partners	Quarterly
Activity cost	Approximate cost per activity type provided by partner to producers or other partners	Quarterly
Products supplied	Names of products supplied to producers as part of project activities or incentives	Quarterly
Product source	Supplier or source of products supplied to producers as part of project activities or incentives	Quarterly

Marketing Activities

These data will be collected at the project level. Each row in this worksheet will correspond to one commodity for which the project enrolls fields and one marketing channel used to sell that commodity by the project or producers enrolled in the project. Data are reported for the current quarter and are not cumulative. If no sales of the commodity were reported during a quarter, do not complete this worksheet for that quarter.

Table 3. Marketing Activities elements

Data element name	Description	Frequency
Commodity type	Type of commodity incentivized by the project	Quarterly
Marketing channel type	Type of marketing channels used	Quarterly
Number of buyers	Number of buyers per marketing channel	Quarterly
Names of buyers	Names of buyers in the marketing channel	Quarterly
Marketing channel geography	Geography of marketing channel	Quarterly
Value sold	Value of commodity sold by marketing channel	Quarterly
Volume sold	Volume of commodity sold by marketing channel	Quarterly
Price premium	Price premium of commodity by marketing channel	Quarterly
Price premium to producer	Percent of price premium that goes to the producer	Quarterly
Product differentiation method	Top 3 types of product differentiation methods used	Quarterly
Marketing method	Top 3 types of marketing methods used	Quarterly
Marketing channel identification method	Top 3 ways marketing channel was identified	Quarterly
Traceability method	Top 3 types of supply chain traceability methods used	Quarterly

Producer Enrollment

These data will be collected at the producer level about each farm enrolled in the project. In this worksheet, each row will correspond to one farm that has at least one field enrolled in the project. Data are reported when a producer first enrolls one or more fields in the project. If a producer is enrolled in the project for multiple years, review the farm characteristics each time a new contract is signed and provide any necessary updates. The quarterly submission should contain information about each farm initially enrolled in the project during that quarter and for updates to farms that have re-enrolled during that quarter, as applicable. If no farms are enrolled during that quarter, do not complete this worksheet for that quarter.

Table 4. Producer Enrollment elements

Data element name	Description	Frequency
Farm ID	Unique Farm ID assigned by FSA	
State or territory	State name (must match FSA farm enrollment data)	
County of residence	County name (must match FSA farm enrollment data)	
Producer data change	Indicator that producer data was updated at re-enrollment	As applicable
Producer start date	Contract start date	Enrollment
Producer name	Name of primary operator	Enrollment
Underserved status	Indicator the primary operator is considered underserved and/or a small producer	Enrollment
Total area	Total area of enrolled operation	Annual
Total crop area	Total crop area in enrolled operation enrolled	Annual
Total livestock area	Total livestock confinement, pasture and rangeland in enrolled operation	Annual
Total forest area	Total forest area in enrolled operation	Annual
Livestock type	Top 3 types of livestock on enrolled operation	Annual
Livestock head	Total livestock currently managed (by type)	Annual
Organic farm	Indicator that part of the farm is certified or transitioning organic	Annual
Organic fields	Indicator that any of the enrolled fields are certified or transitioning organic	Annual
Producer motivation	Motivation for participation	Annual
Producer outreach	Top 3 types of outreach provided to producer	Annual
CSAF experience	Indicator of prior implementation of CSAF practices at this farm	Annual
CSAF federal funds	Indicator of prior receipt of federal funds for CSAF practices	Annual
CSAF state or local funds	Indicator of prior receipt of state funds for CSAF practices	Annual
CSAF nonprofit funds	Indicator of prior receipt of nonprofit funds for CSAF practices	Annual
CSAF market incentives	Indicator of prior receipt of market incentives for CSAF practices	Annual

Field Enrollment

These data will be collected about each field enrolled in the project. In this worksheet, each row corresponds to one field x commodity combination enrolled in the project. Generally, data are reported once for each field, at its initial enrollment. The quarterly submission should contain information about each field initially enrolled in the project during that quarter. If no fields are enrolled during that quarter, do not complete this worksheet for that quarter. If a field is enrolled for multiple years, any relevant changes, such as a new ID number or changes to the commodity or practice combinations should be entered in this worksheet during the quarter it is re-enrolled, or as applicable.

Table 5. Field Enrollment elements

Data element name	Description
Farm ID	Unique Farm ID assigned by FSA
Tract ID	Unique Tract ID assigned by FSA
Field ID	Unique Field ID assigned by FSA
State or territory of field	State name
Physical County of field	Physical county name must match FSA farm records
Prior Field ID	Previous Field ID when reconstitution of farm results in new Field IDs
Field data change	Indicator that field data has changed from initial enrollment
Contract start date	Start date of contract
Total field area	Size of enrolled field
Commodity category	Category of commodity(ies) produced
Commodity type	Type of commodity(ies) produced
Baseline yield	Average yield of commodity in 3 years prior to enrollment
Baseline yield location	Location for which baseline yield is provided
Field land use	Most common land use in field in past 3 years
Field irrigated	Most common irrigation type in field in past 3 years
Field tillage	Most common tillage in field in past 3 years
Practice past extent - farm	Extent of operation that implemented this practice prior to project enrollment
Field any CSAF practice	Indicator for prior CSAF practices in this field in past 3 years
Practice past use - this field	Indicator of prior use of this practice in this field in the past 3 years
Practice type	CSAF practice(s) that will be implemented in enrolled field (up to 7)
Practice standard	Organization that developed CSAF practice standard implemented in field
Planned practice implementation year	Year that practice is planned to be implemented
Practice extent	Area or number of animals for which practice is implemented
Follow-on questions	Follow-on questions by practice type (see Table 11)

Farm Summary

These data will be collected about each farm enrolled in the project. In this worksheet, each row will correspond to one farm that has at least one field enrolled in the project. The quarterly submission should contain updates to any data elements that have changed for each farm enrolled in the project during that quarter. If there are no changes from the previous quarter, do not complete this worksheet for that quarter. Data are not cumulative.

Table 6. Farm Summary elements

Data element name	Description	Frequency
Farm ID	Unique Farm ID assigned by FSA	
State or territory	State name	
County of residence	County name	
Producer TA received	Type of technical assistance provided to producer	Quarterly
Producer incentive amount	Total financial incentive provided to the producer	Quarterly
Incentive reason	Top 4 reason(s) for financial incentives provided to producer	Quarterly
Incentive structure	Top 4 units on which financial incentives are structured	Quarterly
Incentive type	Top 4 type(s) of financial incentives provided to producer	Quarterly
Payment on enrollment	Extent of payment provided to producer upon enrollment	Quarterly
Payment on implementation	Extent of payment provided to producer upon implementation of CSAF practices	Quarterly
Payment on harvest	Extent of payment provided to producer upon harvest or slaughter	Quarterly
Payment on MMRV	Extent of payment provided to producer upon reporting or verification	Quarterly
Payment on sale	Extent of payment provided to producer upon sale of commodity	Quarterly

Field Summary

These data will be collected about each field enrolled in the project for a commodity x practice(s) combination. In this worksheet, each row will correspond to one field x commodity x practice(s) combination enrolled in the project. Data for each field will be reported quarterly and are not cumulative. Report data for any elements that have an update in that quarter. Greenhouse gas benefit estimates must be entered upon practice completion or annually, as appropriate. If there are no changes from the previous quarter, do not complete this worksheet for that quarter. This worksheet includes a section to report the "official" estimate of GHG benefits – amounts of greenhouse gas emissions reduced and carbon sequestered – for the field. These quantities refer to the estimates that are used to calculate the project's aggregate impact (reported in Table 1). Tables 8 and 9 are used to report alternate estimates of the field-level GHG benefits when additional methods are used to model (Table 8) or measure (Table 9) these impacts. Any field that can use COMET-Planner must submit those results, either as the official or alternate model.

Table 7. Field Summary elements

Data element name	Description	Frequency
Farm ID	Unique Farm ID assigned by FSA	
Tract ID	Unique Tract ID assigned by FSA	
Field ID	Unique Field ID assigned by FSA	
State or territory of field	State name	
County of field	County name	
Commodity type	Type of commodity produced from field	Quarterly
Practice type	Type of practice(s) incentivized in field (up to seven)	Quarterly
Date practice complete	Date that practice implementation is certified complete	Quarterly
Contract end date	End date of contract	Quarterly
MMRV assistance provided	Indicator that MMRV assistance is provided to field	Quarterly
Marketing assistance provided	Indicator that marketing assistance provided for commodity from field	Quarterly
Incentive per acre or head	Indicator that a per acre/head incentives is provided for the CSAF practice(s) on this field	Quarterly
Field commodity value	Value of commodity produced from field	Quarterly
Field commodity volume	Volume of commodity produced from field	Quarterly
Cost of implementation	Total cost of practice implementation in field	Quarterly
Cost coverage	Percent of total cost of implementation of practice covered by project incentives	Quarterly
Field GHG monitoring	Methods used to monitor GHG benefits in field (up to 3)	Quarterly
Field GHG reporting	Methods used to report on GHG benefits for field (up to 3)	Quarterly
Field GHG verification	Methods used to verify GHG benefits for field (up to 3)	Quarterly
Field GHG calculations	Methods used to calculate GHG benefits for field	Quarterly
Field official GHG calculation	Method used to calculate official GHG benefits for field	Quarterly
Field official GHG ER	Official estimate of total GHG emission reductions for field	Quarterly
Field official carbon stock	Official estimate of total carbon sequestration for field	Quarterly
Field official CO2 ER	Official estimate of total CO2 emission reductions for field	Quarterly
Field official CH4 ER	Official estimate of total CH4 emission reductions for field	Quarterly
Field official N2O ER	Official estimate of total N2O emission reductions for field	Quarterly
Field offsets produced	Amount of carbon offsets produced in field	Quarterly
Field insets produced	Amount of carbon insets produced in field	Quarterly
Other field measurements	Indicator that field data was collected for reasons other than GHG benefit estimation	Quarterly

GHG Benefits - Alternate Modeled

If greenhouse gas benefits are modeled for the same field using multiple methods, the results for the alternate models are reported in this worksheet. The "alternate" models refer to those model results that were not used in the calculation of the project's aggregate impact (as reported in Table 1). Any field that can use COMET-Planner must submit those results, either as the official or alternate model. These data will be collected about the modeled GHG benefits for each field x commodity x practice(s) combination. In this worksheet, each row will correspond to one field enrolled in the project. Data are not cumulative. Each quarterly submission should include information for all fields that have new modeled data. Greenhouse gas benefit estimates must be entered upon practice completion or annually, as appropriate.

Table 8. GHG Benefits – Alternate Modeled elements

Data element name	Description	Frequency
Farm ID	Unique Farm ID assigned by FSA	
Tract ID	Unique Tract ID assigned by FSA	
Field ID	Unique Field ID assigned by FSA	
State or territory of field	State name	
County of field	County name	
Commodity type	Type of commodity(ies) produced from the field (up to 6)	Annual
Practice type	Type of practice(s) incentivized in field (up to 7)	Annual
GHG model	Model used to calculate GHG benefits	Annual
Model start date	Start date of model run	Annual
Model end date	End date of model run	Annual
Total GHG benefits estimated	Estimate of total GHG benefits for field	Annual
Total carbon stock estimated	Estimate of total change in carbon stock for field	Annual
Total CO2 estimated	Estimate of total CO2 emission reductions for field	Annual
Total CH4 estimated	Estimate of total CH4 emission reductions for field	Annual
Total N2O estimated	Estimate of total N2O emission reductions for field	Annual

GHG Benefits - Measured

Projects must report the results of any carbon stock or greenhouse gas emission measurements in this worksheet. These data will be collected at the field level. Each row will represent a separate measurement method used to calculate GHG benefits for a given field. Data are reported once per year of measurement and are not cumulative. Each quarterly submission should include information for any field for which there are new soil samples or new calculations of annual GHG benefits based on actual measurements.

Table 9. GHG Benefits - Measured data elements

Data element name	Description	Frequency
Farm ID	Unique Farm ID assigned by FSA	
Tract ID	Unique Tract ID assigned by FSA	
Field ID	Unique Field ID assigned by FSA	
State	State name	
County	County name	
GHG measurement method	Method of measurement	Annual
Lab name	Entity that conducted analysis	Annual
Measurement start date	Start date of measurements	Annual
Measurement end date	End date of measurements	Annual
Total CO2 reduction calculated	Calculation of total CO2 reduction	Annual
Total carbon stock change calculated	Calculation of change in carbon stock	Annual
Total CH4 reduction calculated	Calculation of total CH4 reduction	Annual
Total N2O reduction calculated	Calculation of total N2O reduction	Annual
Soil sample result	Numeric result from soil sample	Annual
Measurement type	Type of analysis conducted	Annual

Additional Environmental Benefits

Projects that track additional environmental benefits (e.g., water quality improvements) from enrolled fields report results in this worksheet. These data will be collected about each field. Each row in this worksheet will correspond to an enrolled field. Data are not cumulative. Estimates of environmental benefits must be entered upon practice completion or annually, as appropriate.

Table 10. Additional Environmental Benefits elements

Data element name	Description	Frequency
Farm ID	Unique Farm ID assigned by FSA	
Tract ID	Unique Tract ID assigned by FSA	
Field ID	Unique Field ID assigned by FSA	
State	State name	
County	County name	
Environmental benefits	Indicator that project tracks other environmental benefits	Annual
Reduction in nitrogen loss	Indicator that project tracks reductions in nitrogen loss	Annual
Amount	Amount	Annual
Purpose	Purpose of tracking those co-benefits	Annual
Reduction in phosphorus loss	Indicator that project tracks reductions in phosphorus loss	Annual
Amount	Amount	Annual
Purpose	Purpose of tracking those co-benefits	Annual
Other water quality	Indicator that project tracks other water quality improvements	Annual
Type	Type of water quality metric being tracked	Annual
Amount	Amount	Annual
Purpose	Purpose of tracking those co-benefits	Annual
Water quantity	Indicator that project tracks reduced water use	Annual
Amount	Amount	Annual
Purpose	Purpose of tracking those co-benefits	Annual
Reduced erosion	Indicator that project tracks reductions in soil erosion	Annual
Amount	Amount	Annual
Purpose	Purpose of tracking those co-benefits	Annual
Reduced energy use	Indicator that project tracks reductions in energy use	Annual
Amount	Amount	Annual
Purpose	Purpose of tracking those co-benefits	Annual
Avoided land conversion	Indicator that project tracks reductions in land conversion	Annual
Amount	Amount	Annual
Purpose	Purpose of tracking those co-benefits	Annual
Improved wildlife habitat	Indicator that project tracks improvements in wildlife habitat	Annual
Amount	Amount	Annual
Purpose	Purpose of tracking those co-benefits	Annual

Supplemental Data Submission

Project MMRV Plan

Definition of MMRV elements:

Measurement: Quantification of the greenhouse gas benefits (reduction or capture) using mathematical models and/or direct physical measurements in the field

Monitoring: Ongoing review and confirmation that the climate-smart practice has been implemented according to the agreed upon standard and documentation of any changes in the site, implementation, or GHG emissions impacts over time

Reporting: Documenting and sharing monitoring and measurement results with project partners, the recipient, and any third-party verification organization

Verification: Independent confirmation that measurement, monitoring and reporting information are complete, accurate and reliable.

Projects must submit an MMRV plan that includes details about how each of the following are addressed:

- Quantification approach, including:
  - GHG models used
  - GHG measurement plan (if applicable)
  - Approach to quantifying additional environmental benefits, if applicable (e.g., water quality, habitat)
- Verification approach:
  - Compliance criteria
  - Verification plan/methodology
- Approach to ensuring:
  - Additionality
  - Permanence
  - Leakage
  - Impacts of weather
- Plan for non-compliance

If the project is using a specific MMRV methodology or approach developed by the recipient, a project partner, or an outside organization, the project can submit documentation associated with the methodology as long as the documentation addresses each of the above categories.

If the project is tracking other environmental benefits (as reported in the *Additional Environmental Benefits* worksheet), include a description of the methodology and tools used to track and report on these benefits.

Field modeled GHG benefit reports

Results from any models besides COMET-Planner used to estimate GHG benefits must also be submitted as a separate report. This includes projects running COMET-Farm. The full results of any model can be submitted in the native/standard format generated by the modeling tool and must include the following Unique IDs in the report or in the file name: State, County, Farm ID, Tract ID, Field ID.

Field direct measurement results

For any direct physical measurements in the field, measurement results must be submitted as a separate report and must include the following Unique IDs in the report or in the file name: State, County, Farm ID, Tract ID, Field ID. Measurement results reports must include the name of the equipment used for sampling or data collection, the name of the lab that analyzed the data, and the analytical method used.

Sample report types include soil analysis reports, summarized results of portable emissions analyzers or flux towers, water quality analyses, and plant species counts. These could be collected for the purposes of determining GHG emission reductions or carbon sequestration amounts, for calibration of tools or models, for tracking other environmental benefits, or for other reasons.

Data Descriptions

This section provides descriptions and allowable response options for each data element. The guide also indicates whether each data element is required, applicable at times, or optional; as well as how frequently each data element must be updated.

Unique IDs

Project ID: Unique ID at the project level – "Award Identifying Number" shown on award documentation
Partner ID: Unique ID at the partner level – use EIN; if no EIN, a unique ID will be assigned for use in these reports
State or territory of operation: State or territory name
County of operation: Physical county name
Farm ID: Unique ID at the operation level assigned by Farm Service Agency (FSA)
Tract ID: Unique ID at the tract level assigned by FSA
Field ID: Unique ID at the field level assigned by FSA

Project Summary

Commodity type	
Data element name: Commodity type	**Reporting question:** What climate-smart commodity types are produced by this project?
Description: Type of commodity incentivized by the project. These commodities include those for whom farmers are directly receiving incentives or other types of marketing support. See full list of commodity options in Appendix B. List one commodity per row.	
Data type: List	**Select multiple values**: No
Measurement unit: Category	**Allowed values:** FSA commodity list
Logic: None – all respond	**Required:** Yes
Data collection level: Project	**Data collection frequency:** Quarterly
Commodity sales	
Data element name: Commodity sales	**Reporting question:** Did project activities result in sales this quarter of the commodity(ies) produced by this project?
Description: Indicator of sales of commodity(ies) related to project activities. If sales are reported, complete the *Marketing Activities* worksheet (Table 3) as part of the quarterly performance report.	
Data type: List	**Select multiple values**: No
Measurement unit: Category	**Allowed values:** • Yes • No
Logic: None – all respond	**Required:** Yes
Data collection level: Project	**Data collection frequency:** Quarterly
Farms enrolled	
Data element name: Farms enrolled	**Reporting question:** Did the project enroll any producers or fields this quarter?
Description: Indicator that the project enrolled producers or fields. If enrollment activities occurred this quarter, complete the *Producer Enrollment* and *Field Enrollment* worksheets (Tables 4 and 5) as part of the quarterly performance report.	
Data type: List	**Select multiple values**: No
Measurement unit: Category	**Allowed values:** • Yes • No
Logic: None – all respond	**Required:** Yes
Data collection level: Project	**Data collection frequency:** Quarterly
GHG calculation methods	
Data element name: GHG calculation methods	**Reporting question:** What methods is the project using to calculate GHG benefits?
Description: List the way(s) that GHG benefits are being measured and calculated by the project this quarter.	
Data type: List	**Select multiple values**: No
Measurement unit: Category	**Allowed values:** • Models • Direct field measurements • Both
Logic: None – all respond	**Required:** Yes
Data collection level: Project	**Data collection frequency:** Quarterly

GHG cumulative calculation

Data element name: GHG cumulative calculation

Reporting question: What method(s) was used to calculate the total cumulative GHG benefits reported here?

Description: List the method(s) that was used to calculate the total cumulative GHG benefits reported by the project this quarter.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:
- Models
- Direct field measurements
- Both

Logic: None – all respond

Required: Yes

Data collection level: Project

Data collection frequency: Quarterly

Cumulative GHG benefits

Data element name: Cumulative GHG benefits

Reporting question: What are the project's estimated total GHG emission reductions (CO2eq) to date?

Description: Total cumulative estimated greenhouse gas emission reductions from practice implementation. This is updated quarterly. If there are no changes, enter the same number as the previous quarter.

Data type: Decimal

Select multiple values: No

Measurement unit: Metric tons CO_2eq

Allowed values: 0-10,000,000

Logic: None – all respond

Required: Yes

Data collection level: Project

Data collection frequency: Quarterly

Cumulative carbon stock

Data element name: Cumulative carbon stock

Reporting question: How much carbon has the project sequestered to date?

Description: Estimated total cumulative change in carbon stock based on practice implementation. This is updated quarterly. If there are no changes, enter the same numbers as the previous quarter. Conversion rate is one ton of carbon = 3.67 tons of CO_2eq.

Data type: Decimal

Select multiple values: No

Measurement unit: Metric tons CO_2eq

Allowed values: 0-10,000,000

Logic: None – all respond

Required: Yes

Data collection level: Project

Data collection frequency: Quarterly

Cumulative CO2 benefit

Data element name: Cumulative CO2 benefit

Reporting question: What are the project's estimated total cumulative CO2 emission reductions to date?

Description: Estimated total cumulative carbon dioxide emission reductions based on practice implementation. This is updated quarterly. If there are no changes, enter the same number as the previous quarter.

Data type: Decimal

Select multiple values: No

Measurement unit: Metric tons CO_2

Allowed values: 0-10,000,000

Logic: None – all respond

Required: Yes

Data collection level: Project

Data collection frequency: Quarterly

Cumulative CH4 benefit

Data element name: Cumulative CH4 benefit

Reporting question: What are the project's estimated total CH4 emission reductions to date?

Description: Estimated total cumulative methane reduction based on practice implementation. This is updated quarterly. If there are no changes, enter the same numbers as the previous quarter. Conversion rate is one ton of CH_4 = 25 tons of CO_2eq.

Data type: Decimal

Select multiple values: No

Measurement unit: Metric tons CH4 reduced in CO_2eq

Allowed values: 0-10,000,000

Logic: None – all respond

Required: Yes

Data collection level: Project

Data collection frequency: Quarterly

Cumulative N20 benefit

Data element name: Cumulative N2O benefit

Reporting question: What are the project's estimated total N2O emission reductions to date?

Description: Estimated total cumulative nitrous oxide reduction based on practice implementation. This is updated quarterly. If there are no updated numbers enter the same number as the previous quarter. Conversion rate is one ton of N_2O = 298 tons of CO_2eq.

Data type: Decimal

Select multiple values: No

Measurement unit: Metric tons N2O reduced in CO_2eq

Allowed values: 0-10,000,000

Logic: None – all respond

Required: Yes

Data collection level: Project

Data collection frequency: Quarterly

Offsets produced

Data element name: Offsets produced

Reporting question: How many carbon offsets have been produced in the project?

Description: Total carbon offsets produced by enrolled project fields during the quarter. Offsets are defined as having been verified and certified using an accepted standard and sold into the carbon marketplace.

Data type: Decimal

Select multiple values: No

Measurement unit: Metric tons CO_2eq

Allowed values: 0-10,000,000

Logic: None – all respond

Required: Yes

Data collection level: Project

Data collection frequency: Quarterly

Offsets sale

Data element name: Offsets sale

Reporting question: To what marketplace(s) were carbon offsets sold?

Description: Marketplaces to which carbon offsets produced by enrolled project fields were sold. Offsets are defined as having been verified and certified using an accepted standard and sold into the carbon marketplace. List each marketplace name. Separate names with commas.

Data type: Text

Select multiple values: NA

Measurement unit: Name

Allowed values: Text

Logic: Respond if >0 to 'Offsets produced'

Required: Yes

Data collection level: Project

Data collection frequency: Quarterly

Offsets price

Data element name: Offsets price

Reporting question: What was the average price of carbon received for offsets?

Description: Average price per metric ton paid for carbon offsets produced by enrolled project fields. Offsets are defined as having been verified and certified using an accepted standard and sold into the carbon marketplace.

Data type: Decimal

Select multiple values: No

Measurement unit: Dollars per metric ton

Allowed values: 0-500

Logic: Respond if >0 to 'Offsets produced'

Required: Yes

Data collection level: Project

Data collection frequency: Quarterly

Insets produced

Data element name: Insets produced

Reporting question: How many carbon insets have been produced in the project?

Description: Total carbon insets produced by enrolled fields during the quarter. Insets are defined as having been verified and certified using an accepted standard and accounted for within Scope 3 emissions for a firm.

Data type: Decimal

Select multiple values: No

Measurement unit: Metric tons CO_2eq

Allowed values: 0-10,000,000

Logic: None – all respond

Required: Yes

Data collection level: Project

Data collection frequency: Quarterly

Cost of on-farm TA

Data element name: Cost of on-farm TA

Reporting question: What is the total amount that has been spent to provide on-farm TA?

Description: Total cost of any field- or practice-specific technical assistance provided by the project (by recipient or partners) to any producers. This is updated quarterly. If there are no changes, enter the same number as the previous quarter.

Data type: Decimal

Select multiple values: No

Measurement unit: Dollars

Allowed values: $0-$50,000,000

Logic: None – all respond

Required: Yes

Data collection level: Project

Data collection frequency: Quarterly

MMRV cost

Data element name: MMRV cost

Reporting question: What is the total amount that has been spent on MMRV activities?

Description: Total cost of all MMRV activities paid for by the project (recipient or partners). MMRV components are defined as measurement (calculations or estimations of GHG emissions), monitoring (ongoing review and confirmation that the climate-smart practices have been implemented according to the agreed upon standard and documentation of any changes in the site, implementation, or GHG emissions impacts over time), reporting (documenting and sharing monitoring and measurement results with project partners, the recipient, and any third-party verification organization), and verification (independent confirmation that measurement, monitoring and reporting information are complete, accurate and reliable). This is updated quarterly. If there are no changes, enter the same number as the previous quarter.

Data type: Decimal

Select multiple values: No

Measurement unit: Dollars

Allowed values: $0-$50,000,000

Logic: None – all respond

Required: Yes

Data collection level: Project

Data collection frequency: Quarterly

GHG monitoring method

Data element name: GHG monitoring 1-5

Reporting question: How did the project monitor GHG benefits?

Description: Up to the five most common forms of monitoring GHG benefits used this quarter as part of MMRV requirements. Monitoring is defined as ongoing review and confirmation that the climate-smart practice has been implemented according to the agreed upon standard and documentation of any changes in the site, implementation, or GHG emissions impacts over time. Include up to 5 methods, based on which methods are most commonly used for this project. The worksheet provides five columns with a drop-down list of the allowed values. Choose one value for each column. If fewer than 5 GHG monitoring methods are used, leave unnecessary columns blank. If "other" is chosen, use the additional column to enter other GHG monitoring methods as free text.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Drones
- Ground-level photos and videos
- On-farm visit
- Plot-based sampling
- Producer records or attestation
- Satellite monitoring or remote sensing
- Soil metagenomics
- Soil sensors
- Water sensors
- Other (specify)

Logic: None – all respond

Required: Yes

Data collection level: Project

Data collection frequency: Quarterly

GHG reporting method

Data element name: GHG reporting 1-5

Reporting question: How did the project track and report implementation of practices to reduce GHG emissions?

Description: Up to the five most common forms of tracking and reporting on practice implementation used this year as part of MMRV requirements. Reporting is defined as documenting and sharing monitoring and measurement results with project partners, the recipient, and any third-party verification organization. Include up to 5 methods, based on which methods are most commonly used for this project. The worksheet provides five columns with a drop-down list of the allowed values. Choose one value for each column. If fewer than 5 GHG reporting methods are used, leave unnecessary columns blank. If "other" is chosen, use the additional column to enter other GHG reporting methods as free text.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Automated devices
- Email
- Mobile app
- Paper
- Third-party actors
- Website
- Other (specify)

Logic: None – all respond

Required: Yes

Data collection level: Project

Data collection frequency: Quarterly

GHG verification method

Data element name: GHG verification method 1-5

Reporting question: How did the project verify implementation of practices to reduce GHG emissions?

Description: Up to the five most common forms of verifying practice implementation used this year as part of MMRV requirements. Verification is defined as independent confirmation that measurement, monitoring and reporting information are complete, accurate and reliable. Include up to 5 methods, based on which methods are most commonly used for this project. The worksheet provides five columns with a drop-down list of the allowed values. Choose one value for each column. If fewer than 5 GHG verification methods are used, leave unnecessary columns blank. If "other" is chosen, use the additional column to enter other GHG verification methods as free text.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Artificial intelligence
- Audit by recipient
- Computer modeling
- Photos
- Record audit
- Satellite imagery
- Site or field visit
- Third-party audit
- Other (specify)

Logic: None – all respond

Required: Yes

Data collection level: Project

Data collection frequency: Quarterly

Partner Activities

Unique IDs	
Partner ID	Unique Project ID for each partner

Partner name	
Data element name: Name of partner organization	**Reporting question:** What is the official name of the recipient or partner organization?
Description: Legal name of recipient or partner organization	
Data type: Text	**Select multiple values**: NA
Measurement unit: NA	**Allowed values:** Text
Logic: None – all respond	**Required:** Yes
Data collection level: Partner	**Data collection frequency:** Partnership initiation

Partner type	
Data element name: Type of partner organization	**Reporting question:** What type of organization is this?
Description: Legal/financial structure of recipient or partner organization	
Data type: List	**Select multiple values**: No
Measurement unit: Category	**Allowed values:** • Commodity groups (501c5) • For-profit • Individual • Nonprofit • State or local agency • Tribal agency • University
Logic: None – all respond	**Required:** Yes
Data collection level: Partner	**Data collection frequency:** Partnership initiation

Partner POC	
Data element name: Partner POC	**Reporting question:** Who is the point of contact for this project at the recipient or partner organization?
Description: Name of a point of contact for the recipient or partner organization	
Data type: Text	**Select multiple values**: NA
Measurement unit: NA	**Allowed values:** Text
Logic: None – all respond	**Required:** Yes
Data collection level: Partner	**Data collection frequency:** Partnership initiation; update as necessary

Partner POC email	
Data element name: Partner POC email	**Reporting question:** What is the point of contact's email address?
Description: Email of the point of contact for the recipient or partner organization	
Data type: Text	**Select multiple values**: NA
Measurement unit: NA	**Allowed values:** Text
Logic: None – all respond	**Required:** Yes
Data collection level: Partner	**Data collection frequency:** Partnership initiation; update as necessary

Partnership start date

Data element name: Partnership start date
Reporting question: When did the partnership start?
Description: Date that the partner organization and the recipient began formally partnering on the project
Data type: Date
Select multiple values: NA
Measurement unit: MM/DD/YYYY
Allowed values: 01/01/2023 – 12/31/2030
Logic: No response for recipient
Required: Yes
Data collection level: Partner
Data collection frequency: Partnership initiation

Partnership end date

Data element name: Partnership end date
Reporting question: When did the partnership end?
Description: Date that the partner organization and the recipient stopped formally partnering on the project
Data type: Date
Select multiple values: NA
Measurement unit: MM/DD/YYYY
Allowed values: 01/01/2023 – 12/31/2030
Logic: No response for recipient
Required: Yes
Data collection level: Partner
Data collection frequency: Partnership end quarter

New partnership

Data element name: New partnership
Reporting question: Is this a new partnership?
Description: A new partnership means that the recipient and the partner organization have not had a formal working relationship (under contract or on a grant) prior to the start of the project.
Data type: List
Select multiple values: No
Measurement unit: Category
Allowed values:
- Yes
- No
- I don't know

Logic: No response for recipient
Required: Yes
Data collection level: Partner
Data collection frequency: Partnership initiation

Partner total requested

Data element name: Partner total requested
Reporting question: What is the total amount of funding the partner has requested to date from this project?
Description: Cumulative (total) amount of funds that the partner has requested reimbursement for from the recipient from the start of the partnership to the end of the reporting quarter. For each quarter's data entry, the value must be the sum of all previous entries plus the amount of funds requested in the reporting quarter. If there are no changes, report the value from the previous quarter.
Data type: Decimal
Select multiple values: NA
Measurement unit: Dollars
Allowed values: $0-$100,000,000
Logic: No response for recipient
Required: Yes
Data collection level: Partner
Data collection frequency: Quarterly

Total match contribution

Data element name: Total match contribution

Reporting question: What is the total match value the organization has contributed to the project to date?

Description: Cumulative (total) value of funds and in-kind contributions (e.g., staff time, inputs, equipment rental, marketing support) that the partner has provided as a project match contribution from the start of the partnership to the end of the reporting quarter. For each quarter's data entry, the value must be the sum of all previous entries plus match contributions in the reporting quarter. If there are no changes, report the value from the previous quarter.

Data type: Decimal

Select multiple values: NA

Measurement unit: Dollars

Allowed values: $0-$100,000,000

Logic: None – all respond

Required: Yes

Data collection level: Partner

Data collection frequency: Quarterly

Total match incentives

Data element name: Total match incentives

Reporting question: What is the total value of match provided by this organization for producer incentives?

Description: Cumulative (total) value of funds for incentive payments directly to producers that the partner has provided as a project match contribution from the start of the partnership to the end of the reporting quarter. For each quarter's data entry, the value must be the sum of all previous entries plus match incentives in the reporting quarter. If there are no changes, report the value from the previous quarter.

Data type: Decimal

Select multiple values: NA

Measurement unit: Dollars

Allowed values: $0-$100,000,000

Logic: None – all respond

Required: Yes

Data collection level: Partner

Data collection frequency: Quarterly

Match type

Data element name: Match type 1-3

Reporting question: What types of match contributions has the organization provided to the project?

Description: Types of match contributions *other than incentives* provided directly to producers by the organization from the start of the partnership to the end of the reporting quarter. Enter up to the top three (in dollar value) types of match contributions provided. In-kind staff time could be used for technical assistance, marketing assistance, or other support to producers. Production inputs include seed, fertilizer, pesticides, equipment and other inputs for use in the field. The worksheet provides three columns with a drop-down list of the allowed values. Choose one value for each column. If fewer than 3 match types are used, leave unnecessary columns blank. If "other" is chosen, use the additional column to enter other match types as free text.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Equipment rental or use
- In-kind staff time
- Production inputs (reduced cost or free)
- Program income
- Software
- Other (specify)

Logic: None – all respond

Required: Yes

Data collection level: Partner

Data collection frequency: Quarterly

Match amount

Data element name: Match amount 1-3

Reporting question: What is the value of the match contributions the organization provided to the project?

Description: Cumulative (total) value of funds for each match type that the organization has provided as a project match contribution from the start of the partnership to the end of the reporting quarter. Enter amounts for up to the top three (in dollar value) match types. The worksheet provides three columns for this data element. Enter one value for each column. If fewer than 3 match types are used, leave unnecessary columns blank.

Data type: Decimal

Select multiple values: NA

Measurement unit: Dollars

Allowed values: $0-$100,000,000

Logic: None – all respond

Required: Yes

Data collection level: Partner

Data collection frequency: Quarterly

Training type provided

Data element name: Training type 1-3 provided

Reporting question: What types of training has the organization provided to project partners?

Description: Types of training provided to the project partner as a result of participating in the project during the past quarter. Training can come from the recipient, a project partner organization (including other divisions of their own organization, or an outside organization. Enter up to the top three (in dollar value) types of partner training provided. The worksheet provides three columns with a drop-down list of the allowed values. Choose one value for each column. If fewer than 3 training types are used, leave unnecessary columns blank. If "other" is chosen, use the additional column to enter other training types as free text.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Data collection
- Grant reporting
- Marketing opportunities
- Providing financial assistance
- Providing technical assistance
- Writing producer contracts
- Other (specify)

Logic: None – all respond

Required: Yes

Data collection level: Partner

Data collection frequency: Quarterly

Activity by partner

Data element name: Activity 1-3 by partner

Reporting question: What types of activities has the organization provided to the project?

Description: Types of activities that the recipient or partner organization has provided during the reporting quarter. Enter up to the top three (in dollar value) types of activities undertaken. The worksheet provides three columns with a drop-down list of the allowed values. Choose one value for each column. If fewer than 3 activity types are used, leave unnecessary columns blank. If "other" is chosen, use the additional column to enter other activity types as free text.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Marketing support
- MMRV support
- Producer outreach for enrollment
- Technical assistance to producers
- Training to other partner organizations
- Other (specify)

Logic: None – all respond

Required: Yes

Data collection level: Partner

Data collection frequency: Quarterly

Activity cost

Data element name: Activity cost 1-3	**Reporting question:** What is the value of the activities this organization has provided to the project?
Description: Cumulative (total) cost of each activity type that the organization has undertaken or offered from the start of the partnership to the end of the reporting quarter. Enter amounts for up to the top three (in dollar value) activity types. The worksheet provides three columns for this data element. Enter one value for each column. If fewer than 3 activity types are provided, leave unnecessary columns blank.	
Data type: Decimal	**Select multiple values**: NA
Measurement unit: Dollars	**Allowed values:** $0-$100,000,000
Logic: None – all respond	**Required:** Yes
Data collection level: Partner	**Data collection frequency:** Quarterly

Products supplied

Data element name: Products supplied	**Reporting question:** What products or supplies were provided to enrolled fields?
Description: Name(s) of products supplied to enrolled producers as incentives or matching contributions. Enter the name of each product, including its brand. Separate each product name with a comma. If no products or supplies were provided by the organization, leave the column blank.	
Data type: Text	**Select multiple values**: NA
Measurement unit: Name	**Allowed values:** Text
Logic: None – all respond	**Required:** Yes
Data collection level: Partner	**Data collection frequency:** Quarterly

Product source

Data element name: Product source	**Reporting question:** Which companies provided the supplies?
Description: Name of firm or company from which supplies were obtained.	
Data type: Text	**Select multiple values**: NA
Measurement unit: Name	**Allowed values:** Text
Logic: Respond if text entered for 'Products supplied'	**Required:** Yes
Data collection level: Partner	**Data collection frequency:** Quarterly

Marketing Activities

Commodity type

Data element name: Commodity type

Reporting question: What type of commodity is produced by the farmers enrolled in this project?

Description: List a single commodity produced or marketed through incentives from this project. If multiple commodities are produced by the project, use additional rows of the worksheet to report each commodity. Use the FSA commodity list in Appendix B and choose the commodity from the list.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values: FSA commodity list

Logic: None – all respond

Required: Yes

Data collection level: Project

Data collection frequency: Quarterly

Marketing channel type

Data element name: Marketing channel type

Reporting question: What type of marketing channel is used to sell this commodity?

Description: List a single type of marketing channel used to sell the commodity produced by farmers enrolled in the project. If a single commodity is marketed through multiple channels, use additional rows of the worksheet to report each combination of commodity and marketing channel. If "other" is chosen, use the additional column to enter the other marketing channel type(s) as free text.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Agricultural marketing board
- Biorefinery
- Commodity broker
- Direct to consumer
- Direct to institution
- Direct to restaurant
- Distributor (including grain elevators)
- Food hub or cooperative
- Food processor
- Non-food byproducts processor
- Retailer
- USDA
- Other (specify)

Logic: None – all respond

Required: Yes

Data collection level: Project

Data collection frequency: Quarterly

Number of buyers

Data element name: Number of buyers

Reporting question: How many buyers are there in this marketing channel?

Description: List the number of individual firms or buyers in this marketing channel.

Data type: Integer

Select multiple values: No

Measurement unit: Count

Allowed values: 1-500

Logic: None – all respond

Required: Yes

Data collection level: Project

Data collection frequency: Quarterly

Names of buyers

Data element name: Names of buyers	**Reporting question:** What are the names of all of the buyers in this marketing channel?
Description: Provide the names of all buyers in this marketing channel. Separate each name with a comma.	
Data type: Text	**Select multiple values**: NA
Measurement unit: Name	**Allowed values:** Text
Logic: None – all respond	**Required:** Yes
Data collection level: Project	**Data collection frequency:** Quarterly

Marketing channel geography

Data element name: Marketing channel geography	**Reporting question:** What is the primary geography of the marketing channel?
Description: The primary geography of the type of marketing channel. Primary geography means the scale at which most of the activity of buying and selling happens. Local means within a single state or directly neighboring states. Regional means within a five-to-ten state area. National means across the United States. International means specific locations outside of the United States. Global means across the world or not to a specific international location.	
Data type: List	**Select multiple values**: No
Measurement unit: Category	**Allowed values:** • Local • Regional • National • Global
Logic: None – all respond	**Required:** Yes
Data collection level: Project	**Data collection frequency:** Quarterly

Value sold

Data element name: Value sold	**Reporting question:** What is the value of the commodity sold in this marketing channel?
Description: The dollar value of the commodity sold in this marketing channel this quarter (non-cumulative).	
Data type: Decimal	**Select multiple values**: No
Measurement unit: Dollars	**Allowed values:** $1-$100,000,000
Logic: None – all respond	**Required:** Yes
Data collection level: Project	**Data collection frequency:** Quarterly

Volume sold

Data element name: Volume sold	**Reporting question:** What is the volume of the commodity sold in this marketing channel?
Description: The volume of the commodity sold in this marketing channel this quarter (non-cumulative).	
Data type: Decimal	**Select multiple values**: No
Measurement unit: Number	**Allowed values:** 1-100,000,000
Logic: None – all respond	**Required:** Yes
Data collection level: Project	**Data collection frequency:** Quarterly

Volume sold unit

Data element name: Volume sold unit **Reporting question:** What is the unit of volume?

Description: The unit associated with the volume of the commodity sold in the marketing channel. If "other" is chosen, use the additional column to enter the appropriate unit as free text.

Data type: List **Select multiple values**: No

Measurement unit: Category **Allowed values:**

- Bales (500 pounds)
- Bushels
- Carcass pounds
- Gallons
- Kilograms
- Linear board feet
- Liveweight pounds
- Metric tons
- Pounds
- Short tons
- Other (specify)

Logic: None – all respond **Required:** Yes

Data collection level: Project **Data collection frequency:** Quarterly

Price premium

Data element name: Price premium **Reporting question:** What price premium is received for the commodity sold in this marketing channel?

Description: The price premium received for the commodity sold in this marketing channel this quarter. Price premium is the amount received above a 'business as usual' price.

Data type: Decimal **Select multiple values**: No

Measurement unit: Dollars **Allowed values:** $0.01-$10,000

Logic: None – all respond **Required:** Yes

Data collection level: Project **Data collection frequency:** Quarterly

Price premium unit

Data element name: Price premium unit **Reporting question:** What is the unit for the price premium?

Description: The unit associated with the price premium for the commodity sold in the marketing channel. If "other" is chosen, use the additional column to enter the appropriate unit as free text.

Data type: List **Select multiple values**: No

Measurement unit: Category **Allowed values:**

- Per bale (500 pounds)
- Per bushel
- Per carcass pound
- Per gallon
- Per kilogram
- Per linear board foot
- Per live pound
- Per metric ton
- Per ounce
- Per short ton
- Other (specify)

Logic: None – all respond **Required:** Yes

Data collection level: Project **Data collection frequency:** Quarterly

Price premium to producer

Data element name: Price premium to producer

Reporting question: What percent of the price premium is provided to the producer for the commodity sold in this marketing channel?

Description: The percent of the price premium provided to the producer for the commodity sold in this marketing channel this quarter. Price premium is the amount received above a 'business as usual' price.

Data type: Decimal

Select multiple values: No

Measurement unit: Percent

Allowed values: 0-100

Logic: None – all respond

Required: Yes

Data collection level: Project

Data collection frequency: Quarterly

Product differentiation method

Data element name: Product differentiation method 1-3

Reporting question: What methods are used to differentiate climate-smart commodities in this marketing channel?

Description: Provide the methods used to differentiate the climate-smart commodity in this market channel. Product differentiation methods are ways to distinguish or differentiate the climate-smart commodity in the marketplace. Include up to 3 methods, based on which methods are most commonly used for this project. The worksheet provides three columns with a drop-down list of the allowed values. Choose one value for each column. If fewer than 3 product differentiation methods are used, leave unnecessary columns blank. If "other" is chosen, use the additional column to enter other product differentiation methods as free text.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Certification/verification for internal insetting
- Farm certification
- Label or badge used on packaging or marketing
- Third party certification/verification
- Trademark
- Other (specify)

Logic: None – all respond

Required: Yes

Data collection level: Project

Data collection frequency: Quarterly

Marketing method

Data element name: Marketing method 1-3

Reporting question: What methods are used to market climate-smart commodities in this marketing channel?

Description: Provide the method(s) used to market this commodity in this market channel. Marketing method is the way that potential buyers of the climate-smart commodity are engaged by the project partners as the sellers or facilitators of sale. Include up to 3 methods, based on which methods are most commonly used for this project. The worksheet provides three columns with a drop-down list of the allowed values. Choose one value for each column. If fewer than 3 marketing methods are used, leave unnecessary columns blank. If "other" is chosen, use the additional column to enter other marketing methods as free text

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Label or badge used on packaging or marketing materials
- Marketing partnership (e.g., promotion by buyer)
- Print marketing campaign
- Social media and digital marketing campaign
- Verbal marketing campaign (e.g., radio, word of mouth)
- Other (specify)

Logic: None – all respond

Required: Yes

Data collection level: Project

Data collection frequency: Quarterly

Marketing channel identification method

Data element name: Marketing channel identification method 1-3

Reporting question: What methods are used to generate interest in climate-smart commodities in this marketing channel?

Description: Provide the marketing channel identification method(s) used for this commodity in this market channel. Market channel identification methods are the ways that producers and project partners generate interest in purchasing the climate-smart commodity. Include up to 3 methods, based on which methods are most commonly used for this project. The worksheet provides three columns with a drop-down list of the allowed values. Choose one value for each column. If fewer than 3 marketing channel identification methods are used, leave unnecessary columns blank. If "other" is chosen, use the additional column to enter other marketing channel identification methods as free text

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Educational tours for buyers
- In-person lead generation
- Negotiated contracts with buyers
- Partnership network or project partner
- Other (specify)

Logic: None – all respond

Required: Yes

Data collection level: Project

Data collection frequency: Quarterly

Traceability method

Data element name: Traceability method 1-3

Reporting question: What traceability methods are used for climate-smart commodities in this channel?

Description: Provide the traceability method(s) used for the climate-smart commodity in this market channel. Traceability methods are ways to trace the climate-smart commodity or the climate-smart claims through the supply chain. Include up to 3 methods, based on which methods are most commonly used for this project. The worksheet provides three columns with a drop-down list of the allowed values. Choose one value for each column. If fewer than 3 traceability methods are used, leave unnecessary columns blank. If "other" is chosen, use the additional column to enter other traceability methods as free text.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Barcode or unique ID
- Blockchain
- Book and claim
- Chain of custody
- Mass balance
- Recordkeeping
- Registry with certification
- Segregation
- Supply shed
- Volume proxy
- Other (specify)

Logic: None – all respond

Required: Yes

Data collection level: Project

Data collection frequency: Quarterly

Producer Enrollment

Unique IDs	
Farm ID	Unique Farm ID assigned by FSA
State or territory	State name (must match FSA farm enrollment data)
County of residence	County name (must match FSA farm enrollment data)

Producer data change

Data element name: Producer data change

Reporting question: Is there new/updated information for a producer who is re-enrolling in the project?

Description: Indicates that there is new or updated information for a producer who had previously enrolled in the project and is re-enrolling.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:
- Yes
- No

Logic: None – all respond

Required: Yes

Data collection level: Producer

Data collection frequency: Re-enrollment

Producer start date

Data element name: Producer start date

Reporting question: When did the producer enroll in the project?

Description: Date that the producer enrolled in the project by signing their first contract.

Data type: Date

Select multiple values: NA

Measurement unit: MM/DD/YYYY

Allowed values: 01/01/2023 – 12/31/2030

Logic: None – all respond

Required: Yes

Data collection level: Producer

Data collection frequency: Initial enrollment

Producer name

Data element name: Producer name

Reporting question: What is the name of producer enrolled in the project?

Description: Name of the producer enrolled in the project; the name must match the name contained in the customer's Business Partner record and the Farm Operating Plan in FSA Business File for that Farm ID.

Data type: Text

Select multiple values: NA

Measurement unit: NA

Allowed values: Text

Logic: None – all respond

Required: Yes

Data collection level: Producer

Data collection frequency: Initial enrollment

Underserved status

Data element name: Underserved status

Reporting question: Is this producer considered an underserved and/or a small producer?

Description: Underserved status of the primary operator of the enrolled operation. Underserved producers generally include beginning farmers, socially disadvantaged farmers, veteran farmers, and limited resource farmers; women farmers and producers growing specialty crops are generally also included in these categories. Small farms are generally those with less than $350,000 in annual gross cash farm income. Indicate whether this producer is considered underserved, a small producer, or both underserved and a small producer. Use "I don't know" if the producer declines to answer. Departmental Regulation 4370-001 provides USDA's policies for collecting demographic data, including race, ethnicity and gender. Providing demographic information is voluntary and at the discretion of the customer. Demographic information is used by USDA for statistical purposes only and will not be used to determine an applicant's eligibility for programs or services for which they apply.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Yes, underserved
- Yes, small producer
- Yes, underserved and small producer
- No
- I don't know

Logic: None – all respond

Required: No

Data collection level: Producer

Data collection frequency: Initial enrollment

Total area

Data element name: Total area

Reporting question: What is the total area of the farm?

Description: Total area of the farm associated with the Farm ID. Report total area of the farm, even if only a portion of the farm is enrolled in the project. If a producer is enrolled in the project for multiple years, review the total area each time a new contract is signed and provide any necessary updates.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Less than 1 acre
- 1 to 9 acres
- 10 to 49 acres
- 50 to 69 acres
- 70 to 99 acres
- 100 to 139 acres
- 140 to 179 acres
- 180 to 219 acres
- 220 to 259 acres
- 260 to 499 acres
- 500 to 999 acres
- 1,000 to 1,999 acres
- 2,000 to 4,999 acres
- 5,000 or more acres

Logic: None – all respond

Required: Yes

Data collection level: Producer

Data collection frequency: Initial enrollment and subsequent enrollment(s), if applicable

Total crop area

Data element name: Total crop area	**Reporting question:** What percent of the current operation is cropland?
Description: Area of the total farm that is currently used as cropland. If a producer is enrolled in the project for multiple years, review the total crop area each time a new contract is signed and provide any necessary updates.	
Data type: Integer	**Select multiple values:** No
Measurement unit: Acres	**Allowed values:** 0-100,000
Logic: None – all respond	**Required:** Yes
Data collection level: Producer	**Data collection frequency:** Initial enrollment and subsequent enrollment(s), if applicable

Total livestock area

Data element name: Total livestock area	**Reporting question:** What amount of the current operation is used for livestock (by area)?
Description: Area of the total farm that is currently used for pasture, grazing, rangeland; or animal housing, feeding or milking. If a producer is enrolled in the project for multiple years, review the total livestock area each time a new contract is signed and provide any necessary updates.	
Data type: Integer	**Select multiple values:** No
Measurement unit: Acres	**Allowed values:** 0-100,000
Logic: None – all respond	**Required:** Yes
Data collection level: Producer	**Data collection frequency:** Initial enrollment and subsequent enrollment(s), if applicable

Total forest area

Data element name: Total forest area	**Reporting question:** What amount of the current operation is forested (by area)?
Description: Area of the total farm that is currently considered forest land use. Forest land use means that at least 10% of the land area is covered in trees that will be at least 13 feet tall when mature. If a producer is enrolled in the project for multiple years, review the total forest area each time a new contract is signed and provide any necessary updates.	
Data type: Integer	**Select multiple values:** No
Measurement unit: Acres	**Allowed values:** 0-100,000
Logic: None – all respond	**Required:** Yes
Data collection level: Producer	**Data collection frequency:** Initial enrollment and subsequent enrollment(s), if applicable

Livestock type

Data element name: Livestock type 1-3

Reporting question: What types of livestock are raised on the farm?

Description: Up to top three types of livestock (by head count) on the farm. The worksheet provides three columns with a drop-down list of the allowed values. Choose one value for each column. If there are fewer than 3 livestock types, leave unnecessary columns blank. If "other" is chosen, use the additional column to enter other livestock types as free text. If a producer is enrolled in the project for multiple years, review the livestock type each time a new contract is signed and provide any necessary updates.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Alpacas
- Beef cows
- Beefalo
- Buffalo or bison
- Chickens (broilers)
- Chickens (layers)
- Dairy cows
- Deer
- Ducks
- Elk
- Emus
- Equine
- Geese
- Goats
- Honeybees
- Llamas
- Reindeer
- Sheep
- Swine
- Turkeys
- Other (specify)

Logic: Respond if 'Total livestock area' >0

Required: Yes

Data collection level: Producer

Data collection frequency: Initial enrollment and subsequent enrollment(s), if applicable

Livestock head

Data element name: Livestock head 1-3

Reporting question: How many livestock (by type) are on this operation?

Description: Average annual head count for each type of livestock. Enter amounts for up to the top three livestock types by number. The worksheet provides three columns for this data element. Enter one value for each column. If there are fewer than 3 livestock types, leave unnecessary columns blank. If a producer is enrolled in the project for multiple years, review the average annual head count each time a new contract is signed and provide any necessary updates.

Data type: Integer

Select multiple values: NA

Measurement unit: Head count

Allowed values: 1-10,000,000

Logic: Respond if 'Total livestock area' >0

Required: Yes

Data collection level: Producer

Data collection frequency: Initial enrollment and subsequent enrollment(s), if applicable

Organic farm

Data element name: Organic farm

Reporting question: Is any part of the farm currently USDA-certified organic or transitioning to USDA-certified organic?

Description: USDA-certified organic means that the farm has been certified by an accredited organic certifying agent or is transitioning to USDA-certified organic by not using any of the prohibited substances. Yes means that some or all of the farm is certified organic or transitioning to certified organic. No means that no part of the farm is certified organic or transitioning to certified organic. If a producer is enrolled in the project for multiple years, review the organic certification status of the farm each time a new contract is signed and provide any necessary updates.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Yes
- No
- I don't know

Logic: None – all respond

Required: No

Data collection level: Producer

Data collection frequency: Initial enrollment and subsequent enrollment(s), if applicable

Organic fields

Data element name: Organic fields

Reporting question: Are any of the fields enrolled in the project currently USDA-certified organic or transitioning to USDA-certified organic?

Description: USDA-certified organic means that the operation has been certified by an accredited organic certifying agent or is transitioning to USDA-certified organic by not using any of the prohibited substances. Yes means that some or all of the fields enrolled in the project are certified organic or transitioning to certified organic. No means that no part of the fields enrolled in the project are certified organic or transitioning to certified organic. If a producer is enrolled in the project for multiple years, review the organic certification status of the enrolled fields each time a new contract is signed and provide any necessary updates.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Yes
- No
- I don't know

Logic: Respond if yes to 'Organic operation'

Required: No

Data collection level: Producer

Data collection frequency: Initial enrollment and subsequent enrollment(s), if applicable

Producer motivation

Data element name: Producer motivation

Reporting question: Which of the following was the primary reason the producer enrolled in this project?

Description: Primary operator's motivation for enrolling in the project.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Financial benefit
- Environmental benefit
- New market opportunity
- Partnerships or networks
- Other

Logic: None – all respond

Required: Yes

Data collection level: Producer

Data collection frequency: Initial enrollment

Producer outreach

Data element name: Producer outreach 1-3

Reporting question: What types of outreach were provided to producers?

Description: Up to three most common types of outreach provided to producer prior to enrollment. Outreach activities are those focused on identifying and enrolling producers in the project. Outreach can come from the recipient or project partners. The worksheet provides three columns with a drop-down list of the allowed values. Choose one value for each column. If there are fewer than 3 outreach types, leave unnecessary columns blank. If "other" is chosen, use the additional column to enter other outreach types as free text.

Data type: List

Select multiple values: Yes

Measurement unit: Category

Allowed values:

- Commodity organizations
- Conferences
- Cooperative extension
- Digital communications and resources
- Education workshops, field days, and town halls
- Existing partner networks
- Farm visits and one-on-one meetings
- General advertising
- Peer referrals and producer groups
- Phone calls
- Print communications and resources
- Retailers
- State agencies
- Targeted messaging using proprietary data
- Technical service providers
- Other (specify)

Logic: None – all respond

Required: Yes

Data collection level: Producer

Data collection frequency: Initial enrollment

CSAF experience

Data element name: CSAF experience

Reporting question: Has the primary operator implemented CSAF practices in the last ten years anywhere on the farm?

Description: Has this farm implemented climate-smart agriculture or forestry (CSAF) practices anywhere on the farm in the past 10 years or since the current primary operator took control (whichever time period is shorter)? CSAF practices are included in a list in Appendix A.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Yes
- No
- I don't know

Logic: None – all respond

Required: Yes

Data collection level: Producer

Data collection frequency: Initial enrollment

CSAF federal funds

Data element name: CSAF federal funds

Reporting question: Were prior CSAF practices supported by federal funds?

Description: If this farm (under the primary operator) has implemented CSAF practices in the last ten years, was implementation supported by federal funds? Federal funds are defined as being from programs including, but not limited to, those from the Natural Resources Conservation Service ((NRCS), including through Environmental Quality Incentives Program (EQIP), Conservation Stewardship Program (CSP), Regional Conservation Partnership Program (RCPP), or related programs), the Farm Service Agency Conservation Reserve Program (CRP), as well as funds from other USDA programs or other federal agencies.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Yes
- No
- I don’t know

Logic: Respond if yes to 'CSAF experience'

Required: Yes

Data collection level: Producer

Data collection frequency: Initial enrollment

CSAF state or local funds

Data element name: CSAF state or local funds

Reporting question: Were prior CSAF practices supported by state or local funds?

Description: If this farm (under the primary operator) has implemented CSAF practices in the last ten years, was implementation supported by state funds? State or local funds are those from state departments of agriculture or other state agencies, local water quality districts and other local agencies.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Yes
- No
- I don’t know

Logic: Respond if yes to 'CSAF experience'

Required: Yes

Data collection level: Producer

Data collection frequency: Initial enrollment

CSAF nonprofit funds

Data element name: CSAF nonprofit funds

Reporting question: Were CSAF practices supported by nonprofit funds?

Description: If this farm (under the primary operator) has implemented CSAF practices in the last ten years, was implementation supported by nonprofit funds? Nonprofit funds are those offered directly from a nonprofit organization to a producer.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Yes
- No
- I don’t know

Logic: Respond if yes to 'CSAF experience'

Required: Yes

Data collection level: Producer

Data collection frequency: Initial enrollment

CSAF market incentives

Data element name: CSAF market incentives	**Reporting question:** Were CSAF practices supported by market incentives?
Description: If this farm (under the primary operator) has implemented CSAF practices in the last ten years, was implementation supported by market incentives? Market incentives include premiums paid by a commodity buyer or by a consumer based on branding or labeling as a climate-smart commodity.	
Data type: List	**Select multiple values:** No
Measurement unit: Category	**Allowed values:** • Yes • No • I don't know
Logic: Respond if yes to 'CSAF experience'	**Required:** Yes
Data collection level: Producer	**Data collection frequency:** Initial enrollment

Field Enrollment

Unique IDs

Farm ID	Unique Farm ID assigned by FSA
Tract ID	Unique Tract ID assigned by FSA
Field ID	Unique Field ID assigned by FSA
State or territory of field	State name (must match FSA farm enrollment data)
County of field	County name (must match FSA farm enrollment data)
Prior Field ID, if applicable	Prior Field ID assigned by FSA if there has been reconstitution of the farm resulting in a new Field ID during the field's enrollment in the project

Field data change

Data element name: Field data change

Reporting question: Has the information previously reported for this field changed?

Description: Indicator that this entry is being used to report any relevant changes, such as a new Field ID number or changes to the commodity or practice combinations, for a field that has previously been enrolled in the project.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Yes
- No

Logic: None – all respond

Required: Yes

Data collection level: Field

Data collection frequency: Re-enrollment

Contract start date

Data element name: Contract start date

Reporting question: What is the start date of the contract with the producer that includes this field?

Description: Start date listed on the contract that enrolls the field in the project.

Data type: Date

Select multiple values: NA

Measurement unit: MM/DD/YYYY

Allowed values: 01/01/2023 – 12/31/2030

Logic: None – all respond

Required: Yes

Data collection level: Field

Data collection frequency: Initial enrollment

Total field area

Data element name: Total field area

Reporting question: What is the total size of the enrolled field?

Description: Total size of the field enrolled with the project.

Data type: Decimal

Select multiple values: No

Measurement unit: Acres

Allowed values: .01-500

Logic: None – all respond

Required: Yes

Data collection level: Field

Data collection frequency: Initial enrollment

Commodity category

Data element name: Commodity category	**Reporting question:** What category of commodity(ies) is (are) produced from this field?
Description: Category of commodity(ies) produced in field enrolled in the project	
Data type: List	**Select multiple values**: No
Measurement unit: Category	**Allowed values:** • Crops • Livestock • Trees • Crops and livestock • Crops and trees • Livestock and trees • Crops, livestock and trees
Logic: None – all respond	**Required:** Yes
Data collection level: Field	**Data collection frequency:** Initial enrollment

Commodity type

Data element name: Commodity type	**Reporting question:** What type of commodity is produced from this field?
Description: Type of commodity produced in field enrolled in the project. See full list in Appendix B. The worksheet provides a drop-down list of the allowed values. Choose the appropriate value. Enter additional commodities in subsequent rows.	
Data type: List	**Select multiple values**: No
Measurement unit: Category	**Allowed values:** FSA commodity list
Logic: None – all respond	**Required:** Yes
Data collection level: Field	**Data collection frequency:** Initial enrollment

Baseline yield

Data element name: Baseline yield	**Reporting question:** What is the baseline yield of this field?
Description: Average annual yield of commodity in 3 years prior to enrollment. Provide yield for the enrolled field if possible. If not at field level, provide average annual yield for the specific commodity for the operation.	
Data type: Decimal	**Select multiple values**: No
Measurement unit: Production per acre or animal	**Allowed values:** .01-100,000
Logic: None – all respond	**Required:** Yes
Data collection level: Field	**Data collection frequency:** Initial enrollment

Baseline yield unit

Data element name: Baseline yield unit

Reporting question: Baseline yield unit

Description: Unit of average annual yield of commodity in enrolled field in 3 years prior to enrollment. The worksheet provides a drop-down list of choices for this data element. If "other" is chosen, use the additional column to enter the appropriate yield unit as free text.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Animal units per acre
- Bushels per acre
- Carcass pounds per animal
- Head per acre
- Hundred-weights (or pounds) per head
- Linear feet per acre
- Liveweight pounds per animal
- Pounds per acre
- Tons per acre
- Other (specify)

Logic: None – all respond

Required: Yes

Data collection level: Field

Data collection frequency: Initial enrollment

Baseline yield location

Data element name: Baseline yield location

Reporting question: For what portion of the operation is the baseline yield being reported?

Description: Location of the reported average annual yield of commodity in 3 years prior to enrollment. If "other" is chosen, use the additional column to enter the appropriate location as free text.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Enrolled field
- Whole operation
- Other (specify)

Logic: None – all respond

Required: Yes

Data collection level: Field

Data collection frequency: Initial enrollment

Field land use

Data element name: Field land use

Reporting question: What is this field's land use history?

Description: Prior to enrollment, what was the most common land use for this field in the past 3 years?

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Crop land
- Forest land
- Non-agriculture
- Other agricultural land
- Pasture
- Range

Logic: None – all respond

Required: Yes

Data collection level: Field

Data collection frequency: Initial enrollment

Field irrigated

Data element name: Field irrigated	**Reporting question:** What is this field's irrigation history?
Description: Prior to enrollment, what was the most common irrigation practice on this field the past 3 years?	
Data type: List	**Select multiple values:** No
Measurement unit: Category	**Allowed values:** • No irrigation • Center pivot • Drip-subsurface • Drip-surface • Flood/border • Furrow/ditch • Lateral/linear sprinklers • Micro-sprinklers • Seepage • Side roll • Solid set sprinklers • Supplemental • Surface • Traveling gun/towline • Wheel Line • Other
Logic: None – all respond	**Required:** Yes
Data collection level: Field	**Data collection frequency:** Initial enrollment

Field tillage

Data element name: Field tillage	**Reporting question:** What is this field's tillage history?
Description: Prior to enrollment, what was the most common tillage approach during the past 3 years?	
Data type: List	**Select multiple values:** No
Measurement unit: Category	**Allowed values:** • None • Conventional, inversion • Conventional, vertical • No-till, direct seed • Reduced till, inversion • Reduced till, vertical • Strip till • Other
Logic: None – all respond	**Required:** Yes
Data collection level: Field	**Data collection frequency:** Initial enrollment

Practice past extent - farm

Data element name: Practice past extent - farm	**Reporting question:** What percent of the farm has implemented this CSAF practice (combination) previously?
Description: Prior to enrollment, on what portion of the whole farm had this (these) CSAF practice(s) ever been used by the primary operator? If multiple practices are planned to be implemented in this field, enter the value that best corresponds to the farm's prior experience with the planned set of practices.	
Data type: List	**Select multiple values:** No
Measurement unit: Category	**Allowed values:** • Never used • Used on less than 25% of operation • Used on 25-50% of operation • Used on 51-75% of operation • Used on more than 75% of operation
Logic: None – all respond	**Required:** Yes
Data collection level: Field	**Data collection frequency:** Initial enrollment

Field any CSAF practice

Data element name: Field any CSAF practice	**Reporting question:** What is this field's prior experience with CSAF practices?
Description: Prior to enrollment, have any CSAF practice or practices been used in this field in the past 3 years? CSAF practices are included in a list in Appendix A.	
Data type: List	**Select multiple values:** No
Measurement unit: Category	**Allowed values:** • Yes • No • I don't know
Logic: None – all respond	**Required:** Yes
Data collection level: Field	**Data collection frequency:** Initial enrollment

Practice past use - this field

Data element name: Practice past use - this field	**Reporting question:** Have this CSAF practice (combination) been implemented previously in this field?
Description: Prior to enrollment, had this (these) CSAF practice(s) been used in this field in the in the past 3 years? Enter yes if all of the practices had been used previously in this field; enter some if multiple practices are being implemented and one or more, but not all of the practices had been used previously in this field; and enter no if none of the practices had been used previously in this field.	
Data type: List	**Select multiple values:** No
Measurement unit: Category	**Allowed values:** • Yes • Some • No • I don't know
Logic: None – all respond	**Required:** Yes
Data collection level: Field	**Data collection frequency:** Initial enrollment

Practice type

Data element name: Practice type 1-7 **Reporting question:** What CSAF practice is being implemented in this field through the project?

Description: Which CSAF practice or practices will be implemented on this field as part of enrollment in the project? CSAF practices are included in a list in Appendix A. The worksheet provides seven columns for this data element. Enter one value for each column. If there are fewer than 7 practices being implemented on this field through enrollment in the project, leave unnecessary columns blank.

Data type: List **Select multiple values:** No

Measurement unit: Category **Allowed values:** See list in Appendix A

Logic: None – all respond **Required:** Yes

Data collection level: Field **Data collection frequency:** Initial enrollment

Practice standard

Data element name: Practice standard 1-7 **Reporting question:** What standard does the CSAF practice follow?

Description: Is the CSAF practice being implemented on the field as part of enrollment in the project following a defined practice standard? The worksheet provides seven columns for this data element. Enter one value for each column, corresponding to the practice types entered in the previous columns. If there are fewer than 7 practices being implemented on this field through enrollment in the project, leave unnecessary columns blank.

Data type: List **Select multiple values:** No

Measurement unit: Category **Allowed values:**

- NRCS
- Other (specify)

Logic: None – all respond **Required:** Yes

Data collection level: Field **Data collection frequency:** Initial enrollment

Planned practice implementation year

Data element name: Practice 1-7 implementation year **Reporting question:** What year is the CSAF practice planned to be implemented?

Description: Year that the CSAF practice is planned to be implemented on the field. Use 2022 for early adopters, defined as fields that have the practice actively implemented in 2022 (prior to contract being signed for this project). The worksheet provides seven columns for this data element. Enter one value for each column, corresponding to the practice types entered in the previous columns. If there are fewer than 7 practices being implemented on this field through enrollment in the project, leave unnecessary columns blank.

Data type: Integer **Select multiple values:** No

Measurement unit: Year **Allowed values:** 2022-2030

Logic: None – all respond **Required:** Yes

Data collection level: Field **Data collection frequency:** Initial enrollment

Practice extent

Data element name: Practice 1-7 extent **Reporting question:** To what extent is the practice implemented?

Description: Total area, length, or head where the practice is being implemented in the field specified by the contract.

Data type: Decimal **Select multiple values:** No

Measurement unit: Extent **Allowed values:** .01-100,000

Logic: None – all respond **Required:** Yes

Data collection level: Field **Data collection frequency:** Initial enrollment

Practice extent unit	
Data element name: Practice 1-7 extent unit	**Reporting question:** Unit for extent of practice implementation
Description: Unit for extent of practice implementation on the field specified by the contract. If "other" is chosen, use the additional column to enter the appropriate unit.	
Data type: List	**Select multiple values:** No
Measurement unit: Category	**Allowed values:** • Acres • Head of livestock • Linear feet • Square feet • Other (specify)
Logic: None – all respond	**Required:** Yes
Data collection level: Field	**Data collection frequency:** Initial enrollment

CSAF Practice Sub-questions

For certain practices, additional questions are asked that provide information necessary to estimate greenhouse gas benefits from implementation of the practice. See Table 11 in the *CSAF Practice Sub-questions* section for descriptions of individual questions to be answered depending on the CSAF practices selected.

Farm Summary

Unique IDs

Farm ID	Unique Farm ID assigned by FSA
State or territory	State name (must match FSA farm enrollment data)
County of residence	County name (must match FSA farm enrollment data)

Producer TA received

Data element name: Producer TA received 1-3

Reporting question: What types of technical assistance were provided to this producer?

Description: Did the recipient or any partner provide technical assistance (TA) to the producer this year? Technical assistance is any training, education, capacity building or other support provided by any project partner(s) directly to producers enrolled in the project. List up to the top three most common types of TA provided to this producer. The worksheet provides three columns with a drop-down list of the allowed values. Choose one value for each column. If there are fewer than 3 TA types, leave unnecessary columns blank. If "other" is chosen, use the additional column to enter other TA types as free text.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Demonstration plots
- Equipment demonstrations
- Group field days or in-person field workshops
- Hotline
- One-on-one enrollment assistance
- One-on-one field visits
- One-on-one producer mentorship
- Producer networks and peer-to-peer groups
- Retailer consultation
- Social media/digital tools
- Train-the-trainer opportunities
- Virtual meetings or field days
- Webinars and videos
- Written materials
- None
- Other (specify)

Logic: None – all respond

Required: Yes

Data collection level: Producer

Data collection frequency: Quarterly

Producer incentive amount

Data element name: Producer incentive amount

Reporting question: What is the total value of financial incentives provided to this producer?

Description: Total incentive payment received by the producer from USDA project funds for the year (non-cumulative). Do not include incentive payments made with partner match funds.

Data type: Decimal

Select multiple values: NA

Measurement unit: Dollars

Allowed values: $0-$5,000,000

Logic: None – all respond

Required: Yes

Data collection level: Producer

Data collection frequency: Quarterly

Incentive reason

Data element name: Incentive reason 1-4 **Reporting question:** Why were incentives provided to this producer?

Description: List up to four reasons for producer incentive payments. List the top 4 based on total value of the incentive for each reason. The worksheet provides four columns with a drop-down list of the allowed values. Choose one value for each column. If there are fewer than 4 reasons, leave unnecessary columns blank. If "other" is chosen, use the additional column to enter other reasons as free text.

Data type: List **Select multiple values**: No

Measurement unit: Category **Allowed values:**

- Avoided conversion
- Conference or training attendance
- Demographics/equity payment
- Enrollment
- Foregone revenue
- Historic data collection
- Identity preservation (supply chain tracing)
- Implementation of practices
- MMRV (e.g., data collection, reporting)
- Passing audit
- Price premium on output
- Yield change
- Other (specify)

Logic: None – all respond **Required:** Yes

Data collection level: Producer **Data collection frequency:** Quarterly

Incentive structure

Data element name: Incentive structure 1-4 **Reporting question:** What are the units for the financial incentives provided to this producer?

Description: List the structures (units) corresponding to the top 4 (by dollar value) incentive payments to producers. Production unit is weight or volume (bushel, kilogram, ton). The worksheet provides four columns with a drop-down list of the allowed values. Choose one value for each column. If there are fewer than 4 structure types, leave unnecessary columns blank. If "other" is chosen, use the additional column to enter other structure types as free text.

Data type: List **Select multiple values**: No

Measurement unit: Category **Allowed values:**

- Flat rate
- Per animal head
- Per area
- Per length
- Per production unit
- Per ton GHG
- Per tree
- Other (specify)

Logic: None – all respond **Required:** Yes

Data collection level: Producer **Data collection frequency:** Quarterly

Incentive type

Data element name: Incentive type 1-4

Reporting question: What type of incentives were provided to each producer?

Description: List the top 4 types of incentive payments to producers (based on dollar value). The worksheet provides four columns with a drop-down list of the allowed values. Choose one value for each column. If there are fewer than 4 incentive types, leave unnecessary columns blank. If "other" is chosen, use the additional column to enter other incentive types as free text.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Cash payment
- Equipment loan
- Guaranteed commodity premium payment
- Inputs and supplies
- Land rental
- Loan
- Paid labor
- Post-harvest transportation
- Tuition or fees for training
- Other (specify)

Logic: None – all respond

Required: Yes

Data collection level: Producer

Data collection frequency: Quarterly

Payment on enrollment

Data element name: Payment on enrollment

Reporting question: What portion of the financial incentive is provided to the producer upon enrollment in the project?

Description: Any incentive payment provided to the producer upon enrollment/signing a contract, and not related to any implementation, MMRV or sales activities. Full payment means the full incentive amount for any contract held by the producer is paid upon enrollment. Partial payment means that only part of the full incentive amount for any contract held by the producer is paid upon enrollment. No payment means that none of the full incentive amount for any contract held by the producer is paid upon enrollment.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Full payment
- Partial payment
- No payment

Logic: None – all respond

Required: Yes

Data collection level: Producer

Data collection frequency: Quarterly

Payment on implementation

Data element name: Payment on implementation

Reporting question: What portion of the financial incentive is provided to the producer upon implementation of the practices?

Description: Any incentive payment provided to the producer upon implementing the practices included in the contract. Full payment means the full incentive amount for any contract held by the producer is paid upon implementation. Partial payment means that only part of the full incentive amount for any contract held by the producer is paid upon implementation. No payment means that none of the full incentive amount for any contract held by the producer is paid upon implementation.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Full payment
- Partial payment
- No payment

Logic: None – all respond

Required: Yes

Data collection level: Producer

Data collection frequency: Quarterly

Payment on harvest

Data element name: Payment on harvest

Reporting question: What portion of the financial incentive is provided to the producer upon harvest of the commodity?

Description: Any incentive payment provided to the producer upon harvesting or slaughtering the commodity included in the contract. Full payment means the full incentive amount for any contract held by the producer is paid upon harvest. Partial payment means that only part of the full incentive amount for any contract held by the producer is paid upon harvest. No payment means that none of the full incentive amount for any contract held by the producer is paid upon harvest.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Full payment
- Partial payment
- No payment

Logic: None – all respond

Required: Yes

Data collection level: Producer

Data collection frequency: Quarterly

Payment on MMRV

Data element name: Payment on MMRV

Reporting question: What portion of the financial incentive is provided to the producer upon completing MMRV requirements?

Description: Any incentive payment provided to the producer upon completing the annual MMRV requirements included in the contract. Full payment means the full incentive amount for any contract held by the producer is paid upon MMRV being complete. Partial payment means that only part of the full incentive amount for any contract held by the producer is paid upon MMRV being complete. No payment means that none of the full incentive amount for any contract held by the producer is paid upon MMRV being complete.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Full payment
- Partial payment
- No payment

Logic: None – all respond

Required: Yes

Data collection level: Producer

Data collection frequency: Quarterly

Payment on sale

Data element name: Payment on sale

Reporting question: What portion of the financial incentive is provided to producer upon sale of the commodity?

Description: Any incentive payment provided to the producer upon sale of the commodity included in the contract. Full payment means the full incentive amount for any contract held by the producer is paid upon sale. Partial payment means that only part of the full incentive amount for any contract held by the producer is paid upon sale. No payment means that none of the full incentive amount for any contract held by the producer is paid upon sale.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Full payment
- Partial payment
- No payment

Logic: None – all respond

Required: Yes

Data collection level: Producer

Data collection frequency: Quarterly

Field Summary

Unique IDs

Farm ID	Unique Farm ID assigned by FSA
Tract ID	Unique Tract ID assigned by FSA
Field ID	Unique Field ID assigned by FSA
State or territory of field	State name (must match FSA farm enrollment data)
County of field	County name (must match FSA farm enrollment data)

Commodity type

Data element name: Commodity type

Reporting question: What type of commodity is produced from this field?

Description: Type of commodity produced in field enrolled in the project. See full list in Appendix B. The worksheet provides multiple columns with a drop-down list of the allowed values. Choose one value for each column. Leave unnecessary columns blank.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values: FSA commodity list

Logic: None – all respond

Required: Yes

Data collection level: Field

Data collection frequency: Quarterly

Practice type

Data element name: Field practice type 1-7

Reporting question: What CSAF practice is being implemented in this field through the project?

Description: Which climate-smart agriculture or forestry (CSAF) practice or practices are being implemented in this project? CSAF practices are included in a list in Appendix A. The worksheet provides seven columns for this data element. Enter one value for each column. If there are fewer than 7 practices being implemented on this field through enrollment in the project, leave unnecessary columns blank.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values: See list in Appendix A

Logic: None – all respond

Required: Yes

Data collection level: Field

Data collection frequency: Quarterly

Date practice complete

Data element name: Date practice complete

Reporting question: When did the project certify CSAF practice implementation as complete?

Description: Date that the project certifies that implementation of the CSAF practice is complete on the field. Use January of the year prior to contract year for early adopters, defined as fields that have the practice actively implemented in the year prior to a contract associated with this project is signed). The worksheet provides seven columns for this data element. Enter one value for each column, corresponding to the practice types entered in the previous columns. If there are fewer than 7 practices being implemented on this field through enrollment in the project, leave unnecessary columns blank.

Data type: Date

Select multiple values: No

Measurement unit: MM/DD/YYYY

Allowed values: 01/01/2023 – 12/31/2030

Logic: None – all respond

Required: Yes

Data collection level: Field

Data collection frequency: Quarterly

Contract end date

Data element name: Contract end date
Reporting question: Contract end date
Description: End date listed on the contract that enrolls the field in the project. If contract end date changes, submit updated end date during the next quarter's reporting.
Data type: Date
Select multiple values: No
Measurement unit: MM/DD/YYYY
Allowed values: 01/01/2023 – 12/31/2030
Logic: None – all respond
Required: Yes
Data collection level: Field
Data collection frequency: Quarterly

MMRV assistance provided

Data element name: MMRV assistance provided
Reporting question: Was MMRV assistance provided?
Description: Was any MMRV assistance provided to the primary operator for this field? MMRV assistance includes in-field support for the use of technologies, consultation on data collection and input, and other support related to MMRV. MMRV is defined a measurement (calculations or estimations of GHG emissions), monitoring (ongoing review and confirmation that the climate-smart practice has been implemented according to the agreed upon standard and documentation of any changes in the site, implementation, or GHG emissions impacts over time), reporting (documenting and sharing monitoring and measurement results with project partners, the recipient, and any third-party verification organization), and verification (independent confirmation that measurement, monitoring and reporting information are complete, accurate and reliable).
Data type: List
Select multiple values: No
Measurement unit: Category
Allowed values:
- Yes
- No
- I don't know

Logic: None – all respond
Required: Yes
Data collection level: Field
Data collection frequency: Quarterly

Marketing assistance provided

Data element name: Marketing assistance provided
Reporting question: Was marketing assistance provided?
Description: Was any marketing assistance provided to the primary operator for the commodity(ies) produced from this field? Marketing assistance includes guaranteeing the sale of the commodity(ies), providing a platform for the sale of the commodity(ies), providing a label, branding, or other support related to marketing.
Data type: List
Select multiple values: No
Measurement unit: Category
Allowed values:
- Yes
- No
- I don't know

Logic: None – all respond
Required: Yes
Data collection level: Field
Data collection frequency: Quarterly

Incentive per acre or head

Data element name: Incentive per acre or head
Reporting question: Is this field receiving a per-acre or per-head incentive?
Description: Is this field receiving an incentive payment to implement a specific CSAF practice or set of practices on a per-acre or per-head (livestock) basis?
Data type: List
Select multiple values: No
Measurement unit: Category
Allowed values:
- Yes
- No
- I don't know

Logic: None – all respond
Required: Yes
Data collection level: Field
Data collection frequency: Quarterly

Field commodity value	
Data element name: Field commodity value	**Reporting question:** What is the value of the commodity produced on the enrolled field?
Description: The dollar value of the commodity produced on the enrolled field.	
Data type: Decimal	**Select multiple values**: No
Measurement unit: Dollars	**Allowed values:** $1-$10,000,000
Logic: None – all respond	**Required:** Yes
Data collection level: Field	**Data collection frequency:** Quarterly

Field commodity volume	
Data element name: Field commodity volume	**Reporting question:** What is the volume of commodity produced on the enrolled field?
Description: The volume of the commodity produced on the enrolled field	
Data type: Decimal	**Select multiple values**: No
Measurement unit: Number	**Allowed values:** 1-10,000,000
Logic: None – all respond	**Required:** Yes
Data collection level: Field	**Data collection frequency:** Quarterly

Field commodity volume unit	
Data element name: Field commodity volume unit	**Reporting question:** What is the unit of volume?
Description: The unit associated with the volume of the commodity produced on the enrolled field. If "other" is chosen, enter the appropriate value in the additional column.	
Data type: List	**Select multiple values**: No
Measurement unit: Category	**Allowed values:** • Bushels • Carcass weight pounds • Gallons • Head • Linear feet • Liveweight pounds • Pounds • Tons • Other (specify)
Logic: None – all respond	**Required:** Yes
Data collection level: Field	**Data collection frequency:** Quarterly

Cost of implementation	
Data element name: Cost of implementation	**Reporting question:** What is the cost of practice implementation in the field?
Description: Total annual estimated cost per unit of implementing the practice(s) in the enrolled field.	
Data type: Decimal	**Select multiple values**: No
Measurement unit: Dollars	**Allowed values:** $1-$10,000,000
Logic: None – all respond	**Required:** Yes
Data collection level: Field	**Data collection frequency:** Quarterly

Cost unit

Data element name: Cost unit

Reporting question: What is the unit for cost?

Description: The unit associated with the cost of implementing CSAF practices in the field. If "other" is chosen, enter the appropriate value in the additional column.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Per acre
- Per bushel
- Per head
- Per linear foot
- Per pound
- Per ton
- Other (specify)

Logic: None – all respond

Required: Yes

Data collection level: Field

Data collection frequency: Quarterly

Cost coverage

Data element name: Cost coverage

Reporting question: What percent of the practice cost is covered by the incentive?

Description: Estimated proportion of total annual cost of implementing the practice(s) that is covered by project incentives.

Data type: Integer

Select multiple values: No

Measurement unit: Percent

Allowed values: 0-100

Logic: None – all respond

Required: Yes

Data collection level: Field

Data collection frequency: Quarterly

Field GHG monitoring

Data element name: Field GHG monitoring 1-3

Reporting question: How were GHG impacts monitored in this field?

Description: Up to the top three forms of monitoring GHG benefits as part of MMRV requirements. Monitoring is defined as ongoing review and confirmation that the climate-smart practice has been implemented according to the agreed upon standard and documentation of any changes in the site, implementation, or GHG emissions impacts over time. Include up to 3 methods, based on which methods are most commonly used for this field. The worksheet provides three columns with a drop-down list of the allowed values. Choose one value for each column. If fewer than 3 GHG monitoring methods are used, leave unnecessary columns blank. If "other" is chosen, use the additional column to enter other GHG monitoring methods as free text.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Drones
- Ground-level photos and videos
- On-farm inspection
- Plot-based sampling (e.g., soil, water)
- Producer records or attestation
- Satellite monitoring or remote sensing
- Soil metagenomics
- Soil sensors
- Water sensors
- Other (specify)

Logic: None – all respond

Required: Yes

Data collection level: Field

Data collection frequency: Quarterly

Field GHG reporting

Data element name: Field GHG reporting 1-3

Reporting question: How were GHG benefits reported for this field?

Description: Up to the top three forms of reporting on GHG benefits as part of MMRV requirements. Reporting is defined as documenting and sharing monitoring and measurement results with project partners, the recipient, and any third-party verification organization. Include up to 3 methods, based on which methods are most commonly used for this field. The worksheet provides three columns with a drop-down list of the allowed values. Choose one value for each column. If fewer than 3 GHG reporting methods are used, leave unnecessary columns blank. If "other" is chosen, use the additional column to enter other GHG reporting methods as free text.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Automated devices
- Email
- Mobile app
- Paper
- Third-party actors
- Website
- Other (specify)

Logic: None – all respond

Required: Yes

Data collection level: Field

Data collection frequency: Quarterly

Field GHG verification

Data element name: Field GHG verification 1-3

Reporting question: How was implementation of practices to reduce GHG emissions verified for this field?

Description: Up to the top three of verification of GHG benefits as part of MMRV requirements. Verification is defined as independent confirmation that measurement, monitoring and reporting information are complete, accurate and reliable. Include up to 3 methods, based on which methods are most commonly used for this field. The worksheet provides three columns with a drop-down list of the allowed values. Choose one value for each column. If fewer than 3 GHG verification methods are used, leave unnecessary columns blank. If "other" is chosen, use the additional column to enter other GHG verification methods as free text.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Artificial intelligence
- Computer modeling
- Recipient audit
- Photos
- Record audit
- Satellite imagery
- Site or field visit
- Third-party audit
- Other (specify)

Logic: None – all respond

Required: Yes

Data collection level: Field

Data collection frequency: Quarterly

Field GHG calculations

Data element name: Field GHG calculations	**Reporting question:** What methods are used to calculate GHG benefits in this field?
Description: List the method(s) used to calculate GHG benefits in this field. If yes to direct physical measurements, submit result reports (see *Supplemental Data Submission – Field direct GHG measurement results*).	
Data type: List	**Select multiple values**: No
Measurement unit: Category	**Allowed values:** • Models • Direct field measurements • Both
Logic: None – all respond	**Required:** Yes
Data collection level: Field	**Data collection frequency:** Quarterly

Field official GHG calculation

Data element name: Field official GHG calculation	**Reporting question:** What method was used to calculate the official GHG benefits in this field?
Description: List the method used to calculate the official GHG benefits in this field that are reported as part of the project's aggregate impact.	
Data type: List	**Select multiple values**: No
Measurement unit: Category	**Allowed values:** • Models • Direct field measurements
Logic: None – all respond	**Required:** Yes
Data collection level: Field	**Data collection frequency:** Quarterly

Field official GHG ER

Data element name: Field official GHG emission reductions	**Reporting question:** What are the estimated total GHG emission reductions (CO2eq) in this field?
Description: Estimated greenhouse gas emission reductions from practice implementation in this field that are reported as part of the project's aggregate impact. This data element must be entered upon practice completion or annually, as appropriate.	
Data type: Decimal	**Select multiple values**: No
Measurement unit: Metric tons CO_2eq	**Allowed values:** 0-10,000,000
Logic: None – all respond	**Required:** Yes
Data collection level: Field	**Data collection frequency:** Quarterly

Field official carbon stock

Data element name: Field official carbon stock	**Reporting question:** How much carbon has been sequestered in this field?
Description: Estimated total change in carbon stock based on practice implementation in this field. This data element can be reported in any quarter and is cumulative for the year. Conversion rate is one ton of carbon = 3.67 tons of CO_2eq.	
Data type: Decimal	**Select multiple values**: No
Measurement unit: Metric tons CO_2eq	**Allowed values:** 0-10,000,000
Logic: None – all respond	**Required:** Yes
Data collection level: Field	**Data collection frequency:** Quarterly

Field official CO2 ER

Data element name: Field official CO2 emission reductions

Reporting question: What are the estimated total CO2 emission reductions in this field?

Description: Estimated total carbon dioxide emission reductions based on practice implementation in this field that are reported as part of the project's aggregate impact. This data element must be entered upon practice completion or annually, as appropriate.

Data type: Decimal

Select multiple values: No

Measurement unit: Metric tons CO_2

Allowed values: 0-10,000,000

Logic: None – all respond

Required: Yes

Data collection level: Field

Data collection frequency: Quarterly

Field official CH4 ER

Data element name: Field official CH4 emission reductions

Reporting question: What are the estimated total CH4 emission reductions in this field?

Description: Estimated total methane emission reductions based on practice implementation in this field that are reported as part of the project's aggregate impact. This data element must be entered upon practice completion or annually, as appropriate. Conversion rate is one ton of CH_4 = 25 tons of CO_2eq.

Data type: Decimal

Select multiple values: No

Measurement unit: Metric tons CH4 reduced in CO_2eq

Allowed values: 0-10,000,000

Logic: None – all respond

Required: Yes

Data collection level: Field

Data collection frequency: Quarterly

Field official N20 ER

Data element name: Field official N2O emission reductions

Reporting question: What are the estimated total N2O emission reductions in this field?

Description: Estimated total nitrous oxide emission reductions based on practice implementation in this field that are reported as part of the project's aggregate impact. This data element must be entered upon practice completion or annually, as appropriate. Conversion rate is one ton of N_2O = 298 tons of CO_2eq.

Data type: Decimal

Select multiple values: No

Measurement unit: Metric tons N2O reduced in CO_2eq

Allowed values: 0-10,000,000

Logic: None – all respond

Required: Yes

Data collection level: Field

Data collection frequency: Quarterly

Field offsets produced

Data element name: Field offsets produced

Reporting question: How many carbon offsets have been produced in this field?

Description: Total carbon offsets produced in the field during the quarter (not cumulative). Offsets are defined as having been verified and certified using an accepted standard and sold into the carbon marketplace.

Data type: Decimal

Select multiple values: No

Measurement unit: Metric tons CO_2eq

Allowed values: 0-10,000,000

Logic: None – all respond

Required: Yes

Data collection level: Field

Data collection frequency: Quarterly

Field insets produced

Data element name: Field insets produced	**Reporting question:** How many carbon insets have been produced in this field?
Description: Total carbon insets produced in the field during the quarter (not cumulative). Insets are defined as having been verified and certified using an accepted standard and accounted for within Scope 3 emissions for a firm.	
Data type: Decimal	**Select multiple values**: No
Measurement unit: Metric tons CO_2eq	**Allowed values:** 0-10,000,000
Logic: None – all respond	**Required:** Yes
Data collection level: Field	**Data collection frequency:** Quarterly

Other field measurement

Data element name: Other field measurement	**Reporting question:** Were data collected from the field for reasons other than GHG benefit estimation?
Description: Direct physical measurements or data collection taken in the field for any reason other than GHG benefits estimation. These reasons could include calibration of GHG estimation tools or models, tracking other environmental benefits (see Field environmental benefits report), and other reasons. If yes, submit corresponding reports (see *Supplemental data submission - Field direct measurement results*).	
Data type: List	**Select multiple values**: No
Measurement unit: Category	**Allowed values:** • Yes • No • I don't know
Logic: None – all respond	**Required:** Yes
Data collection level: Field	**Data collection frequency:** Quarterly

GHG Benefits - Alternate Modeled

Unique IDs	
Farm ID	Unique Farm ID assigned by FSA
Tract ID	Unique Tract ID assigned by FSA
Field ID	Unique Field ID assigned by FSA
State or territory of field	State name (must match FSA farm enrollment data)
County of field	County name (must match FSA farm enrollment data)

Commodity type

Data element name: Commodity type 1-6 **Reporting question:** What type of commodity(ies) is produced from this field?

Description: Type of commodity(ies) produced in field enrolled in the project. See full list of commodity options in Appendix B. The worksheet provides multiple columns with drop-down lists of the allowed values. Choose one value for each column. Leave unnecessary columns blank

Data type: List **Select multiple values**: No

Measurement unit: Category **Allowed values:** FSA commodity list

Logic: None – all respond **Required:** If project calculates GHG benefits using multiple methods

Data collection level: Field **Data collection frequency:** Annual

Practice type

Data element name: Practice type 1-7 **Reporting question:** What CSAF practice is being implemented by this project?

Description: Which CSAF practice or practices are being implemented in this project? CSAF practices are included in a list in Appendix A. The worksheet provides seven columns for this data element. Enter one value for each column. If there are fewer than 7 practices being implemented by the project, leave unnecessary columns blank.

Data type: List **Select multiple values:** No

Measurement unit: Category **Allowed values:** See list in Appendix A

Logic: None – all respond **Required:** If project calculates GHG benefits using multiple methods

Data collection level: Field **Data collection frequency:** Annual

GHG model

Data element name: GHG model **Reporting question:** What model was used for alternate calculation of GHG benefits?

Description: Select the model used for the alternate calculation of the field's GHG benefits.

Data type: List **Select multiple values:** No

Measurement unit: Category **Allowed values:**

- ACC Calculator
- Agriculture, Forestry and Other Land Use (AFOLU) Carbon Calculator
- AIRES
- APEX
- Bowen Ratio Energy Balance
- Carat-Calculator
- CArPE
- CDFA web-based calculator
- COMET-Farm
- COMET-Planner
- CoolFarm
- Cover Crop Explore
- CropTrak
- CultivateAI's FMIS
- DayCent-CR
- DNDC
- DSSAT
- Earth Optics
- EcoPractices
- EPIC
- Extrapolation based on literature
- FieldPrint
- Granular
- GREET
- gTIR
- IFSM
- IPCC default emissions factors & models
- itree
- Nitrogen Balance
- Nutrient Tracking Tool (NTT)
- RCD Project Tracker
- Revised Universal Soil Loss equation 2 (RUSLE2)
- RuFaS
- SAFE-Link
- SALUS (CIBO)
- SNAPGRAZE
- SquareRoots
- SWAT-C
- SYMFONI
- Truterra Sustainability Tool
- Verra
- WEPP
- YardStick
- Other (specify)

Logic: None – all respond **Required:** If project calculates GHG benefits using multiple methods

Data collection level: Field **Data collection frequency:** Annual

Model start date

Data element name: Model start date	**Reporting question:** For what time period are the GHG benefits modeled (model start date)?
Description: Date that the model parameters begin.	
Data type: Date	**Select multiple values**: NA
Measurement unit: MM/DD/YYYY	**Allowed values:** 01/01/1950 – 12/31/2030
Logic: None – all respond	**Required:** If project calculates GHG benefits using multiple methods
Data collection level: Field	**Data collection frequency:** Annual

Model end date

Data element name: Model end date	**Reporting question:** For what time period are the GHG benefits modeled (model end date)?
Description: Date that the model parameters end.	
Data type: Date	**Select multiple values**: NA
Measurement unit: MM/DD/YYYY	**Allowed values:** 01/01/2023– 12/31/2030
Logic: None – all respond	**Required:** If project calculates GHG benefits using multiple methods
Data collection level: Field	**Data collection frequency:** Annual

Total GHG benefits estimated

Data element name: Total GHG benefits estimated	**Reporting question:** What is the alternate estimate of the field's total GHG emission reductions?
Description: Total greenhouse gas emission reductions from practice implementation in the field estimated using an alternate model.	
Data type: Decimal	**Select multiple values**: No
Measurement unit: Metric tons CO_2eq	**Allowed values:** 0-10,000,000
Logic: None – all respond	**Required:** If project calculates GHG benefits using multiple methods
Data collection level: Field	**Data collection frequency:** Annual

Total carbon stock estimated

Data element name: Total carbon stock estimated	**Reporting question:** What is the alternate estimate of how much carbon has the field has sequestered?
Description: Total change in carbon stock based on practice implementation in the field estimated using an alternate model. Conversion rate is one ton of carbon = 3.67 tons of CO_2eq.	
Data type: Decimal	**Select multiple values**: No
Measurement unit: Metric tons CO_2eq	**Allowed values:** 0-10,000,000
Logic: None – all respond	**Required:** If project calculates GHG benefits using multiple methods
Data collection level: Field	**Data collection frequency:** Annual

Total CO2 estimated

Data element name: Total CO2 estimated	**Reporting question:** What is the alternate estimate of the field's total CO2 emission reductions?
Description: Total carbon dioxide emission reductions based on practice implementation in the field estimated using an alternate model.	
Data type: Decimal	**Select multiple values**: No
Measurement unit: Metric tons CO_2	**Allowed values:** 0-10,000,000
Logic: None – all respond	**Required:** If project calculates GHG benefits using multiple methods
Data collection level: Field	**Data collection frequency:** Annual

Total CH4 estimated

Data element name: Total CH4 estimated	**Reporting question:** What is the alternate estimate of the field's total CH4 emission reductions?
Description: Total methane emission reductions based on practice implementation in the field estimated using an alternate model. Conversion rate is one ton of CH_4 = 25 tons of CO_2eq.	
Data type: Decimal	**Select multiple values**: No
Measurement unit: Metric tons CH4 reduced in CO_2eq	**Allowed values:** 0-10,000,000
Logic: None – all respond	**Required:** If project calculates GHG benefits using multiple methods
Data collection level: Field	**Data collection frequency:** Annual

Total field N20 estimated

Data element name: Total N2O estimated	**Reporting question:** What is the alternate estimate of the field's total N2O emission reductions?
Description: Total nitrous oxide emission reductions based on practice implementation in the field estimated using an alternate method. Conversion rate is one ton of N_2O = 298 tons of CO_2eq.	
Data type: Decimal	**Select multiple values**: No
Measurement unit: Metric tons N2O reduced in CO_2eq	**Allowed values:** 0-10,000,000
Logic: None – all respond	**Required:** If project calculates GHG benefits using multiple methods
Data collection level: Field	**Data collection frequency:** Annual

GHG Benefits - Measured

Unique IDs

Farm ID	Unique Farm ID assigned by FSA
Tract ID	Unique Tract ID assigned by FSA
Field ID	Unique Field ID assigned by FSA
State or territory of field	State name (must match FSA farm enrollment data)
County of field	County name (must match FSA farm enrollment data)

GHG measurement method

Data element name: GHG measurement method

Reporting question: What measurement method is used to calculate GHG benefits?

Description: Field-based measurement method used to calculate GHG benefits. If "other" is chosen, enter the appropriate value as free text in the additional column.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Emissions measurement unit
- Flux towers
- Litterbags
- Plant measurements
- Portable emissions analyzers
- Soil flux chambers
- Soil samples
- Soil sensors
- Vehicle-mounted sensors
- Other (specify)

Logic: None – all respond

Required: If a project conducts soil samples or takes carbon stock or greenhouse gas emission measurements in this field

Data collection level: Field

Data collection frequency: Annual

Lab name

Data element name: Lab name

Reporting question: What is the name of the lab that processed the measurement samples?

Description: Name of entity that received data and conducted analysis of samples.

Data type: Text

Select multiple values: No

Measurement unit: NA

Allowed values: Free text

Logic: None – all respond

Required: If applicable

Data collection level: Field

Data collection frequency: Annual

Measurement start date

Data element name: Measurement start date

Reporting question: On what date did the measurement start?

Description: Date that the measurements began. If it was a single point in time, use the same date for start date and end date. If multiple measurements took place over a time period, use the date that the measurements first began.

Data type: Date

Select multiple values: No

Measurement unit: MM/DD/YYYY

Allowed values: 01/01/2023 – 12/31/2030

Logic: None – all respond

Required: If a project conducts soil samples or takes carbon stock or greenhouse gas emission measurements in this field

Data collection level: Field

Data collection frequency: Annual

Measurement end date

Data element name: Measurement end date

Reporting question: On what date did the measurement end?

Description: Date that the measurements began. If it was a single point in time, use the same date for start date and end date. If multiple measurements took place over a time period, use the date that the measurements were completed.

Data type: Date

Select multiple values: No

Measurement unit: MM/DD/YYYY

Allowed values: 01/01/2023– 12/31/2030

Logic: None – all respond

Required: If a project conducts soil samples or takes carbon stock or greenhouse gas emission measurements in this field

Data collection level: Field

Data collection frequency: Annual

Total CO2 reduction calculated

Data element name: Total CO2 reduction calculated

Reporting question: What are the total measured CO2 emission reductions?

Description: Total annual CO2 emission reductions based on practice implementation in the field calculated from in-field measurements.

Data type: Decimal

Select multiple values: No

Measurement unit: Metric tons CO_2

Allowed values: 0-10,000,000

Logic: None – all respond

Required: If a project takes carbon stock or greenhouse gas emission measurements in this field

Data collection level: Field

Data collection frequency: Annual

Total field carbon stock measured

Data element name: Total field carbon stock measured

Reporting question: What is the total amount of carbon sequestered based on repeat measurements in this field?

Description: Change in carbon stock based on practice implementation in the field calculated from repeat soil sampling in this field. (Results for initial field soil samples should be reported in the 'Soil sample result' and 'Measurement type" columns.) Conversion rate is one ton of carbon = 3.67 tons of CO_2eq.

Data type: Decimal

Select multiple values: No

Measurement unit: Metric tons CO_2eq

Allowed values: 0-10,000,000

Logic: None – all respond

Required: If a project conducts soil samples or takes carbon stock measurements in this field

Data collection level: Field

Data collection frequency: Annual

Total CH4 reduction calculated

Data element name: Total CH4 reduction calculated	**Reporting question:** What are the total measured CH4 emission reductions?
Description: Total annual methane emission reductions based on practice implementation in the field calculated from in-field measurements. Conversion rate is one ton of CH_4 = 25 tons of CO_2eq.	
Data type: Decimal	**Select multiple values**: No
Measurement unit: Metric tons CH4 reduced in CO_2eq	**Allowed values:** 0-10,000,000
Logic: None – all respond	**Required:** If a project conducts soil samples or takes carbon stock or greenhouse gas emission measurements in this field
Data collection level: Field	**Data collection frequency:** Annual

Total N20 reduction calculated

Data element name: Total N2O reduction calculated	**Reporting question:** What are the total measured N2O emission reductions?
Description: Total annual nitrous oxide emission reductions based on practice implementation in the field calculated from in-field measurements. Conversion rate is one ton of N_2O = 298 tons of CO_2eq.	
Data type: Decimal	**Select multiple values**: No
Measurement unit: Metric tons N2O reduced in CO_2eq	**Allowed values:** 0-10,000,000
Logic: None – all respond	**Required:** If a project conducts soil samples or takes carbon stock or greenhouse gas emission measurements in this field
Data collection level: Field	**Data collection frequency:** Annual

Soil sample result

Data element name: Soil sample result	**Reporting question:** What is the numeric result from this soil sample?
Description: Results of measurement(s) taken to determine the carbon stock of a soil (the tons of carbon found in a specified volume of soil).	
Data type: Decimal	**Select multiple values**: No
Measurement unit: Amount	**Allowed values:** .00001-100,000
Logic: None – all respond	**Required:** If a project conducts soil samples in this field
Data collection level: Field	**Data collection frequency:** Annual

Soil sample result unit

Data element name: Soil sample result unit **Reporting question:** What is unit for the soil sample result?

Description: Unit for the corresponding soil sample result. The worksheet provides a drop-down list of choices for this data element. If "other" is chosen, use the additional column to enter the appropriate yield unit as free text.

Data type: List **Select multiple values**: No

Measurement unit: Category **Allowed values:**

- Percent
- Ppm
- Grams
- Grams per cubic centimeter
- Other (specify)

Logic: None – all respond **Required:** If a project conducts soil samples in this field

Data collection level: Field **Data collection frequency:** Annual

Measurement type

Data element name: Measurement type **Reporting question:** What type of analysis was conducted for this soil sample?

Description: Type of soil analysis conducted. The worksheet provides a drop-down list of choices for this data element. If "other" is chosen, use the additional column to enter the appropriate yield unit as free text.

Data type: List **Select multiple values**: No

Measurement unit: Category **Allowed values:**

- Organic matter
- Total organic carbon
- Bulk density
- Other (specify)

Logic: None – all respond **Required:** If a project conducts soil samples in this field

Data collection level: Field **Data collection frequency:** Annual

Additional Environmental Benefits

Unique IDs

Farm ID	Unique Farm ID assigned by FSA
Tract ID	Unique Tract ID assigned by FSA
Field ID	Unique Field ID assigned by FSA
State or territory of field	State name (must match FSA farm enrollment data)
County of field	County name (must match FSA farm enrollment data)

Environmental benefits

Data element name: Environmental benefits

Reporting question: Are environmental benefits other than GHGs being tracked in the field?

Description: Tracking of environmental benefits other than greenhouse gas emission reductions and carbon sequestration in the enrolled field. Tracking means at a minimum using some form of monitoring and reporting that can quantify benefits.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Yes
- No
- I don't know

Logic: None – all respond

Required: Yes

Data collection level: Field

Data collection frequency: Annual

Reduction in nitrogen loss

Data element name: Reduction in nitrogen loss

Reporting question: Are reductions in nitrogen losses being tracked in the field?

Description: Tracking reductions in nitrogen losses in the enrolled field. Tracking means at a minimum using some form of monitoring and reporting that can quantify benefits.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Yes
- No
- I don't know

Logic: Respond if yes to 'Environmental benefits'

Required: Yes

Data collection level: Field

Data collection frequency: Annual

Reduction in nitrogen loss amount

Data element name: Reduction in nitrogen loss amount

Reporting question: How much reduction in nitrogen losses have been measured in the field?

Description: Total amount of reduction in nitrogen losses that is measured and reported in the enrolled field.

Data type: Decimal

Select multiple values: No

Measurement unit: Amount

Allowed values: 0-1,000,000

Logic: Respond if yes to 'Reduction in nitrogen loss'

Required: Yes

Data collection level: Field

Data collection frequency: Annual

Reduction in nitrogen loss amount unit

Data element name: Reduction in nitrogen loss amount unit	**Reporting question:** What is the unit for how much reduction in nitrogen losses have been measured in the field?
Description: Unit for the total amount of reduction in nitrogen losses that is measured and reported in the enrolled field. If "other" is chosen, enter the appropriate value as free text in the additional column.	
Data type: List	**Select multiple values**: No
Measurement unit: Category	**Allowed values:** • Kilograms • Metric tons • Pounds • Other (specify)
Logic: Respond if yes to 'Reduction in nitrogen loss'	**Required:** Yes
Data collection level: Field	**Data collection frequency:** Annual

Reduction in nitrogen loss purpose

Data element name: Reduction in nitrogen loss purpose	**Reporting question:** What is the purpose of tracking reduction in nitrogen losses?
Description: Purpose of tracking reduction in nitrogen losses in the enrolled field. If "other" is chosen, enter the appropriate value as free text in the additional column.	
Data type: List	**Select multiple values**: No
Measurement unit: Category	**Allowed values:** • Commodity marketing • Producing insets • Producing offsets • I don't know • Other (specify)
Logic: Respond if yes to 'Reduction in nitrogen loss'	**Required:** Yes
Data collection level: Project	**Data collection frequency:** Annual

Reduction in phosphorus loss

Data element name: Reduction in phosphorus loss	**Reporting question:** Are reductions in phosphorus losses being tracked in the field?
Description: Tracking of reductions in phosphorus losses in the enrolled field. Tracking means at a minimum using some form of monitoring and reporting that can quantify benefits.	
Data type: List	**Select multiple values**: No
Measurement unit: Category	**Allowed values:** • Yes • No • I don't know
Logic: Respond if yes to 'Environmental benefits'	**Required:** Yes
Data collection level: Field	**Data collection frequency:** Annual

Reduction in phosphorus loss amount

Data element name: Reduction in phosphorus loss amount	**Reporting question:** How much reduction in phosphorus losses have been measured in the field?
Description: Total amount of reduction in phosphorus losses that is measured in the field.	
Data type: Decimal	**Select multiple values**: No
Measurement unit: Amount	**Allowed values:** 0-1,000,000
Logic: Respond if yes to 'Reduction in phosphorus loss'	**Required:** Yes
Data collection level: Field	**Data collection frequency:** Annual

Reduction in phosphorus loss amount unit

Data element name: Reduction in phosphorus loss amount unit	**Reporting question:** What is the unit for the reduction in phosphorus losses measured in the field?
Description: Unit for the total amount of reduction in phosphorus losses that is measured in the enrolled field. If "other" is chosen, enter the appropriate value as free text in the additional column.	
Data type: List	**Select multiple values**: No
Measurement unit: Category	**Allowed values:** • Kilograms • Metric tons • Pounds • Other (specify)
Logic: Respond if yes to 'Reduction in phosphorus loss'	**Required:** Yes
Data collection level: Field	**Data collection frequency:** Annual

Reduction in phosphorus loss purpose

Data element name: Reduction in phosphorus loss purpose	**Reporting question:** What is the purpose of tracking reductions in phosphorus losses?
Description: Purpose of tracking reduction in phosphorus losses in the enrolled field. If "other" is chosen, enter the appropriate value as free text in the additional column.	
Data type: List	**Select multiple values**: No
Measurement unit: Category	**Allowed values:** • Commodity marketing • Producing insets • Producing offsets • I don't know • Other (specify)
Logic: Respond if yes to 'Reduction in phosphorus loss'	**Required:** Yes
Data collection level: Field	**Data collection frequency:** Annual

Other water quality

Data element name: Other water quality	**Reporting question:** Are other water quality metrics being tracked in the field?
Description: Project tracking of other water quality metrics in the enrolled field. Tracking means at a minimum using some form of monitoring and reporting that can quantify benefits.	
Data type: List	**Select multiple values**: No
Measurement unit: Category	**Allowed values:** • Yes • No • I don't know
Logic: Respond if yes to 'Environmental benefits'	**Required:** Yes
Data collection level: Field	**Data collection frequency:** Annual

Other water quality type	
Data element name: Other water quality type	**Reporting question:** What type of other water quality metric have been measured in the field?
Description: Type of other water quality metric (besides nitrogen loss and phosphorus loss reductions) that is measured in the field. If "other" is chosen, enter the appropriate value as free text in the additional column.	
Data type: List	**Select multiple values**: No
Measurement unit: Category	**Allowed values:** • Sediment load reduction • Temperature • Other (specify)
Logic: Respond if yes to 'Other water quality'	**Required:** Yes
Data collection level: Field	**Data collection frequency:** Annual

Other water quality amount	
Data element name: Other water quality amount	**Reporting question:** How much reduction in other water quality metrics have been measured in the field?
Description: Total amount of reduction in other water quality metrics that is measured in the enrolled field.	
Data type: Decimal	**Select multiple values**: No
Measurement unit: Amount	**Allowed values:** 0-1,000,000
Logic: Respond if yes to 'Other water quality'	**Required:** Yes
Data collection level: Field	**Data collection frequency:** Annual

Other water quality amount unit	
Data element name: Other water quality amount unit	**Reporting question:** What is the unit for the reduction in other water quality metrics measured in the field?
Description: Unit for the total amount of reduction in other water quality metrics that is measured in the enrolled field. If "other" is chosen, enter the appropriate value as free text in the additional column.	
Data type: List	**Select multiple values**: No
Measurement unit: Category	**Allowed values:** • Degrees F • Kilograms • Kilograms per liter • Metric tons • Pounds • Other (specify)
Logic: Respond if yes to 'Other water quality'	**Required:** Yes
Data collection level: Field	**Data collection frequency:** Annual

Other water quality purpose

Data element name: Other water quality purpose	**Reporting question:** What is the purpose of tracking other water quality benefits?
Description: Purpose of tracking other water quality benefits in the enrolled field. If "other" is chosen, enter the appropriate value as free text in the additional column.	
Data type: List	**Select multiple values**: No
Measurement unit: Category	**Allowed values:** • Commodity marketing • Producing insets • Producing offsets • I don't know • Other (specify)
Logic: Respond if yes to 'Other water quality'	**Required:** Yes
Data collection level: Field	**Data collection frequency:** Annual

Water quantity

Data element name: Water quantity	**Reporting question:** Is water conservation being tracked in the field?
Description: Tracking of water conservation or reduction in use in the enrolled field. Tracking means at a minimum using some form of monitoring and reporting that can quantify benefits.	
Data type: List	**Select multiple values**: No
Measurement unit: Category	**Allowed values:** • Yes • No • I don't know
Logic: Respond if yes to 'Environmental benefits'	**Required:** Yes
Data collection level: Field	**Data collection frequency:** Annual

Water quantity amount

Data element name: Water quantity amount	**Reporting question:** How much water conservation has been measured in the field?
Description: Total amount of water conservation or reduction that is measured in the field.	
Data type: Decimal	**Select multiple values**: No
Measurement unit: Amount	**Allowed values:** 0-1,000,000
Logic: Respond if yes to 'Water quantity'	**Required:** Yes
Data collection level: Field	**Data collection frequency:** Annual

Water quantity amount unit

Data element name: Water quantity amount unit	**Reporting question:** What is the unit for the amount of water conservation measured in the field?
Description: Unit for the total amount of water conservation or reduced use that is measured and reported in the enrolled field. If "other" is chosen, enter the appropriate value as free text in the additional column.	
Data type: List	**Select multiple values**: No
Measurement unit: Category	**Allowed values:** • Acre-feet • Cubic feet • Other (specify)
Logic: Respond if yes to 'Water quantity'	**Required:** Yes
Data collection level: Field	**Data collection frequency:** Annual

Water quantity purpose

Data element name: Water quantity purpose	**Reporting question:** What is the purpose of tracking water conservation?
Description: Purpose of tracking water conservation or reductions in water use in the enrolled field. If "other" is chosen, enter the appropriate value as free text in the additional column.	
Data type: List	**Select multiple values**: No
Measurement unit: Category	**Allowed values:** • Commodity marketing • Producing insets • Producing offsets • I don't know • Other (specify)
Logic: Respond if yes to 'Water quantity'	**Required:** Yes
Data collection level: Field	**Data collection frequency:** Annual

Reduced erosion

Data element name: Reduced erosion	**Reporting question:** Is reduced soil erosion being tracked in the field?
Description: Tracking of reduced soil erosion in the enrolled field. Tracking means at a minimum using some form of monitoring and reporting that can quantify benefits.	
Data type: List	**Select multiple values**: No
Measurement unit: Category	**Allowed values:** • Yes • No • I don't know
Logic: Respond if yes to 'Environmental benefits'	**Required:** Yes
Data collection level: Field	**Data collection frequency:** Annual

Reduced erosion amount

Data element name: Reduced erosion amount	**Reporting question:** How much erosion reduction has been measured in the field?
Description: Total amount of erosion reduction that is measured in the enrolled field.	
Data type: Decimal	**Select multiple values**: No
Measurement unit: Amount	**Allowed values:** 0-1,000,000
Logic: Respond if yes to 'Reduced erosion'	**Required:** Yes
Data collection level: Field	**Data collection frequency:** Annual

Reduced erosion amount unit

Data element name: Reduced erosion unit	**Reporting question:** What is the unit for the amount of erosion reduction measured?
Description: Unit for the total amount of erosion reduction from enrolled fields that is measured and reported by the project. If "other" is chosen, enter the appropriate value as free text in the additional column.	
Data type: List	**Select multiple values**: No
Measurement unit: Category	**Allowed values:** • Tons • Other (specify)
Logic: Respond if yes to 'Reduced erosion'	**Required:** Yes
Data collection level: Field	**Data collection frequency:** Annual

Reduced erosion purpose

Data element name: Reduced erosion purpose	**Reporting question:** What is the purpose of tracking reduced erosion in the field?
Description: Purpose of tracking reduced erosion the enrolled field. If "other" is chosen, enter the appropriate value as free text in the additional column.	
Data type: List	**Select multiple values**: No
Measurement unit: Category	**Allowed values:** • Commodity marketing • Producing insets • Producing offsets • I don't know • Other (specify)
Logic: Respond if yes to 'Reduced erosion'	**Required:** Yes
Data collection level: Field	**Data collection frequency:** Annual

Reduced energy use

Data element name: Reduced energy use	**Reporting question:** Is reduced energy use being tracked in the field?
Description: Tracking of reduced energy use in the enrolled field. Tracking means at a minimum using some form of monitoring and reporting that can quantify benefits.	
Data type: List	**Select multiple values**: No
Measurement unit: Category	**Allowed values:** • Yes • No • I don't know
Logic: Respond if yes to 'Environmental benefits'	**Required:** Yes
Data collection level: Field	**Data collection frequency:** Annual

Reduced energy use amount

Data element name: Reduced energy use amount	**Reporting question:** How much energy use reduction has been measured in the field?
Description: Total amount of energy use reduction that is measured in the enrolled field.	
Data type: Decimal	**Select multiple values**: No
Measurement unit: Amount	**Allowed values:** 0-1,000,000
Logic: Respond if yes to 'Reduced energy use'	**Required:** Yes
Data collection level: Field	**Data collection frequency:** Annual

Reduced energy use amount unit

Data element name: Reduced energy use unit	**Reporting question:** What is the unit for the energy use reduction measured in the field?
Description: Unit for the total amount of energy use reduction that is measured in the enrolled field. If "other" is chosen, enter the appropriate value as free text in the additional column.	
Data type: List	**Select multiple values**: No
Measurement unit: Category	**Allowed values:** • Kilowatt hours • Other (specify)
Logic: Respond if yes to 'Reduced energy use'	**Required:** Yes
Data collection level: Field	**Data collection frequency:** Annual

Reduced energy use purpose

Data element name: Reduced energy use purpose

Reporting question: What is the purpose of tracking reduced energy use in the field?

Description: Purpose of tracking reduced energy use in the enrolled field. If "other" is chosen, enter the appropriate value as free text in the additional column.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Commodity marketing
- Producing insets
- Producing offsets
- I don't know
- Other (specify)

Logic: Respond if yes to 'Reduced energy use'

Required: Yes

Data collection level: Field

Data collection frequency: Annual

Avoided land conversion

Data element name: Avoided land conversion

Reporting question: Is avoided land conversion being tracked in the field?

Description: Tracking of avoided land conversion in the enrolled field. Tracking means at a minimum using some form of monitoring and reporting that can quantify benefits. Land conservation means land use changing from agricultural uses to non-agricultural uses.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Yes
- No
- I don't know

Logic: Respond if yes to 'Environmental benefits'

Required: Yes

Data collection level: Field

Data collection frequency: Annual

Avoided land conversion amount

Data element name: Avoided land conversion amount

Reporting question: How much avoided land conversion has been measured in the field?

Description: Total amount of avoided land conversion that is measured in the enrolled field.

Data type: Decimal

Select multiple values: No

Measurement unit: Amount

Allowed values: 0-1,000,000

Logic: Respond if yes to 'Avoided land conversion'

Required: Yes

Data collection level: Field

Data collection frequency: Annual

Avoided land conversion amount unit

Data element name: Avoided land conversion unit

Reporting question: What is the unit for the amount of avoided land conversion measured in the field?

Description: Unit for the total amount of avoided land conversion that is measured in the enrolled field. If "other" is chosen, enter the appropriate value as free text in the additional column.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Acres
- Other (specify)

Logic: Respond if yes to 'Avoided land conversion'

Required: Yes

Data collection level: Field

Data collection frequency: Annual

Avoided land conversion purpose

Data element name: Avoided land conversion purpose

Reporting question: What is the purpose of tracking avoided land conversion in the field?

Description: Purpose of tracking avoided land conversion in the enrolled field. If "other" is chosen, enter the appropriate value as free text in the additional column.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Commodity marketing
- Producing insets
- Producing offsets
- I don't know
- Other (specify)

Logic: Respond if yes to 'Avoided land conversion'

Required: Yes

Data collection level: Field

Data collection frequency: Annual

Improved wildlife habitat

Data element name: Improved wildlife habitat

Reporting question: Are improvements to wildlife habitat being tracked in the field?

Description: Tracking of improvements to wildlife in and around the enrolled field. Tracking means at a minimum using some form of monitoring and reporting that can quantify benefits.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Yes
- No
- I don't know

Logic: Respond if yes to 'Environmental benefits'

Required: Yes

Data collection level: Field

Data collection frequency: Annual

Improved wildlife habitat amount

Data element name: Improved wildlife habitat amount

Reporting question: How much improved wildlife habitat has been measured in the field?

Description: Total amount of improved wildlife habitat that is measured in and around the enrolled fields.

Data type: Decimal

Select multiple values: No

Measurement unit: Amount

Allowed values: 0-1,000,000

Logic: Respond if yes to 'Improved wildlife habitat'

Required: Yes

Data collection level: Field

Data collection frequency: Annual

Improved wildlife habitat amount unit

Data element name: Improved wildlife habitat unit

Reporting question: What is the unit for the amount of improved wildlife habitat measured in the field?

Description: Unit for the total amount of improved wildlife habitat that is measured in and around enrolled fields. If "other" is chosen, enter the appropriate value as free text in the additional column.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Acres
- Linear feet
- Other (specify)

Logic: Respond if yes to 'Improved wildlife habitat'

Required: Yes

Data collection level: Field

Data collection frequency: Annual

Improved wildlife habitat purpose	
Data element name: Improved wildlife habitat purpose	**Reporting question:** What is the purpose of tracking improved wildlife habitat in the field?
Description: Purpose of tracking improved wildlife habitat in the enrolled field. If "other" is chosen, enter the appropriate value as free text in the additional column.	
Data type: List	**Select multiple values**: No
Measurement unit: Category	**Allowed values:** • Commodity marketing • Producing insets • Producing offsets • I don't know • Other (specify)
Logic: Respond if yes to 'Improved wildlife habitat'	**Required:** Yes
Data collection level: Field	**Data collection frequency:** Annual

CSAF Practice Sub-questions

For some CSAF practices, there is an additional set of questions that are unique to each practice. Responses to these questions are needed to verify estimated GHG benefits of these practices. If a field is implementing a CSAF practice with an NRCS CPS code in Table 11, answer the follow-up questions listed next to the relevant practice name in the table. Use the *Supplemental Reporting Workbook – CSAF Practice Sub-questions* to report the required information.

Table 11. Follow-on questions for select CSAF practices

Practice name and code	Follow-up question	Options (select one)
Alley Cropping (CPS 311)	Species category (select most common/extensive type if using more than one)	Coniferous trees Deciduous trees Shrubs
	Species density (number of trees planted per acre)	1-10,000
Anaerobic Digester (CPS 366)	Waste storage system prior to installing anaerobic digester	Aerobic lagoon Anaerobic digester (complex mix) with energy generation Anaerobic digester (plug flow) with energy generation Anaerobic lagoon Composting Covered lagoon (no energy generation or flaring) Covered lagoon with energy generation Covered lagoon with flaring Daily spread Deep bedding pack Deep pit Dry lot Dry stacking/solid storage Pasture/range/paddock Poultry with bedding Poultry without bedding (e.g., high rise) Slurry tank/basin
	Digester type	Covered lagoon with energy generation Covered lagoon with flaring Covered lagoon (no energy generation or flaring) Complex mix with energy generation Plug flow with energy generation Other (specify)
	Additional feedstock source (select most common if using more than one)	Food waste Straw or bedding Wastewater Other (specify)

Combustion System Improvement (CPS 372)	Fuel type before installation	Coal Diesel Electricity Gasoline Kerosene Liquified petroleum gas (LPG) Natural gas Propane Wood Other (specify)
	Fuel amount before installation	0-1,000,000
	Fuel amount unit before installation	Cubic feet (natural gas) Gallons (diesel, gasoline, propane, LPG, kerosene) Kilowatt-hours (electricity) Pounds (wood, coal) Other (specify)
	Fuel type after installation	Coal Diesel Electricity Gasoline Kerosene Liquified petroleum gas (LPG) Natural gas Propane Wood Other (specify)
	Fuel amount after installation	0-1,000,000
	Fuel amount unit after installation	Cubic feet (natural gas) Gallons (diesel, gasoline, propane, LPG, kerosene) Kilowatt-hours (electricity) Pounds (wood, coal) Other (specify)
Conservation Cover (CPS 327)	Species category (select most common/extensive type if using more than one)	Brassicas Grasses Legumes Non-legume broadleaves Shrubs

Conservation Crop Rotation (CPS 328)	Conservation crop type	Brassica Broadleaf Cool season Grass Legume Warm season
	Change implemented	Added perennial crop Reduced fallow period Both
	Conservation crop rotation tillage type	Conventional (plow, chisel, disk) No-till, direct seed Reduced till Strip till None Other (specify)
	Total conservation crop rotation length in days	1-120
Contour Buffer Strips (CPS 332)	Strip width (feet)	1-100
	Species category	Grasses Forbs Mix
Cover Crop (CPS 340)	Species category (select most common/extensive type if using more than one)	Brassicas Forbs Grasses Legume Non-legume broadleaves
	Cover crop planned management	Grazing Haying Termination
	Cover crop termination method	Burning Herbicide application Incorporation Mowing Rolling/crimping Winter kill/frost
Critical Area Planting (CPS 342)	Species category (select most common/extensive type if using more than one)	Grass Grass legume/forb mix Herbaceous woody mix Perennial or reseeding Shrubs Trees
Feed Management (CPS 592)	Crude protein (percent)	0-100
	Fat (percent)	0-100
	Feed additives/supplements	Chemical Edible oils/fats Seaweed/kelp Other (specify)
Field Border (CPS 386)	Species category (select most common/extensive type if using more than one)	Forbs Grasses Mix Shrubs

Filter Strip (CPS 393)	Strip width (feet)	20-1,000
	Species category (select most common/extensive type if using more than one)	Forbs Grasses Mix Shrubs
Forest Farming (CPS 379)	Land use in previous year	Forest Multi-story cropping Pasture/grazing land Row crops Other agroforestry
Forest Stand Improvement (CPS 666)	Purpose for implementation	Maintain or improve forest carbon stocks Maintain or improve forest health and productivity Maintain or improve forest structure and composition Maintain or improve wildlife, fish, and pollinator habitat Manage natural precipitation more efficiently Reduce forest pest pressure Reduce forest wildfire hazard
Grassed Waterway (CPS 412)	Species category (select most common/extensive type if using more than one)	Flowering Plants Forbs Grasses
Hedgerow Planting (CPS 422)	Species category (select most common/extensive type if using more than one)	Grasses Shrubs Trees
	Species density (number of trees planted per acre)	1-10,000
Herbaceous Wind Barriers (CPS 603)	Species category (select most common/extensive type if using more than one)	Forbs Grasses Mix Shrubs
	Barrier width (feet)	1-1,000
	Number of rows	1-100
Mulching (CPS 484)	Mulch type	Gravel Natural Synthetic Wood
	Mulch cover (percent of field)	0-100

Nutrient management (CPS 590)	Nutrient type with CPS 590	Biosolids Commercial fertilizers Compost EEF (nitrification inhibitor) EEF (slow or controlled release) EEF (urease inhibitor) Green manure Liquid animal manure Organic by-products Organic residues or materials Solid/semi-solid animal manure Wastewater
	Nutrient application method with CPS 590	Banded Broadcast Injection Irrigation Surface application Surface application with tillage Variable rate
	Nutrient application method in the previous year	Banded Broadcast Injection Irrigation Surface application Surface application with tillage Variable rate
	Nutrient application timing with CPS 590	Single pre-planting Single post-planting Split pre- and post-planting Split post-planting
	Nutrient application timing in the previous year	Single pre-planting Single post-planting Split pre- and post-planting Split post-planting
	Nutrient application rate with CPS 590	0-20,000
	Nutrient application rate unit with CPS 590	Gallons per acre Pounds per acre
	Nutrient application rate change	Decrease compared to previous year Increase compared to previous year No change
Pasture and Hay Planting (CPS 512)	Species category (select most common/extensive type if using more than one)	Cool-season broadleaf Cool-season grass Warm-season broadleaf Warm-season grass
	Termination process	Grazing Haying (i.e., cutting and baling) Other (specify)
Prescribed Grazing (CPS 528)	Grazing type	Cell grazing Deferred rotational Management intensive Rest-rotation

Range Planting (CPS 550)	Species category (select most common/extensive type if using more than one)	Forbs Grasses Legumes Shrubs Trees
Residue and Tillage Management – No-till (CPS 329)	Surface disturbance	None Seed row only
Residue and Tillage Management – Reduced Till (CPS 345)	Surface disturbance	None Seed row/ridge tillage for planting Shallow across most of the soil surface Vertical/mulch
Riparian Forest Buffer (CPS 391)	Species category (select most common/extensive type if using more than one)	Coniferous trees Deciduous trees Shrubs
	Species density (number of trees planted per acre)	1-10,000
Riparian Herbaceous Cover (CPS 390)	Species category (select most common/extensive type if using more than one)	Ferns Forbs Grasses Legumes Rushes Sedges
Roofs and Covers (CPS 367)	Roof/cover type	Concrete Flexible geomembrane Metal Timber Other (specify)
Silvopasture (CPS 381)	Species category (select most common/extensive type if using more than one)	Coniferous trees Deciduous trees Forage Shrubs
	Species density (number of trees planted per acre)	1-10,000
Stripcropping (CPS 585)	Strip width (feet)	1-1,000
	Crop category (select most common/extensive type if using more than one)	Erosion resistant crops Fallow Sediment trapping crops
	Number of strips	2-100
Tree/Shrub Establishment (CPS 612)	Species category (select most common/extensive type if using more than one)	Coniferous trees Deciduous trees Shrubs
	Species density (number of trees planted per acre)	1-10,000
Vegetative Barrier (CPS 601)	Species category (select most common/extensive type if using more than one)	Grasses Grass forb mix Grass legume mix
	Barrier width (feet)	3-1,000

Waste Separation Facility (CPS 632)	Separation type	Chemical (e.g., salts, polymers) Mechanical (e.g., screens, presses) Settling basin
	Most common use of solids	Bedding Field applied Other (specify)
Waste Storage Facility (CPS 313)	Waste storage system prior to installing your waste storage facility	Aerobic lagoon Anaerobic digester (complex mix) with energy generation Anaerobic digester (plug flow) with energy generation Anaerobic lagoon Composting Covered lagoon (no energy generation or flaring) Covered lagoon with energy generation Covered lagoon with flaring Daily spread Deep bedding pack Deep pit Dry lot Dry stacking/solid storage Pasture/range/paddock Poultry with bedding Poultry without bedding (e.g., high rise) Slurry tank/basin
Waste Treatment (CPS 629)	Treatment type	Biological Chemical Mechanical
Waste Treatment Lagoon (CPS 359)	Waste storage system prior to installing waste treatment lagoon	Aerobic lagoon Anaerobic digester (complex mix) with energy generation Anaerobic digester (plug flow) with energy generation Anaerobic lagoon Composting Covered lagoon (no energy generation or flaring) Covered lagoon with energy generation Covered lagoon with flaring Daily spread Deep bedding pack Deep pit Dry lot Dry stacking/solid storage Pasture/Range/Paddock Poultry with bedding Poultry without bedding (e.g., high rise) Slurry tank/basin
	Is there a lagoon cover/crust?	Yes No
	Is there lagoon aeration?	Yes No

Windbreak/Shelterbelt Establishment and Renovation (CPS 380)	Species category (select most common/extensive type if using more than one)	Coniferous trees Deciduous trees Shrubs
	Species density (number of trees planted per acre)	1-10,000

Appendix A: Climate-smart Agriculture and Forestry Practices

All NRCS Practice Standards (not limited to climate-smart practices)

309, Agrichemical Handling Facility
311, Alley Cropping
313, Waste Storage Facility
314, Brush Management
315, Herbaceous Weed Treatment
316, Animal Mortality Facility
317, Composting Facility
318, Short Term Storage of Animal Waste and By-Products
319, On-Farm Secondary Containment Facility
320, Irrigation Canal or Lateral
324, Deep Tillage
325, High Tunnel System
326, Clearing and Snagging
327, Conservation Cover
328, Conservation Crop Rotation
329, Residue and Tillage Management, No Till
330, Contour Farming
331, Contour Orchard and Other Perennial Crops
332, Contour Buffer Strips
333, Amending Soil Properties with Gypsum Products
334, Controlled Traffic Farming
336, Soil Carbon Amendment
338, Prescribed Burning
340, Cover Crop
342, Critical Area Planting
345, Residue and Tillage Management, Reduced Till
348, Dam, Diversion
350, Sediment Basin
351, Well Decommissioning
353, Monitoring Well
355, Groundwater Testing
356, Dike and Levee
359, Waste Treatment Lagoon
360, Waste Facility Closure
362, Diversion
366, Anaerobic Digester
367, Roofs and Covers
368, Emergency Animal Mortality Management
371, Air Filtration and Scrubbing
372, Combustion System Improvement
373, Dust Control on Unpaved Roads and Surfaces
374, Energy Efficient Agricultural Operation
375, Dust Management for Pen Surfaces
376, Field Operations Emissions Reduction
378, Pond
379, Forest Farming
380, Windbreak/Shelterbelt Establishment and Renovation
381, Silvopasture
382, Fence
383, Fuel Break
384, Woody Residue Treatment
386, Field Border
388, Irrigation Field Ditch
390, Riparian Herbaceous Cover
391, Riparian Forest Buffer
393, Filter Strip
394, Firebreak
395, Stream Habitat Improvement and Management
396, Aquatic Organism Passage
397, Aquaculture Pond
398, Fish Raceway or Tank
399, Fishpond Management
400, Bivalve Aquaculture Gear and Biofouling Control
402, Dam
410, Grade Stabilization Structure
412, Grassed Waterway
420, Wildlife Habitat Planting
422, Hedgerow Planting
423, Hillside Ditch
428, Irrigation Ditch Lining
428A, Irrigation Water Conveyance, Ditch and Canal Lining, Plain Concrete
428B, Irrigation Water Conveyance, Ditch and Canal Lining, Flexible Membrane
428C, Irrigation Water Conveyance, Ditch and Canal Lining, Galvanized Steel
430, Irrigation Pipeline
432, Dry Hydrant
436, Irrigation Reservoir
441, Irrigation System, Microirrigation
442, Sprinkler System
443, Irrigation System, Surface and Subsurface
447, Irrigation and Drainage Tailwater Recovery
449, Irrigation Water Management
450, Anionic Polyacrylamide (PAM) Application
453, Land Reclamation, Landslide Treatment
455, Land Reclamation, Toxic Discharge Control
457, Mine Shaft and Adit Closing
460, Land Clearing
462, Precision Land Forming and Smoothing
464, Irrigation Land Leveling
466, Land Smoothing
468, Lined Waterway or Outlet
472, Access Control
484, Mulching
490, Tree/Shrub Site Preparation
500, Obstruction Removal
511, Forage Harvest Management
512, Pasture and Hay Planting
516, Livestock Pipeline
520, Pond Sealing or Lining, Compacted Soil Treatment
521, Pond Sealing or Lining, Geomembrane or Geosynthetic Clay Liner
521A, Pond Sealing or Lining, Flexible Membrane
521B, Pond Sealing or Lining, Soil Dispersant
521C, Pond Sealing or Lining, Bentonite Sealant

521D, Pond Sealing or Lining, Compacted Clay Treatment
522, Pond Sealing or Lining - Concrete
527, Sinkhole Treatment
528, Prescribed Grazing
533, Pumping Plant
543, Land Reclamation, Abandoned Mined Land
544, Land Reclamation, Currently Mined Land
548, Grazing Land Mechanical Treatment
550, Range Planting
554, Drainage Water Management
555, Rock Wall Terrace
557, Row Arrangement
558, Roof Runoff Structure
560, Access Road
561, Heavy Use Area Protection
562, Recreation Area Improvement
566, Recreation Land Improvement and Protection
570, Stormwater Runoff Control
572, Spoil Disposal
574, Spring Development
575, Trails and Walkways
576, Livestock Shelter Structure
578, Stream Crossing
580, Streambank and Shoreline Protection
582, Open Channel
584, Channel Bed Stabilization
585, Stripcropping
587, Structure for Water Control
588, Crosswind Ridges
589, Cross Wind Trap Strips
590, Nutrient Management
591, Amendments for Treatment of Agricultural Waste
592, Feed Management
595, Pest Management Conservation System
600, Terrace
601, Vegetative Barrier
602, Equitable Relief
603, Herbaceous Wind Barriers
604, Saturated Buffer
605, Denitrifying Bioreactor
606, Subsurface Drain
607, Surface Drain, Field Ditch
608, Surface Drain, Main or Lateral
609, Surface Roughening
610, Salinity and Sodic Soil Management
612, Tree/Shrub Establishment
614, Watering Facility
620, Underground Outlet
629, Waste Treatment
630, Vertical Drain
632, Waste Separation Facility
633, Waste Recycling
634, Waste Transfer
635, Vegetated Treatment Area
636, Water Harvesting Catchment
638, Water and Sediment Control Basin
640, Waterspreading
642, Water Well
643, Restoration of Rare or Declining Natural Communities
644, Wetland Wildlife Habitat Management
645, Upland Wildlife Habitat Management
646, Shallow Water Development and Management
647, Early Successional Habitat Development-Mgt
649, Structures for Wildlife
650, Windbreak/Shelterbelt Renovation
654, Road/Trail/Landing Closure and Treatment
655, Forest Trails and Landings
656, Constructed Wetland
657, Wetland Restoration
658, Wetland Creation
659, Wetland Enhancement
660, Tree-Shrub Pruning
666, Forest Stand Improvement
670, Energy Efficient Lighting System
672, Energy Efficient Building Envelope
736, Crop By-Product Transfer, interim
724, Water Treatment Facility, interim
735, Waste Gasification Facility, interim
737, Reduced Water and Energy Coffee Conveyance System, interim
740, Pond Sealing and Lining, Soil Cement, interim
751, Individual Terrace, interim
753, Infiltration Ditch, interim
755, Well Plugging, interim
770, Livestock Confinement Facility, interim
775, Drainage Ditch Covering, interim
782, Phosphorus Removal System, interim
800, Controlling Existing Flowing Wells, interim
803, Water Well Disinfection, interim
805, Amending Soil Properties with Lime, interim
808, Soil Carbon Amendment, interim
809, Conservation Harvest Management, interim
810, Annual Forages for Grazing Systems, interim
812, Raised Beds, interim
815, Groundwater Recharge Basin or Trench, interim
817, On-Farm Recharge, interim
818, Water Conservation System, interim
821, Low Tunnel Systems, interim
823, Organic Management, interim

Other CSAF Practices

Traditional or cultural practices
Microbial products
Solar power generation
Grain bin construction
Pre-season drainage

Appendix B: Commodity List

CROPS
ALFALFA
ALMONDS
AMARANTH GRAIN
APPLES
APRICOTS
ARONIA (CHOKEBERRY)
ARTICHOKES
ASPARAGUS
ATEMOYA
AVOCADOS
BAMBOO SHOOTS
BANANAS
BARLEY
BEANS
BEETS
BIRDSFOOT/TREFOIL
BLUEBERRIES
BREADFRUIT
BROCCOFLOWER
BROCCOLI
BROCCOLINI
BRUSSEL SPROUTS
BUCKWHEAT
CABBAGE
CACAO
CACTUS
CAIMITO
CALABAZA MELON
CALALOO
CAMELINA
CANARY MELON
CANARY SEED
CANEBERRIES
CANISTEL
CANOLA
CANTALOUPES
CARAMBOLA (STAR FRUIT)
CARROTS
CASHEW
CASSAVA
CAULIFLOWER
CELERIAC
CELERY
CHERIMOYA
CHERRIES
CHESTNUTS
CHICORY/RADICCHIO
CHINESE BITTER MELON
CHRISTMAS TREES
CHUFAS
CINNAMON
CLOVER
COCONUTS
COFFEE
CORN
COTTON ELS
COTTON UPLAND
CRANBERRIES
CRENSHAW MELON
CRUSTACEAN
CUCUMBERS
CURRANTS
DASHEEN
DATES
DURIAN
EGGPLANT
EINKORN
ELDERBERRIES
EMMER
FIGS
FINFISH
FLAX
FLOWERS
FORAGE SOYBEAN/SORGHUM
GAILON
GARLIC
GENIP
GINGER
GINSENG
GOOSEBERRIES
GOURDS
GRAPEFRUIT
GRAPES
GRASS
GREENS
GROUND CHERRY
GUAMABANA/SOURSOP
GUAR
GUAVA
GUAVABERRY
GUAYULE
HAZEL NUTS
HEMP
HERBS
HESPERALOE
HONEY
HONEYBERRIES
HONEYDEW
HOPS
HORSERADISH
HUCKLEBERRIES
HYBRID POPLAR TREES
IDLE
INDIGO
ISRAEL MELONS
JACK FRUIT
JERUSALEM ARTICHOKES
JICAMA
JOJOBA
JUJUBE
JUNEBERRIES
KENAF
KHORASAN
KIWIBERRY
KIWIFRUIT
KOCHIA (PROSTRATA)
KOHLRABI
KOREAN GOLDEN MELON
KUMQUATS
LAMBS EAR
LEEKS
LEMONS
LENTILS
LESPEDEZA
LETTUCE
LIMES
LONGAN
LOQUATS
LYCHEE
MANGOS
MANGOSTEEN
MAPLE SAP
MAYHAW BERRIES
MEADOWFOAM
MILKWEED
MILLET
MIXED FORAGE
MOHAIR
MOLLUSK
MORINGA
MULBERRIES
MUSHROOMS
MUSTARD
NECTARINES
NIGER SEED
NONI
OATS
OKRA
OLIVES
ONIONS
ORANGES
PAPAYA

PARSNIP
PASSION FRUITS
PAWPAW
PEACHES
PEANUTS
PEARS
PEAS
PECANS
PENNYCRESS
PEPPERS
PERENNIAL PEANUTS
PERIQUE TOBACCO
PERSIMMONS
PINE NUTS
PINEAPPLE
PISTACHIOS
PITAYA/DRAGONFRUIT
PLANTAIN
PLUMCOTS
PLUMS
POMEGRANATES
POTATOES
POTATOES SWEET
PRUNES
PSYLLIUM
PUMMELO
PUMPKINS
QUINCES
QUINOA
RADISHES
RAISINS
RAMBUTAN
RAPESEED
RHUBARB
RICE
RICE SWEET
RICE WILD
RUTABAGA
RYE
SAFFLOWER
SAPODILLA
SAPOTE
SCALLIONS
SESAME
SHALLOTS
SORGHUM
SORGHUM DUAL PURPOSE
SORGHUM FORAGE
SOYBEANS
SPELT
SQUASH
STAR GOOSEBERRY
STRAWBERRIES
SUGAR BEETS
SUGARCANE
SUNFLOWERS
SUNN HEMP
TANGELOS
TANGERINES
TANGORS
TANGOS
TANNIER
TARO
TEA
TEFF
TI
TOBACCO CIGAR WRAPPER
TOBACCO BURLEY
TOBACCO BURLEY 31V
TOBACCO CIGAR BINDER
TOBACCO CIGAR FILLER
TOBACCO CIGAR FILLER BINDER
TOBACCO DARK AIR CURED
TOBACCO FIRE CURED
TOBACCO FLUE CURED
TOBACCO MARYLAND
TOBACCO VIRGINIA FIRE CURED
TOMATILLOS
TOMATOES
TREES TIMBER
TRITICALE
TRUFFLES
TURNIPS
VETCH
WALNUTS
WAMPEE
WASABI
WATERMELON
WAX JAMBOO FRUIT
WHEAT
WILLOW SHRUB
WINTER MELON
WOLFBERRY/GOJI
YAM

LIVESTOCK
ALPACAS
BEEF COWS
BEEFALO
BUFFALO OR BISON
CHICKENS (BROILERS)
CHICKENS (LAYERS)
DAIRY COWS
DEER
DUCKS
ELK
EMUS
EQUINE
GEESE
GOATS
HONEYBEES
LLAMAS
REINDEER
SHEEP
SWINE
TURKEYS

Partnerships for Climate-Smart Commodities Additional Specific Terms and Conditions February 2023

I. Overarching Statement

The following award terms and conditions are applicable to Partnerships for Climate-Smart Commodities agreements and are in addition to the USDA FPAC General Terms and Conditions. The award recipient must abide by all terms of this grant including, but not limited to, the General Terms and Conditions, the terms in the Funding Opportunity and associated Frequently Asked Questions, and this addendum. The recipient must also deliver on the planned objectives in the project narrative and budget narrative associated with this grant.

II. Eligibility and Highly Erodible Lands and Wetlands Compliance

In order to be eligible for an incentive payment as a part of the Partnerships for Climate-Smart Commodities, a producer must:

- Establish Farm Records with the Farm Service Agency (FSA) (have farm, tract, and field numbers in place);
- Complete an AD-2047 (Customer Data Worksheet to facilitate the collection of customer data for Business Partner Record);
- Certify highly erodible land conservation (HEL) and wetland conservation (WC) compliance via Form AD-1026, Highly Erodible Land Conservation (HELC) and Wetland Conservation (WC) Certification; and
- Certify that they are not a foreign person or entity.

Farm, tract, and field numbers are required for the producer, and ultimately the Partnerships for Climate-Smart Commodities recipient, to report climate-smart practice implementation to USDA, as well as to certify and maintain HELC/WC compliance. This will require that some producers who do not already have these numbers, like perennial crop growers or feedlots, establish these records with USDA's FSA. Farm, tract, field numbers, producer name, and Core Customer I.D. (CCID) will be provided by the recipient to the National Program Officer as a part of routine grant reporting. Recipients must ensure that producers receiving financial assistance or incentives through this project use the same name as is included in the relevant FSA Business File for that Farm ID in any contracts or similar documentation kept by the recipient.

Producers are not bound by the payment limitations and the adjusted gross income (AGI) limitations that are in place for other USDA programs.

In order to demonstrate HELC/WC compliance for Partnerships for Climate-Smart Commodities incentive payments, producers will need to request a copy of their subsidiary print from their

USDA FSA field office. The Subsidiary Print includes print year specific eligibility related information about a selected producer. The producer will then provide this documentation to the Partnerships for Climate-Smart Commodities recipients as proof of compliance. A current year subsidiary print will be required for each crop year that the producer receives a payment, and HELC/WC eligibility information is provided under the AD-1026 and Conservation Compliance sections of subsidiary (determined by year, which can change at any time during the year or in a subsequent year). As is the case already, field offices will not be expected to provide documentation to anyone besides the producer themselves (and must always comply with Section 1619 limitations if they ever do provide documentation to third parties). Producers must have control of the land for the term of their beneficiary contract.

Recipients are responsible for determining producer eligibility within the funding opportunity requirements. Recipients must inform producers of eligibility requirements and direct them to local USDA offices for requested information as necessary, including but not limited to, farm and tract establishment and Highly Erodible Land and Wetland Compliance determinations. Privacy of producers is a priority throughout this process, and recipients are responsible for maintaining producer privacy in the process.

At minimum, the recipient will collect and review subsidiary reports from participating producers. They will ensure that the producer is listed as "compliant" in all sections of the conservation compliance portion of subsidiary and "certified" for AD-1026 before an incentive payment is made. If payments to a producer span more than one Federal fiscal year, the recipient will review an updated subsidiary print each fiscal year to ensure that the status is still compliant.

III. Other Environmental and Cultural Resources Reviews

A Finding of No Significant Impact (FONSI) was signed by USDA NRCS on August 26, 2022. A copy of the Programmatic Environmental Assessment for Partnerships for Climate-Smart Commodities is available at www.usda.gov/climate-smart-commodities . USDA may determine that additional environmental and cultural resources review is needed for any particular action under Partnerships for Climate-Smart Commodities. The recipient must not execute any beneficiary contracts under this grant agreement prior to receipt of a letter from USDA that specifically details:

1) further procedures deemed appropriate by the Agency to ensure a completed National Environmental Policy Act (NEPA) review and all appropriate consultation requirements are met, and
2) additional instructions for any unanticipated discoveries or conditions.

A resolution of support is required for projects on Tribal lands from the governing body of the Tribe with jurisdiction over that land, if the applicant is not the Tribe nor an entity owned or

operated by that Tribe. USDA may approve alternative documentation for resolutions when USDA deems necessary and legally sufficient.

IV. Producer Benefits

USDA encourages the recipient to disclose to participating producers the manner and amount for which any market premiums derived from the development of the relevant climate-smart commodity will be shared between participating parties, including producers. USDA will be monitoring producer benefits, in particular those to small and underserved producers, throughout the grant period. Recipients agree that their project(s) will implement a plan for engaging small and underserved producers as laid out in this agreement.

V. Producer Data Protection and Disclosure

Recipients must ensure each producer has convenient access to any data collected from that producer or the producer's land and any associated modeling as part of the project. The recipient must provide each producer applying for benefits under this grant a description in writing of how their information, including but not limited to data about their farm and commodities, will be utilized, protected and shared as applicable.

VI. Other Data and Reporting Requirements

In addition to the reporting information provided in the statement of work and General Terms and Conditions, USDA will provide a template for the Detailed Progress Report, also known as the Partnerships for Climate-Smart Commodities (PSCS) Project Reporting Workbook. Within 30 calendar days of execution of this grant, a copy of this workbook will be posted at www.usda.gov/climate-smart-commodities or an alternative location provided to the recipient by the National Program Officer. USDA may provide updates to the PCSC Project Reporting Workbook or submission methods to streamline the data collection process and/or reduce the burden on the recipient throughout the grant period. Generally, these updates will be provided at least 3 months in advance of any required changes. The recipient must not transfer any data to foreign governments or foreign entities without prior approval from USDA.

USDA will provide a Technical Contact for this grant. The Technical Contact will have the responsibility of technical oversight for USDA for the project. The recipient is responsible for providing the technical assistance required to successfully implement and complete the project. The recipient must comply with any requests for information from the Technical Contact. The Technical Contact for this award is the National Program Officer assigned to this grant.

Prior to execution of this grant, the recipient must provide a shapefile depicting the project boundary for enrollment under this grant. Producer enrollment may not occur outside this boundary without modification of this grant.

Within 30 calendar days of execution of this grant, the recipient must provide to the National Program Officer a website address where enrollment information will be posted for producers for the project associated with this grant. Recipients will be responsible for the following reports:

- Submit quarterly performance reports that include a written progress report, as well as additional reporting on specific data elements contained in the most up-to-date version of the Partnerships for Climate-Smart Commodities Project Reporting Workbook. Additional information about each reported element is described in the Data Dictionary.
- Submit supplemental reports required to validate greenhouse gas (GHG) benefit data, including: (1) an initial project MMRV plan, (2) field-modeled GHG benefit reports, and (3) field-direct GHG measurement results, as applicable. Additional information about these reports is in included in the Data Dictionary.
- Submit copies of project outputs and deliverables (e.g., fact sheets, reports) as attachments in ezFedGrants along with quarterly performance reports.
- Report the version of COMET-Planner used to estimate GHG benefits of the project within each quarterly performance report. As COMET-Planner is updated, recipients must adopt the latest version of the tool as directed by USDA for use in performance reports.

Recipients must designate an individual as a member of the USDA Partnerships for Climate-Smart Commodities Learning Network (Partnerships Network); this representative should be identified in the Project Narrative for this grant. Each project includes a plan for up to two Partnerships Network virtual meetings and two in-person meetings a year during the project duration. Dates and other details on events will be posted at www.usda.gov/climate-smart-commodities or an alternative location provided to the recipient by the National Program Officer.

The Partnerships Network will be co-chaired by representative from the USDA Office of the Chief Economist and the Farm Production and Conservation Mission Area. The Partnerships Network will inform synthesis reports to be assembled by USDA on a range of topics related to the implementation of Partnerships for Climate-Smart Commodities projects, including:

- Lessons-learned as projects are implemented;
- Options for providing technical assistance;
- Procedures for measurement/quantification, monitoring, reporting, and verifying GHG benefits;
- Options for tracing climate-smart commodities through the supply chain;
- Mechanisms for reducing costs of implementation;
- A forum for discussion and learning regarding approaches to climate-smart agriculture and forestry implementation (including but not limited to deployment and

measurement/quantification, monitoring, reporting, tracking, and verification of associated greenhouse gas benefits and marketing of climate-smart commodities).
- Synthesis of outcomes; and
- Opportunities for USDA and others to inform future approaches to generating new and expanded markets for climate-smart commodities.

The Partnerships Network topics to be discussed will cover at minimum the areas described in previous FAQs and will evolve with USDA's ongoing project data analysis efforts and with input from the project recipients on the kinds of sessions that will be most helpful to them in building the diverse climate-smart markets associated with their projects. Participation may include at least one interview a year and include questions related to the following areas:

- Technical assistance approaches, methods, and successes and/or challenges
- Producer outreach approaches, methods, and successes and/or challenges
- Monitoring, measurement, reporting, and verification (MMRV) approaches, methods, and successes and/or challenges
- Marketing approaches, methods, and successes and/or challenges
- Partnership approaches, methods, and successes and/or challenges
- Data collection and storage approaches, methods, and successes and/or challenges
- Supply chain approaches, methods and successes and/or challenges, including approaches to traceability
- Supply chain benefits and demand for climate-smart commodities
- Perspectives on program design, climate-smart commodity definitions, and future approaches or opportunities
- Project successes and stories

USDA may also request producer exit reports at a later date. Additional marketing and branding-related requirements may be provided by USDA, including signage related to Partnerships for Climate-Smart Commodities.

VII. Competition and Anti-Competitive Practices

In connection with this grant, recipients may not prohibit or otherwise limit a producer from changing the provider of other services or materials not included as part of this grant. Recipients may not condition, limit, steer, or discriminate in their provision or sale of non-project business functions or products to producers based on their participation or non-participation in or use of any services provided as part of this grant. Additionally, funds in this agreement shall not be used for purposes or activities related to mergers or acquisitions.

VIII. Suspension and Disbarment

The provisions governing Suspension and Disbarment in subsection 1.a.8 shall also apply to fraud, embezzlement, theft, forgery, bribery, falsification, or destruction of records, making false statements, or violations of the Federal civil antitrust or unfair trade practice laws.

IX. Special provisions for awards to for-profit entities as recipients

This section contains provisions that apply to awards to for-profit entities. These provisions are in addition to other applicable provisions of these terms and conditions, or they make exceptions from other provisions of the terms and conditions for awards to for-profit entities. For-profit entities that receive awards have two options regarding audits:

1) A financial related audit of a particular award in accordance with Generally Accepted Government Auditing Standards issued by the Comptroller General of the United States, in those cases where the for-profit entity receives awards under only one USDA program; or, if awards are received under multiple USDA programs, a financial related audit of all awards in accordance with Generally Accepted Government Auditing Standards issued by the Comptroller General of the United States; or

2) An audit that meets the requirements contained in 2 CFR 200 subpart F.

For-profit entities that receive annual awards totaling less than the audit requirement threshold in 2 CFR 200 subpart F are exempt from USDA audit requirements for that year, but records must be available for review by appropriate officials of Federal agencies or the Government Accountability Office.

X. Non-Disparagement

Recipients may not engage in any advertising deemed by USDA as disparaging to another agricultural commodity or competing product, or in violation of the prohibition against false and misleading advertising. Disparagement is defined as anything that depicts other commodities in a negative or unpleasant light via overt or subjective video, photography, or statements. Comparative advertising is allowable, provided the presentation of facts is truthful, objective, not misleading, and supported by a reasonable basis.