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:
NR243A750004G006		Date of Final Signature - 11/01/2028	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	PRINCE GEORGE'S COUNTY MARYLAND 1301 MCCORMICK DRIVE ROOM 4200 LARGO MD 20774-5416 UEI Number / DUNS Number: EG8RRDV51SP8 / 058592189 EIN:

7. NRCS Program Contact	8. NRCS Administrative Contact	9. Recipient Program Contact	10. Recipient Administrative Contact
Name: SOPHIE PARKER	Name: ADAM CARL	Name: Mary Abe	Name: Mary Abe
(b)(6)			

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

15. Project Title/ Description: Expands markets for climate-smart agricultural products in Prince George's County, Maryland, and supports farmer implementation and monitoring of climate-smart practices.

16. Entity Type: B = County Government

17. Select Funding Type

Select funding type:	☒ Federal	☒ Non-Federal
Original funds total	$3,250,000.00	$1,200,000.00
Additional funds total	$0.00	$0.00
Grand total	$3,250,000.00	$1,200,000.00

18. Approved Budget

Personnel	$0.00	Fringe Benefits	$0.00
Travel	$0.00	Equipment	$0.00
Supplies	$0.00	Contractual	$338,340.00
Construction	$0.00	Other	$2,911,660.00
Total Direct Cost	$3,250,000.00	Total Indirect Cost	$0.00
		Total Non-Federal Funds	$1,200,000.00
		Total Federal Funds Awarded	$3,250,000.00
		Total Approved Budget	$4,450,000.00

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	Signature	Date
KATINA HANSON **Acting Senor Advisor for Climate-Smart Commodities**	KATINA HANSON Digitally signed by KATINA HANSON Date: 2023.11.27 09:32:25 -06'00'	
Name and Title of Authorized Recipient Representative	Signature	Date
FLOYD E. HOLT **Deputy Chief Administrative Officer**		11/22/2023

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 the Prince George's County Government, 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 $4,450,000

TOTAL FEDERAL FUNDS $3,250,000
PERSONNEL $0.00
FRINGE BENEFITS $0.00
TRAVEL $0.00
EQUIPMENT $0
SUPPLIES $0.00
CONTRACTUAL $338,340.00
CONSTRUCTION $0.00
OTHER $2,911,660 (INCLUDES PRODUCER INCENTIVES $2,266,375)
TOTAL DIRECT COSTS 3,154,269.66
INDIRECT COSTS $0

TOTAL NON-FEDERAL FUNDS $1,200,000
PERSONNEL $650,000.00
FRINGE BENEFITS $253,500.00
TRAVEL $19,631
EQUIPMENT $0
SUPPLIES $0
CONTRACTUAL $0
CONSTRUCTION $0
OTHER $276,869.00 (IN-KIND CONTRIBUTION)
PRODUCER INCENTIVES $0
TOTAL DIRECT COSTS $1,200,000
INDIRECT COSTS $0

Recipient has elected to voluntarily waive indirect costs.

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

Link to GT&C

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

Prince George's County Climate-Smart Local Producers Pilot Program

Prince George's County Climate-Smart Local Producers Pilot Program

1 EXECUTIVE SUMMARY

NOTE: The original anticipated start date as per NFO USDA-NRCS-COMM-22-NOFO0001139 was Summer 2022. The actual start date is dependent upon the final approval of the negotiated grant agreement as required by County law governing agency fiscal budgets.

Prince George's County, Maryland, borders the eastern portion of Washington, D.C. At almost 500 square miles, the County is home to more than 910,000 people and 376 farms. Since 2010, the region's population has increased over 13 percent. During that time, Prince George's County population increased by over 103,000 people which represents essentially 16% of the Washington Metropolitan area's region's overall growth. With a rapidly expanding population, the County's once abundant natural resource and agriculture lands are under threat from urban sprawl. In Maryland, since 1982, developed land has increased by 55 percent while prime farmland has declined by 14 percent with a loss of about 1 million acres of farmland in the metropolitan Washington area since 1945.

With climate change accelerating, there is now a keen awareness of how critical keeping the region's ecosystem healthy and providing ample land resources and opportunities for local food production. The proposed project will pilot, evaluate, and build a *Climate-Smart Local Producers Program* to address marketing products grown using a variety of climate-centric practices. It will focus on breaking down barriers to implementing such practices on existing and new farms. Emphasis will be placed on encouraging the entry of historically underserved producers into the marketplace. This includes beginning farmers, socially disadvantaged farmers, veteran farmers, limited resource farmers, women farmers, and producers growing specialty crops. The project is structured around proving three hypotheses:

1. Climate-Smart Agriculture practices reduce local greenhouse gas emissions
2. Local consumers will pay more for products produced in Prince George's County, utilizing Climate-Smart Agriculture and Forestry (CSAF) practices
3. Climate-Smart Agriculture practices can reduce barriers for underserved populations, particularly Black, Latinx and Immigrant farmers.

The County will also establish a foundation to scale up and institutionalize pilot successes upon completion of the initial five-year USDA-funded project period.

Per implementation of the County's Climate Action Plan (CAP), the County's long-term goal is to enable an overall reduction in GHG emissions from farm practices by encouraging productive, net-positive agricultural land use. Supporting new and expanding green markets are not only

important to the County's CAP (see Priority Recommendation: A-10), but also essential to ensure that the County's agriculture sector remains competitive with surrounding counties. The County recognizes that farming practices will only shift with technical and educational support and in some cases, with financial incentives at least for a period of transition. The actual uptake of these conservation and farming practices depends on the willingness and ability of farmers to integrate them. It is critical that relevant incentives are put in place to promote rapid adoption. Increased support for CSAF technical assistance - including equipment (through incentive payments or cooperative exchanges) and farmer-led demonstration and training- is also vital.

The proposed project takes key pieces from studies such as What our region grows to eat and drink (Metropolitan Washington COG, 2019) and 2019 Chesapeake Foodshed Assessment and the work of the County's Food Equity Council to inform the development of a Climate-Smart Commodity Marketing Strategy that values and deepens engagement with the local food system. This includes promoting people's purchase of local foods and investing in agriculture workforce development. This pilot is a first step in bringing forth a future Prince George's County where our commitment to environmental justice, carbon neutrality, sequestration, food security and resilience result in active efforts to transform how land is used and valued.

A. APPLICANT CONTACT INFORMATION

The proposed project will be lead and administered by the Sustainability Division of the Prince George's County Department of the Environment (DoE). Questions regarding this proposal may be directed to the following applicant contact:

Ms. Mary Abe, Assistant Associate Director
Natural Resource & Climate Resilience Programs
Prince George's County Department of the Environment
(b)(6)

B. PROJECT PARTNERS

Prince George's County does not have a department of agriculture. The County's Department of Environment, with 230 full-time staff, is taking the lead on this effort at the request of the County Executive. DoE will work in direct partnership with the following organizations:

Public Partners:	**Non-Profit Partners:**
Prince George's County Government Agencies and Entities, including Department of the Environment (DoE) Prince George's Soil Conservation District {PGSCD)	Prince George's County Economic Development Corporation {EDC) Prince George's County Food Equity Council {FEC) Low Impact Development Center, Inc. {LIDC)
Hie:her Education Institutions:	
Bowie State University {BSU) | University of Maryland Extension {UMD Extension)	

This collective group of researchers, advisors and farmers was selected due to their expertise in areas critical for developing a successful pilot. DoE anticipates the partnership will expand as the pilot progresses and to ensure equitable pilot roll out. DoE has already engaged additional groups in discussions. These include Prince George's Community College, Future Harvest, Ecolatinos, the Prince George's County NAACP, Employ Prince George's, the Maryland-National Capital Park and Planning Commission, and leaders from our twenty-seven incorporated municipalities.

C. LIST OF MINORITY/UNDERSERVED PARTNERS

PGSCD and the UMD Extension have been the primary points of contact for farmers in Prince George's County. Both have done an excellent job serving the County's agricultural community with limited staff and funding. One major void and challenge has been reaching historically underserved farmers and producers. As identified in the County's approved 2017 Resource Conservation Plan, people of color, smaller niche farmers, and other historically underserved producers have to-date received limited benefits from federal, state, or county programs that may improve their quality of life and/or the environment. The pilot project will utilize a portion of the funding to provide outreach and training to these underserved populations.

Bowie State University (BSU) will assist the County in reaching out to targeted audiences. BSU is the oldest Historically Black College/University in Maryland and has a rich history of providing affordable, high-quality learning experiences for diverse populations. BSU has a strong aquaponics / hydroponics program and views this program as an opportunity for BSU students to gain real-word experience tackling the County's climate challenges. Technical experts from DoE and agricultural experts from PGSCD and UMD Extension will also team up to develop in-depth methodology and perform the analysis of GHG reductions. Doing so will contribute to the project goal of engaging historically underserved students- and provide economic development of the agricultural sector in the County.

D. COMPELLING NEED

As the impacts of climate change escalate, America's breadbasket of the west is at risk from fire, drought, and extreme weather patterns. With climate change, farmlands in our country's more eastern regions will become increasingly critical to our nation's food production. Per the Metropolitan Washington Council of Government (MWCOG) study "What Our Region Grows to Eat and Drink" (2019, January), our local food production is already inadequate to satisfy local food demand. Nationwide, agricultural production has been shifting to larger farms for years, causing the number of mid-sized farms (180-499 acres) to decrease. Historically, mid-size and larger farms produce greater volumes and better financial returns. This influences whether farms sell to intermediaries or directly to consumers, and whether products are destined for global, national, or local markets. At a time of growing interest in local food production to build climate resilience, a decline of any local farm production could prove critically disruptive to the region's food supply chain.

According to the County's 2017 Resource Conservation Plan, smaller farms and farms supporting

niche markets are on the rise in the County. Smaller farms do not typically engage in medium and large-scale production. Though small farms support more manageable operations, require fewer inputs of infrastructure and equipment, provide more opportunities for diverse crops, and location in more urban settings, small farms also produce less product. This limits the ability to achieve economies of scale, resulting in less competitive pricing/ more expensive consumer products as compared to larger scale operations. Per USDA's NASS Census of Agriculture in 2017, farm profitability is a serious concern for the future of our region's farms: Nationwide average net case income per farm was $43,750 compared to only $2,676 average net cash income per farm within the Washington Ag region. Consequently, the economic realities of small-scale production can create a great deal of tension due to the dual goals of producing affordable food for the farmers' communities and producing income for farmers and farmworkers.

Building a *Climate-Smart Local Producers Program* offers the County a great opportunity to identify and evaluate ways to incentivize the adoption of Climate-Smart practices, expand and support locally produced food, and encourage a new generation of farmers. It will also help open doors to historically underserved communities by providing much-needed funding to encourage more equitable participation, marketing and mentoring to people pursuing agriculturally based occupations and serve as a cornerstone of agriculture's role in the fight against climate change. The County's Climate Acton Plan and the Food Security Task Force Report further articulates that ending unsustainable land use practices resulting in loss of our County's natural and agricultural resources is a critical need. Preserving and expanding our county's capacity for low carbon local food production will be essential to achieving community-wide climate resilience. By increasing the number of farms and farmers in Prince George's County utilizing "climate-smart" practices, the County can better protect and restore agricultural soils, reduce harmful nutrients and sediment from reaching local waters and the Chesapeake Bay, sequester carbon, build community-wide resilience and other co-benefits. Changes in land management combined with farmland conservation and broader efforts to reduce greenhouse gas emissions, will help Prince George's County achieve its net zero emission target by 2045, and the commitment to remove excess carbon from the atmosphere.

Increasingly referred to as 'carbon farming', actions to sequester carbon are critical and complementary to strategies for reducing emissions of GHGs through agricultural production. The concept of climate-smart agriculture and forestry (CSAF) provides a framework for taking a comprehensive approach to agriculture as a driver of emissions, opportunity for carbon sequestration and a focus for important adaptation actions (e.g., to protect food and nutrition security). The UN's Food and Agriculture Organization (FAO) is a leading proponent of CSAF, which integrates the economic, social, and environmental dimensions of agriculture.

Additionally, many of these practices help farmers cut costs and make their farms more resilient to environmental and economic shocks by increasing yields, reducing the need for costly inputs like fertilizers and pesticides, and buffering the impacts of extreme weather. For example, case studies of farms that adopted soil health conservation practices including reduced tilling and no-till, cover crops, and nutrient management, found that row crop farmers

improved their bottom line by an average of $37 per acre, per year. However, this savings has not been measured or proven locally here in Maryland- particularly for our smaller farmers. In Prince George's County, a number of market studies have demonstrated that descriptions of 'locally grown', 'natural', 'organic', 'sustainable', 'black owned', 'immigrant owned', 'family owned', 'Prince George's Produced' increase the value of commodities at farmers' markets, community events, and local groceries. Additionally, proximity of food supply to our urban communities reduces agriculture's overall carbon footprint from reduced energy consumed from traveling farm to table. This effort will seek to both quantify the value of the GHG sequestered utilizing certain practices and increase the market supported sales price of these items to offset costs to farmers of utilizing such practices.

E. APPROACH TO MINIMIZE TRANSACTION COSTS ASSOCIATED WITH PROJECT ACTIVITIES

The County Department of Environment (DoE) will serve as the grant recipient and project manager. DoE has extensive experience with federal grants and sub-awardee management and has staff in place to monitor compliance, thus minimizing administrative costs. In a collaborative partnership with SCD, the University of Maryland Extension, and BSU, DoE will leverage existing trainings, education materials, and programs to immediately promote the pilot program to potential applicants. Additionally, many of the application materials, rules and review process as the USDA's existing "farm operating microloan" and "farm ownership microloan" programs will be adopted to help determine eligibility, terms, and administer the funds. Of the total $3.25 million dollar request, $2.25 million dollars will go directly to producers to implement CSAFs and to collect and provide data to the County. The remaining $1M will be spent supporting the work of the program's partners for the data collection to gather and analyze participant experiences to help identify barriers, successful incentives, effective communications, and education techniques. The program partners(subawardees) will also help measure and quantify GHG reductions from deployed smart commodity practices. This overall program investment will develop all the methods, processes and materials that will be used to leverage and market an even larger program at the County and/or State level to implement these practices more broadly.

F. APPROACH TO REDUCE PRODUCER BARRIERS TO IMPLEMENTING CSAF PRACTICES

BARRIER	APPROACH
--Data Collection--	
Limited quantification of GHG benefits of activities across a variety offarm types and sizes in local area	Collect data from farms across the County utilizing these practices

Prince George's County Climate-Smart Local Producers Pilot Program

Farmers unable to collect data due to barriers in time or finances / Lack of Incentive to learn about techniques	1. Provide small incentive payments to farmers with existing CSAF practices to collect data, with a target of providing 40 monitoring incentive payments at $5,000 each (one-time incentive payment) 2. Require recipients of CSAF practice incentive payments to collect data; incentive payments amounts will reflect time & staffing burden
Farmers unfamiliar with methodologies of data collection	Provide paid training (up to $500 stipend) to farmers who participate in the program and free training to all other farmers and consultants for professional development
- Training / Mentoring -	
Lack of availability of experts in the field to advise farmers	Create a program in parallel to Nutrient Management, Forest Planning and Farm Management training programs, available to consultants and farmers to develop expertise in targeted practices.
- Land Availability -	
Economic and Land Availability barriers to new farmers, particularly Black, Latinx, Indigenous and Immigrant farmers	Develop an incentive payment program to support land purchase (not part of this incentive payment); leverage government-owned land to create special lease and purchase agreements of land that is in the "green infrastructure plan" for use by farmers. New farmers or expansion of existing operations could entail land not currently under cultivation.
- Uptake of Climate-Smart Practices -	
Lack of uptake of climate-smart practices due to cost/risk	Provide incentive payments to early-adopters across the county to provide proof-of-concept of the value of these practices.
Barriers to produce climate-smart commodities for existing farmers	1. Work with PGSCD to fill funding gaps for activities where USDA small incentive payments do not cover the full costs of climate smart techniques and local farmers are not yet confident in proof of concept to seek funding through the microloan program. As part of ongoing, iterative, and collaborative application review process, DoE and PGCSCD will ensure producers do not receive duplicative payments for the same practice, during the same time, on the same land. Only after the partners confirm no duplication payment of a practice would occur, will funding be considered to supplement gaps from other grants/incentive payments of an applicant. As part of the review process, a list of participants interested in participating in this program will be provided to PGCSCD's USDA-NRCS District Conservationist and FSA Program Technician will confirm the practice and site are not the same for any other USDA funded programs. Conservation Tracker will be checked prior to confirm no other MDA state funds have been received by the participant for the same site. 2. In addition to providing a website where producers can register, the program will also determine what climate-smart farming activities

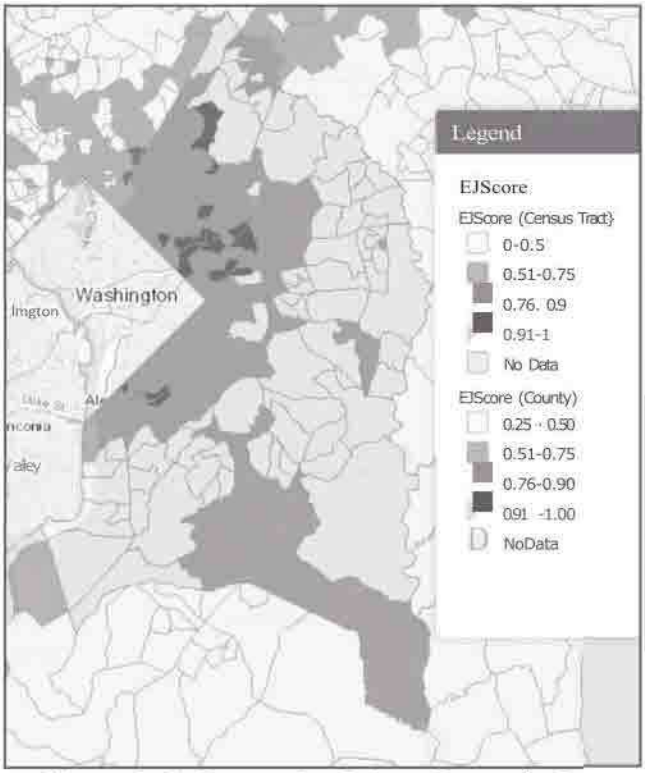
Prince George's County Climate-Smart Local Producers Pilot Program

	have the best pathway to economic viability. Through farmer registration and other outreach efforts, we will also seek to fund up to 20 farms in the county willing to implement techniques identified as economically viable, provide data for COMET analysis, cost savings associated with practice, EJ impact, and document value. 3. Provide incentive payments of up to $50,000 (70% reserved for underserved farmers/producers, remainder available to underserved farmers/producers who serve underserved communities) in rural and urban areas for practices not yet utilized in the County/Region. Participants will also be expected to collect and share data to prove viability of concept as applied in the County.
Barriers to produce climate-smart commodities for new farmers	1. Work with Economic Development Corporation and Office of Central Services to create a list of properties with potential for startups in climate-smart farming. Provide incentive payments to up to 10 start-ups to farm in locations where increased vegetation can contribute to solving a climate challenge (example: using techniques to farm over existing impervious surface to reduce urban heat islands, utilizing an urban orchard to increase tree canopy, providing a farm and farm market in a rural food desert) 2. Provide incentive payments of up to $100,000 to underserved prospective farmers to start an urban or rural farm that focuses on producing a climate-smart commodity and establishes proof of concept for ROI/economic viability. This is similar to a farm ownership microloan but without the requirement to pay it back.
- Marketing -	
Market supports lower farmers' market prices than surrounding jurisdictions.	1. Develop a marketing strategy that resonates with County residents, combining the values of eating local (reduction in VMT), utilization of on-farm climate smart practices and black, woman and minority owned farms. 2. Investigate creating a 'climate-smart Prince George's' marketing claim standard for products grown utilizing these practices. 3. Provide trained volunteers through 'master gardener' program to speak at farmers markets and community events about value of this standard

G. GEOGRAPHIC FOCUS

The geographic focus is Prince George's County, Maryland. The project focuses on the County's farmers and producers as well as outside producers selling commodities and value-added products here.

Prince George's County Climate-Smart Local Producers Pilot Program



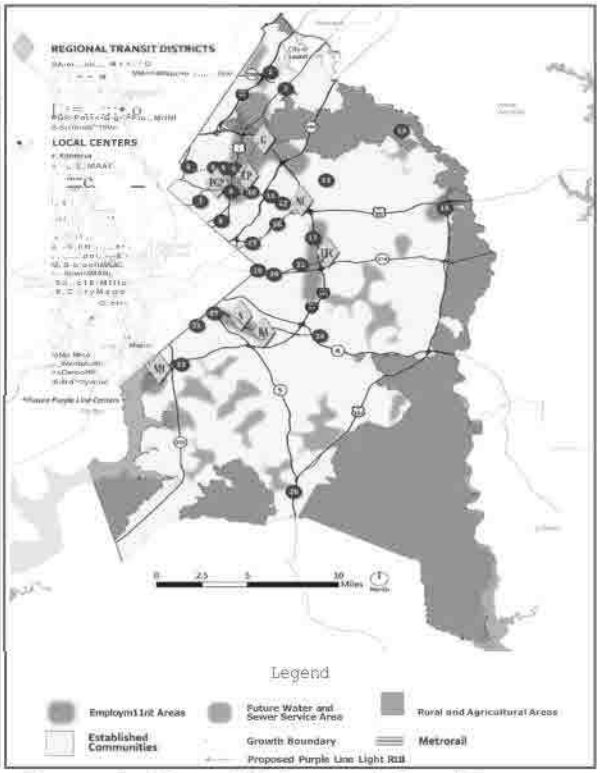


Figure 1- EJ Screen for Prince George's County; Figure 2: Map of Urban and Rural Zones of Prince George's County

The County is a unique microcosm of urban, suburban, and rural agricultural producers, who sell a variety of products at the retail and wholesale level. From 2016-2018, UMD Extension visited 31 urban farms and 3 peri-urban farms collected an electronic survey and conducted formal interviews with farmers in and around Maryland's Washington-Baltimore region as part of a needs assessment. UMD Extension found that a higher proportion of these farmers come from historically underserved communities than in the general farming population. Of the survey respondents, 52% identified as male and 48% as female, and while white (41%) and black (37%) were the two most common responses to questions on race and ethnicity, no one group comprised a majority. In addition, there are numerous farmers' markets across the County, local and national grocers who provide local products, and many entities purchasing for 'farm to table' culinary services and products. There are nearly one-million residents of which 64% are African American. One- in-five were born outside of the United States. The County has the lowest median income in the DC-Metro region and the largest population of frontline communities burdened by pollution, past and current land use, and economic decisions. The County is in the Chesapeake Bay watershed, and the program will also evaluate co-benefits of many of the CSAF practices on the health of the local and larger watersheds. The political leadership is supportive of the retention of existing farms and increase new farms to both reduce food deserts and support the County's Climate Action Plan- evidenced by recent passage of a bill creating a floating farm zone than can be applied to any land use zone.

H. PROJECT MANAGEMENT CAPACITY OF PARTNERS

The County will serve as the grantee and will coordinate the efforts of project partners and

consultants. The County ***DoE*** has extensive experience managing and overseeing grants and implementing programs, establishing marketing campaigns, and outreach and engagement. DoE also brings to the table its expertise of the Climate Action Plan and technical specialists. ***PGSCD*** works with landowners, producers, and stakeholders engaged in agricultural activities in the County. PGSCD houses both state and federal conservation partners including USDA's Farm Service Agency and NRCS and the Maryland Department of Agriculture. Currently, PGSCD has 750 Soil Conservation & Water Quality Plans (SCWQP) on file through its Ag Conservation and Urban Ag Conservation programs. PGSCD provides conservation tools such as SCWQP and conservation technical assistance to producers to help manage operations more efficiently, save on energy and labor costs, improve soil health and carbon sequestration, enhance wildlife habitat, address soil and water resource concerns, improve water quality and care for forest resources. **University of Maryland (UMD) Extension** is a statewide, non-formal education system within the college of Agriculture and Natural Resources and the University of Maryland. UMD Extension will lend their educational programs and problem-solving assistance to this project. Many UMD Extension faculty members have joint appointments with research and academic programs. These joint appointments promote the exchange of knowledge between the universities and among academic specialties. ***BSU*** will assist with advising on marketing and education as well as developing potential recommended methodology and helping to calculate GHG reductions of aquaponics/hydroponics as a smart commodity. The County's **Economic Development Corporation, Food Equity Council,** and the **Low Impact Development Center** will assist with marketing, promotion, and grant reporting.

2 SCALING UP: PILOTING CLIMATE-SMART AGRICULTURE ON A LARGE SCALE

A. CSAF PRACTICES DEPLOYED

At the Maryland state level, several NRCS practices are already used and incentivized for their water quality benefits, to reduce nutrient flows into the Chesapeake Bay. A menu of recommended practices, accompanied by estimates of GHG reductions from agriculture, developed by Dr Sara Via at the University of Maryland, using COMET Planner, is included as Appendix Kin the Maryland 2019 Greenhouse Gas Emissions Reduction Act Draft Plan. These practices are supported by the Maryland Healthy Soils Act, and recognition of the carbon benefits is likely to be included in a broadening of the Maryland Agricultural Water Quality Cost-share (MACS) Program.

Here in Prince George's County, we know that there are several farms already utilizing climate-smart agricultural practices. However, as an initial step in this process, we would perform additional surveys of existing producers to determine what practices they are using, and of practices of interest to those who have taken a 'new farmer' class or have otherwise expressed an interest in developing a farm in the County (Note: These surveys will be performed after notice of award of the project but before the beginning of the award period- utilizing County funds, to

Prince George's County Climate-Smart Local Producers Pilot Program

avoid any issues with the Paperwork Reduction Act). As of May 1, 2023, DoE and PGSCD have drafted surveys and plan a first release to stakeholders by May 20, 2023. (see PGC Smart Commodity Farmer Survey Questions).

The County will not measure all of the potential practices-we will rather identify those already being utilized, those shown to have significant GHG impact and/or significant water-quality, flood protection, resiliency, or heat reduction co-benefits in the Chesapeake Bay/Mid-Atlantic Region previously. As applicable to any of the following list that may or may not be currently underway in the county or as may be deployed through application to this program, at a minimum the County will measure the GHG benefit *of:*

Prince George's County Climate-Smart Local Producers Pilot Program Proposed CSAF Practices

Climate Change Mitigation Practice Categories	**Code & Conservation Practice Standards Name** (includes all CSP Enhancement Code practices as nested under each primary standard) FY2023 CSP Enhancement Code (!ractices as nested under each listed CSP unit}
Soil Health	327 Conservation Cover 328 Conservation Crop Rotation 329 Residue and Tillage Management, No Till 340 Cover Crop 345 Residue and Tillage Management, Reduced Till 484 Mulching
Nitrogen Management	590-Nutrient Management
Grazing and Pasture	528 Prescribed Grazing 379 Forest Farming 381 Silvopasture 391 Riparian Forest Buffer 420 Wildlife Habitat Planting 422 Hedgerow Planting 612 Tree/Shrub Establishment 645 Upland Wildlife Habitat Management 666 Forest Stand Improvement 393 Filter Strip (A, H) 412 Grassed Waterway (A, H) 585 Strip-cropping (A) 601 Vegetative Barriers (H 603 Herbaceous Wind Barrier (A

Prince George's County Climate-Smart Local Producers Pilot Program

Climate Change Mitigation Practice Categories	Code & Conservation Practice Standards Name (includes all CSP Enhancement Code practices as nested under each primary standard) FY2023 CSP Enhancement Code 11ractices as nested under each listed CSP unit}
Energy, Combustion, and Electricity Efficiency	372 Combustion System Improvement 374 Energy Efficient Agricultural Operation 670 Energy Efficient Lighting 672 Energy Efficient Building Envelope

For the CSAFs listed above, the Prince George's County Climate-Smart Local Producers Pilot will meet NRCS practice standards.

B. Proposed Innovative CSAF Practices Without NRCS Code:

Controlled Environmental Agriculture and Agrivoltiacs, which are broadly considered climate smart practices but currently do not have existing NRCS practice standards, will be offered and studied as CSAFs through the Prince George's County Climate-Smart Local Producers Pilot Program. Per CSAF Table, practices specifically intended to help support Agrivoltaics and Hydroponics practices are noted as A=Agrivoltaics; H=Hydroponics.

Controlled Environmental Agriculture:
Partners propose three categories of Controlled Environmental Agriculture practices to implement and study:

CEAAq- Aquaponics-Please see attachment: Proposed Aquaponics Standards.docx
CEAH- Hydroponics
CEAO - Other (to include production of commodity crops in a controlled environment not utilizing a water-based system)

Each of these practices have evidence and studies demonstrating a reduction in GHG emissions compared to traditional practices in a comprehensive life cycle assessment (LCA). There are also studies demonstrating the economic viability of these production methods (and the limits on that viability). However, they have not been effectively studied on a per-commodity basis. Nor has the marketability of these commodities as a climate friendly food been effectively studied. However, by including these practices we are garnering two very valuable pieces of information, that will advise producers and policy makers on the following:

- Does producing commodities in controlled conditions reduce life cycle greenhouse gas emissions under real-life conditions? Does it sufficiently offset emissions to offset the materials and inputs necessary to create a CEA system?
- Can we market these benefits effectively to the public to increase the value of commodities produced using this method to offset the costs of production?

GHG Measurement: To measure the greenhouse gas (GHG) benefits of controlled environmental agriculture (CEA), the program will conduct a comprehensive life cycle assessment (LCA). An LCA evaluates the environmental impact of a product or system throughout its entire life cycle, from production to disposal. In order, to measure the GHG benefits of CEA System Boundary:

- CEAAq: Define the boundaries of the assessment, including the specific components of the hydroponics system you want to evaluate, such as the growing medium, nutrient delivery systems, lighting, climate control, and associated energy inputs.
- CEAH: Define the boundaries of the assessment, including the specific components of the aquaponics system you want to evaluate, such as the fish tanks, plant beds, water filtration systems, and associated energy inputs.
- CEAO: Define the boundaries of the assessment, including the specific components of CEA you want to evaluate, such as the greenhouse structure, lighting systems, heating and cooling systems, and production processes.

Data Collection: Gather data on energy consumption, inputs (such as fertilizers and pesticides), and other relevant factors associated with CEA. This data can come from a combination of direct measurements, operational records, equipment specifications, and industry benchmarks.

Greenhouse Gas Inventory: Develop an inventory of GHG emissions associated with the different stages of CEA. This includes direct emissions (e.g., fuel combustion) and indirect emissions (e.g., electricity generation). Common GHGs to consider include carbon dioxide (CO2}, methane (CH4}, and nitrous oxide (N2O}.

Impact Assessment: Quantify the potential environmental impacts of the identified GHG emissions. This step involves translating emissions data into common impact categories, such as global warming potential (GWP) expressed in CO2 equivalents.

Comparison: Compare the GHG emissions and environmental impact of CEA with conventional agricultural practices. This step helps assess the relative benefits of CEA in reducing GHG emissions.

Sensitivity Analysis: Consider the uncertainties and limitations of the data and methodologies used. Perform sensitivity analyses to understand the potential variations in results based on different assumptions or scenarios. There is data in both CA and Practicekeeper that provides comparative benchmarks for the commodities produced.

Reporting: Compile the findings into a comprehensive report, including the methodology used, data sources, and key results. The report will provide a clear overview of the GHG benefits of CEA compared to other agricultural systems. It's worth noting that CEA practices can vary significantly depending on factors such as the type of crop, system design, energy sources, and management practices. Therefore, we will conduct site-specific assessments to consider our local conditions and energy sources to deliver accurate evaluation.

C. Agrivoltaics

To measure the GHG reduction credits for agrivoltaics, the program will conduct a comprehensive life cycle assessment (LCA} using the methodology developed by research funded through the lnSPIRE program, which is a program through the National Renewable Energy Laboratory. See: https:ljopenei.org/wiki/lnSPIRE. The U.S. Department of Energy's (DOE} lnSPIRE project evaluates opportunities for cost reductions and assesses the environmental compatibility of solar

energy technologies through low environmental impact designs and approaches.

To achieve the project's aim, DOE brings together researchers from the National Renewable Energy Laboratory, Argonne National Laboratory, universities, local governments, environmental groups, and industry partners to conduct field-based research complemented by foundational analytical studies.

This project will utilize the tools developed by the InSPIRE project to measure the combination of land productivity, before and after solar, and measure the GHG value of the energy produced by solar with the standard PJM mix of energy production technologies. This will allow us to determine the greenhouse gas reductions relevant to the amount of the commodity produced.
The GHG reduction in past studies has been mainly attributed to the avoided emissions resulting from displacing conventional electricity generation with renewable solar energy. Additionally, the shading provided by the PV panels helped moderate the microclimate, reducing water consumption and improving crop yield, further enhancing the environmental benefits of the system.

Program will measure:

1) Current Conditions:
    a. GHG inputs/impact currently created in the production of the commodity- Gather data on energy consumption, inputs (such as fertilizers and pesticides). This data can come from a combination of direct measurements, operational records, equipment specifications, and industry benchmarks.
    b. Direct emissions (e.g., fuel combustion) and indirect emissions (e.g., electricity generation). We will consider GHGs of carbon dioxide (CO2), methane (CH4), and nitrous oxide (N2O).
    c. Current soil carbon sequestration
    d. Amount of commodity produced utilizing these inputs under current conditions
    e. Price garnered for those commodities under current conditions
2) Agrivoltaic Scenario
    a. GHG inputs used in the new scenario- utilizing agrivoltaics.
    b. Soil carbon sequestration.
    c. Amount of commodity produced utilizing these inputs under agrivoltaic conditions (in some scenarios, agrivoltaics may produce MORE of the commodity, in others it may result in LESS, but more productive land in the long run).
    d. Price garnered for those commodities utilizing the marketing plan/label.

For practices involving structural components, local permit requirements dictate depth of footing and other applicable building requirements such as electrical trenching, etc. that are simply the sphere of control of the program. Consequently, we do anticipate that some of the listed CSAF practices and potentially some innovative smart practices may involve ground disturbance below the plow zone. For example, support posts for agrivoltaics solar structures, foundations as necessary to avoid freeze thaw issues for an aquaponics greenhouse, or fencing for livestock etc.

some potential examples of subgrade land disturbances below the plow zone. For practices which involve ground disturbance below the plow zone, the program will require and confirm the appropriate clearances and environmental evaluations have been performed per USDA's grant terms.

Regarding concentrated feeding operations, there will not be any proposed CAFO project activities. As part of the Program and in addition to measuring the proposed CSAFs and any approved innovative practices, the County will also endeavor to measure the following:

- Impact of offsetting transportation emissions by growing commodities and making value-added products locally
- Environmental justice impacts utilizing the EJ Screen and the Tree Equity tool to quantify value of healthy food access, increased number of farms, and increased tree canopy
- Cost savings for farmers associated with these practices, and resultant ROI
- Qualitative impacts of these practices on farmers/producers and residents of communities that interact with those producers

D. PLAN TO RECRUIT PRODUCERS AND LANDOWNERS

As an applicant under the second funding pool and as a minority majority county, DoE and its partners will primarily focus on the enrollment of small and/or underserved producers to implement CSAF practices. Per the 2017 Ag Census, there are about 367 farms and 34,399 acres of farmland in the County. Maryland Department of Agriculture's agriculture assessment data shows there are approximately 1,300 parcels in Prince George's County ranging in size from 5 acres to over 300 acres. With the new Zoning Ordinance, all zones in Prince George's County are eligible for urban agriculture. PGSCD is currently working with 40 urban farms and other small-scale producers on approximately 100 acres in the County. Typically, these are small urban parcels not eligible for the state agricultural assessment. Both PGSCD and UMD Extension work with producers and agricultural stakeholders in the County daily. These agencies will collaborate with DoE to recruit interested producers through a variety of formats including direct email and newsletters, local grower list-serves, in-person site visits and trainings, and social media promotion. In addition, PGSCD will co-host a Bloomin' PGC Open Mic Night with DoE to introduce urban farmers to the program and recruit participants. The Open Mic Night provides an opportunity to learn about the barriers of participating in existing programs (especially for our BIPOC communities), as well as incorporating climate-smart practices on their farms. Additional focus groups to introduce the program and address barriers will be held with our traditional, rural farming population.

This pilot will be an opportunity to share existing financial incentive programs from PGSCD's federal partner, the USDA - Natural Resources Conservation Service (NRCS) and state partner, the Maryland Department of Agriculture (MDA), as well as this new program that will capture additional new and innovative practices not covered by traditional financial incentive programs.

NRCS has fact sheets to market many of the commodities. The program will market these practices through informal outreach programs, community events and social media channels. PGSCD will closely collaborate with the NRCS MD Outreach team assigned to work with PGSCD. As part of the program's development of a climate-smart commodities label for the Program, PGSCD and DoE will engage the Prince George's County Economic Development Corporation(EDC) in promoting the climate smart commodity label in tandem with other tangential County marketing opportunities such as Experience PGC.

E. PLAN TO PROVIDE TECHNICAL ASSISTANCE, OUTREACH, AND TRAINING

PGSCD provides technical assistance, outreach, and training to protect and promote the health, safety, and general welfare of County inhabitants and otherwise enhance their living environment by conservation of soil, water, and related resources. PGSCD will work with its planners and technicians to gauge interest and barriers when working with cooperators. They will also promote this pilot program as an additional tool to implement climate-smart practices. While there are existing financial incentive programs for practices through NRCS and MDA, most are reimbursables. This makes it difficult for some farmers to access/afford to implement the practice because they need the funds prior to installation. Additional funding could help bridge that gap while funding new and innovative climate-smart practices that aren't reflected in the traditional programs. DoE will work with PGSCD to develop outreach materials, both print and digital, as well as trainings and programs to highlight the benefits of the practices and solicit feedback on innovative practices of interest and barriers to participation. As the Department of the Environment (DoE) for Prince George's County, DoE's Sustainability Division staff will help provide PGSCD with technical support for all required environmental evaluations and audits. This work will be considered part of the County $1. 2 million match of in-kind services on an as needed basis to aid both new and existing farmer's application to the pilot program. DoE's support to help applicants complete required environmental evaluations will be in collaboration with the staff of PGSCD and UMD Extension. As grant subwardees, UMD Extension (UME) will develop and provide training programs for new and beginning farmers that enable them to adopt climate-smart agricultural practices to reduce local greenhouse gas emissions. UME will work with middle and high schools on highlighting and preparing for career opportunities in agriculture (see UMD Extension proposal for more details).

PGSCD – as subject matter experts for conservation practices, standards and specifications - will assist farmers, particularly those classified as socially disadvantaged by USDA, with adoption of climate-smart agricultural and forestry practices. They will also develop Soil Conservation & Water Quality Plans that incorporate climate-smart agricultural and forestry practices (see PGCSD proposal for more details). PGSCD will work with DoE to determine which clean lots and other county parcels are available from the Office of Central Services and best suited to various types of farming. This will assist urban farmers that are interested in farming with climate-smart practices but need land. PGSCD has and will continue to provide similar assistance with M-NCPPC parcels available for farming. Finally, PGSCD can work with partners to provide opportunities for

Prince George's County Climate-Smart Local Producers Pilot Program

Prince George's County High School students participating in the Environment, Ag and Natural Resources Program to connect with institutions of higher learning and industry members from the Program Advisory Committee involved in climate-smart agriculture.

PGSCD also works with non-traditional stakeholders engaged in agricultural activities and food security in the county. Examples include but are not limited to the Food Equity Council, the Office of Food Security, several municipalities, Victory Grace Center, Union Bethel AME Church, the Metro-Washington Council of Governments, Ujamaa Cooperative Farming Alliance, and Chesapeake Bay Foundation.

Our proposed timing for the Technical Assistance, Outreach, and Training plan is as follows: In year one of the grant (FY23), the partners will host farmer focus groups to introduce the financial assistance program and solicit feedback from farmers on CSAF practices they plan to implement. Partners will introduce additional CSAF concepts to farmers for possible adoption, recruit/enroll farmers, and develop a training program that includes outreach collateral and the curation/aggregation of CSAF resources. In year 2-4 of the grant (FY24-FY26), the partners will host trainings and work with farmers during site visits on the implementation and monitoring of CSAF practices. The marketing program will be developed in partnership with farmers utilizing these practices in year one, and training on how to leverage the program will be provided to producers and vendors in year 2, to be fully implemented in year 2-4 (FY24-FY26). Partners will explore how this pilot program can be leveraged to assist farmers in tandem with other county programs (i.e Raincheck Rebate) as well as tangential state and federal financial incentive programs. In the final year of the grant program (FY 27), the partners will assess the date collected from implemented practices and conduct interviews/surveys to evaluate the effectiveness of the program in terms of adoption and impact. They will also develop the criteria and marketing plan for the CSAF endorsement of their farm.

F. PLAN TO PROVIDE FINANCIAL ASSISTANCE FOR PRODUCERS/LANDOWNERS

The proposed project budget includes $2,250,000 to be provided directly to producers/ landowners to implement CSAF practices. The approach to reducing barriers was outlined in section I F and included a list of the financial assistance in the form of incentive payments to encourage participation. The following table identifies the approaches the team will take to reduce producer barriers to implementing CSAF practices for the purpose of marketing climate-smart commodities in the form of incentive payments and stipends.

DESCRIPTION	TOTAL AMOUNT
Provide small incentive payments to farmers implementing CSAF practices to collect data, with a target of providing 40 monitoring incentive payments at $5,000 each. Farmers prioritized for monitoring incentive payment receipt. Based on applicability, CSAF supply chain vendors or retail distributers of climate smart commodities (farmers	$200,000

Prince George's County Climate-Smart Local Producers Pilot Program

market, local restaurants using locally produced food, etc.) will be considered eligible to apply for this incentive payment.	
Provide $500 stipends for 100 farmers to attend trainings	$50,000
Provide up to $50,000 CSAF practice incentive payments to 20 -40 existing farmer participants	$1,000,000
Provide up to $100,000 CSAF practice incentive payments to 10-15 startup farmer participants	$1,000,000
Total going directly to producers/landowners	$2,250,000

G. PLAN TO ENROLL UNDERSERVED AND SMALL PRODUCERS

Participation will be limited to in-county producers and/or producers who sell a final product or produce a product in the supply chain in Prince Georges County. No less than 50% (optimally 70%) of incentive payments will be reserved for minority/underserved producers and 10% for producers who serve underserved communities. Proposed projects will be required to conform to the list of Proposed Climate-Smart Agriculture and Forestry Practices identified in this proposal. DoE and its partners will create a flyer that provides an overview of the program, who is eligible, what defines an underserved community, how to apply, and where to go for more information. Information on the different tracts available (Early Adopter Producer Data Collection/ Monitoring; Existing Farmer tract, and Startup Farmer tract) will also be included. Outreach will be provided through CBOs familiar with target populations including Black, Indigenous, Latinx and Immigrant producers/new farmers. Once funds become available, a funding notice will be posted on the program website and widely distributed through partner networks.

PROJECT ACTIVITY	TOTAL AMOUNT AVAILABLE	TOTAL FOR UNDERSERVED PRODUCERS	TOTAL FOR PRODUCERS SERVING UNDERSERVED COMMUNITY	TOTAL USED BY PARTNERS FOR OTHER ACTIVITIES
Initial Data Collection	County Funds			
Early Adopter-Producer Data Collection/ Monitoring	$200,000	-	-	-

Prince George's County Climate-Smart Local Producers Pilot Program

Training Stipends	$50,000	$35,000 (70%)	-	-
CASF practice (operation)	$1,000,000	$500,000{50%) - $700,000 (70%)	$100,000 (10%)	-
CASF practice (ownership)	$1,000,000	$500,000(50%) - $700,000 (70%)	$100,000 (10%)	
Analysis				$500,000
Communication and Outreach				$500,000
Compliance and Reporting	N/A County Funds			
Training/Scaling Ongoing	N/A County Funds			

We believe meeting these goals is achievable, as nine farms owned by Black, Indigenous, Latinx or Immigrant-identifying owners, including six farms in census tracts designated as historically underserved, have already expressed interest in collecting and measuring data around greenhouse gas emissions. Three farmer's markets in underserved areas, and four farmers markets with diverse populations have agreed to enter into data collection agreements if funding becomes available.

Fifty to 70% of the larger awards (up to $50,000 existing farmer track and up to $100,000 for start-up farmer incentive payments) awards are reserved for underserved producers; 10% is reserved for producers who serve an underserved community (example- a farm that sells at a farmers' market in a food desert, or target census tract). Data collection incentive payments are available to any producer who is growing, processing or selling in the County who has implemented targeted CASF practices.

3 MEASUREMENT/QUANTIFICATION, MONITORING, REPORTING, AND VERIFICATION PLAN

A. APPROACH TO GREENHOUSE GAS BENEFIT QUANTIFICATION

GHG reductions will be quantified utilizing the COMET model to keep data collection and verification costs low. For some practices, some soil sampling may be required. The County proposes to work with students at BSU to develop the methodology and perform the analysis of GHG reductions. Maryland developed measurement and monitoring methodologies for several sequestration practices and supply chain impacts in the development of the State's Climate Action Plan. The Chesapeake Bay Foundation in their "Farm Forward" report applied these data collection methodologies to a number of CASF practices. These included cover crops, low and no-till/conservation tillage, nutrient and manure management, and streamside forest buffers.

The County will also measure impacts to the EJ burdens on communities where farms engaging in these practices, and where farmers' markets with sellers engaging in these practices are in burdened communities, utilizing both EJ Screen and the Tree Equity tool. The County will measure the offset of transportation emissions by growing commodities and making value- added products locally. Finally, we will measure the qualitative impacts of these practices on farmers/producers and residents of communities that interact with those producers utilizing survey methodologies developed by the County in our Beautification efforts. The County also has several additional GIS resources at its disposal. To offset the burden to farmers/producers, and to ensure the obligations of the Paperwork Reduction Act are met, small incentive payments (up to $5,000) will be provided to 'early adopters' already utilizing these techniques to cover the cost of reporting.

Prince George's County Climate-Smart Local Producers Pilot Program

B. APPROACH TO MONITORING OF PRACTICE IMPLEMENTATION GOALS AND MILESTONES

We anticipate enabling participation as follows:

ACTIVITY	Goals for Producer Participation	# ACRES
A. Early Adopter Producer Data Collection/ Monitoring	40	TBD
B. Education	TBD- will be available to entire region	TBD
C. Training (those receiving Stipends)	100	TBD
D. CASF practice (operation)	20	TBD
E. CASF practice (ownership)	10	TBD

Project Practice Implementation Milestones by Activity:

A. *Early Adopter Producer Data Collection/ Monitoring actively engaged in data collection and monitoring activities: GOAL-40 participating producers.*

Milestone #A1: End of Year 1: (5) participating producers
Milestone #A2: End of Year 2: (15) more participating producers
Milestone #A3: End of Year 3, (20) more participating producers -cumulative of 40 producers collecting data and monitoring goal achieved.

8. Education: Milestone N/A

C. *Training (those receiving Stipends): GOAL: 100 producers engaged through training.*

Milestone #C1: End of Year 1: {10) producers train
Milestone #C2: End of Year 2: (40) more producers train
Milestone #C3: End of Year 3: (SO) more producers train- cumulative of 100 producers training goal achieved.

D. CASF practice (operation): *GOAL: {20} CASF practice(operation) deployed*

Milestone #D1: End of Year 1: (1) producers with CASF practices deployed
Milestone #D2: End of Year 2: (9) more producers with CASF practices deployed
Milestone #D3: End of Year 3: (10) more producers with CASF practices deployed-cumulative of (20) CASF practice (operation) goal achieved.

f. CASF practice (ownership): *GOAL: 10 producers*

Milestone #E1: End of Year 1: None
Milestone #D2: End of Year 2: (3) producers with CASF practices deployed
Milestone #D3: End of Year 3: (7) more producers with CASF practices deployed-cumulative of (20) CASF practice (operation) goal achieved.

C. APPROACH TO REPORTING AND TRACKING OF GREENHOUSE GAS BENEFITS

and

D. APPROACH TO VERIFICATION OF GREENHOUSE GAS BENEFITS

Upon award acceptance and approval, DoE will enter a six-month strategy development phase. During this time, the County will evaluate various approaches to:

1. Reporting and tracking of greenhouse gas benefits, including the anticipated GHG benefits per farm, per project, per commodity produced, per dollar expended, and the anticipated

longevity of GHG benefits, and

2. Monitoring, reporting, and verification (MRV) options to help facilitate the deployment of climate smart agriculture at scale and provide information critical to adapting quantification models in the future.

The County has significant experience in the MRV of stormwater practices. However, farmers are managing one of the largest carbon stocks on the planet. It will be important to have strong MRV measures in place for the long term. The County will review existing or proposed methodologies to determine what approach to take in the pilot phase. This will include tracking GHG benefits through the supply chain for both climate-smart commodities and carbon offsets. The selected approach will be evaluated over the course of the incentive payment to determine whether the selected procedures are adequate and what modifications might need to be made when the pilot is scaled up. The County will also seek guidance from the State, as it is highly likely that the State of Maryland will want to implement statewide MRV protocols or system. The program's proposed CSAF practices will provide quantifiable soil sequestration benefits, therefore, we anticipate measuring soil sequestration will be a key measurement. Additionally, we will measure fuel inputs in all cases, as fuel usage is cross cutting to achieving GHG emission reduction goals. Nitrogen management practice will help the program track the use of non-fossil fuel, vs. fossil fuel sources of nutrients.

E. PARTNERSHIP NETWORK

A PGSCD representative will serve as the County's designated member of the *USDA Partnerships for Climate-Smart Commodities Learning Network.* Other members will join the USDA Partnership meetings and trainings if that opportunity is made available.

4 DEVELOPMENT AND EXPANSION OF MARKETS FOR CLIMATE-SMART COMMODITIES

Upon award acceptance and approval, DoE will enter a six-month strategy development phase. The county will develop a marketing strategy that resonates with County residents, combining the values of eating local (reduction in VMT), utilization of on-farm climate smart practices and black, woman and minority owned farms. This builds off of the local food movement, the desire to live a 'greener' life and the popularity of 'buying black' and 'small business Saturday' in terms of buying from vendors from underserved communities. The County will then use this strategy to begin actively marketing products as climate-smart commodities at farms deemed to meet claim standard, including those awarded incentive payments for such techniques.

The marketing strategy will be focused on the commodities produced and their intended use and market. The marketing strategy will evolve and be developed in partnership with producers as we understand the practices produces are willing to utilize and the commodities they wish to grow and market based on the program's commodity list. For possible commodities that may be produced through this program, please see Prince George's County Climate-Smart Local Producers Pilot Program Commodity List (02 USDA PGC Narrative A l PGC Commodity List.pdf).

Develop a Label and Website for information

The County with its partners will develop a "Climate-Smart Market Label" and a website about the project that will serve as a place for potential consumers and future partners to learn about what the label means, and what the impacts of purchasing products utilizing these practices can be. This site will include a map with the places where these products can be accessed and utilize storytelling to increase the value of these products by highlighting the efforts of farmers to be a part of the climate solution.

Socializing Climate Smart Market Label with local consumers

The County with its partners will develop a "Climate-Smart Market Label" and begin to socialize this label with local consumers. The County will use existing research and available expertise to design outreach to the public at farmers markets, festivals, and county events to "look for the Prince George's County Grown Climate-Smart Market Label" and begin to build a brand for these products by educating the public about the value of commodities produced utilizing these practices. As data is collected about the GHG impact of this market label, marketing messages and materials will be updated. The County will also seek earned media coverage of the market label, by working with producers to highlight them on local television, radio and print media- to raise public awareness of the market label.

Socializing Climate Smart Market Label with commodity purchasers in supply chain

The County will also develop tools and products that can be utilized to socialize the value of the label with commodity producers in the supply chain. For example, outreach to local grocery store buyers and restaurants about the label, and how they can use it in marketing the final products they are producing. For in County and regional entities, the marketing will focus on a blend of the ability to drive the local economy, create jobs and value, and further climate goals. For those further afield, marketing will focus very specifically on the GHG value.

Prince George's County Climate-Smart Local Producers Pilot Program

Utilizing County Economic Development Relationships to unlock additional market potential
The County regularly works to try and bring additional grocers and restaurants to our 'food swamps' and to areas across the County. Also, the County seeks to bring all sorts of commercial entities to the County, including those in the supply chain for agricultural commodities. The County will integrate the market label into the larger Economic Development ecosystem, as another incentive for these entities to locate here and partner with (re: create a market for) our producers.

Using Regional Partnerships to unlock additional market potential
The County will utilize regional partnerships to help producers unlock additional markets for their commodities. For example, utilizing the public and media reach of networks like the Metropolitan Washington Council of Governments and the Maryland Association of Counties to share our program over social media channels and at events. These entities also have farm-specific committees and relationships with grocery retailers, restaurants and entities in the commodity supply chain.

Working with Producers to provide technical assistance on individual marketing plan development
In partnership with UM D's Agricultural Extension's Ag Marketing program, and for products with Bowie State University, the County will provide technical assistance to producers on how to market the commodities they are producing as 'climate smart commodities' utilizing the market label and other resources.

A. PARTNERSHIPS DESIGNED TO MARKET RESULTING CLIMATE-SMART COMMODITIES
In partnership with PGSCD, UM D's Agricultural Extension- particularly the Agricultural Marketing Program, the Food Equity Council, Community Based Organizations with expertise in specific communities and local Farmer's Markets the Department of Environment will identify a marketing strategy that resonates with County residents, combining the values of eating local (reduction in VMT), utilization of on-farm climate smart practices and black, Latinx, immigrant and minority owned farms. This builds off the local food movement, the desire to live a 'greener' life and the popularity of 'buying black' and 'small business Saturday' in terms of buying from vendors from underserved communities.

Example 1: *For fruits, vegetables and value-added products (baked goods, jams, ice cream, etc.) that a producer intends to sell directly to local consumers at a farmer's market.*

- The soil conservation district, UMD Agricultural Extension and the Food Equity Council have existing relationships with farmer's markets and will begin socializing the label with consumers within 6-12 months of project start date, depending on the season in which the project kicks off, and thus the market season.
- The County will develop print materials, stickers and other materials with the label on them and an explanation of its benefits, for producers to use while marketing their products at farmers' markets.
- The county will develop signage that producers can utilize to highlight the climate smart commodities among the other offerings and deliver to the consumer clear messages as to

why they should choose this product over one that is traditionally produced.

- The County will develop logos, and links, that the producer can use on their website and in their social media to show customers the extra value of their products.
- The County will leverage its public reach, by having all agencies utilize their social media and event outreach to market the label and note the availability of products at local farmer's markets.
- The County will perform interviews and surveys with customers at farmer's markets to understand the impact of the marketing and continuously improve the marketing strategy

Example 2: *Forfruits, vegetables, Dairy, Livestock and Poultry that a producer intends to sell to restaurants for creation of a dish served to customers*

- The County agencies, in partnership with our Economic Development team, and leveraging the expertise of the Soil Conservation District, UMD Agricultural Extension and the Food Equity Council will connect to local grocers and restaurants to socialize the market label as a tool to drive consumers to the products.
- The County will work with the local restaurant association, chamber of commerce, and County and City councils to socialize the program and market label- and to seek partners who will utilize these commodities and track the value of the sale of final dishes produced utilizing them
- The County will develop logos, and links, that the producer can use on their website and in their social media to show customers the extra value of their products.
- The County will develop logos, and links, that the restaurant can use on their website and in their social media to show customers the extra value of their products utilizing these commodities.
- The County will perform interviews and surveys with customers at restaurants to understand the impact of the marketing and continuously improve the marketing strategy

Example 3: For fruits, vegetables, Dairy, Livestock and Poultry that a producer intends to sell to grocers for retail sale to customers

- The County agencies, in partnership with our Economic Development team, and leveraging the expertise of the Soil Conservation District, UMD Agricultural Extension and the Food Equity Council, will connect to local grocers to socialize the market label as a tool to drive consumers to the products
- The County will develop logos, and links, that the producer can use on their website and in their social media to show customers the extra value of their products.
- The County will develop logos, and links, that the grocer can use on their website and in their social media to show customers the extra value of their products utilizing these commodities.
- The county will develop signage that grocers can utilize to highlight the climate smart commodities among the other offerings and deliver to the consumer clear messages as to why they should choose this product over one that is traditionally produced.
- The County will perform interviews and surveys with customers at restaurants to understand the impact of the marketing and continuously improve the marketing strategy

Example 4: For Dairy, Livestock and Poultry that are purchased by a vendor to make into a final product they will market to consumers.

- The County agencies, in partnership with our Economic Development experts, will connect to buyers of these commodities
- The County will develop logos, and links, that the producer can use on their website and in their social media to show potential buyers the extra value of their products.
- The County will develop logos, and links, that the final product marketer can use on their website and in their social media to show customers the extra value of their products utilizing these commodities.
- The county will develop signage that grocers can utilize to highlight the climate smart commodities among the other offerings and deliver to the consumer clear messages as to why they should choose this product over one that is traditionally produced.

B. PLAN TO TRACK CLIMATE-SMART COMMODITIES THROUGH THE SUPPLY CHAIN

The majority of our producers market their products to local supplier or direct-to-consumer via CSA or Farmer's Market. However, for items that travel further in the supply chain:

- Where the commodity is marketed to a restaurant, we will attempt to track the value to the restaurant (re: can they charge more for a meal with these commodities in in), and the price any middleman/distributor gets for the product, in addition to the sale price of the item from the producer to the restaurant or distributor. We will also attempt to identify whether the restaurant marketed the final dish as utilizing climate-smart commodities, and/or used our market label. We will do this by both tracking the information provided to the distributor/restaurant, by leveraging the relationships described above to collect information directly from the end user, and by sending staff/partners out into the community to collect information on final sale price and look for our market label and other marketing materials.

- Where the commodity's final point of sale is a non-local grocer, we will attempt to track the final location of sale and the final sale price, the price any middleman/distributor gets for the product, in addition to the sale price of the item from the producer to the grocer or distributor. We will also attempt to identify whether the grocer/distributor marketed the product as a climate-smart commodity, and/or used our market label. We will do this by both tracking the information provided to the distributor/grocer, by leveraging the relationships described above to collect information directly from the end user, and by sending staff/partners out into the community to collect information on final sale price and look for our market label and other marketing materials.

- Where the commodity's final point of sale is a local reseller or grocer, we will track the final location of sale and the final sale price and attempt to track the price any middle-man/distributor gets for the product, in addition to the sale price of the item from the producer to the grocer or distributor. We will also attempt to identify whether the grocer/distributor marketed the product as a climate-smart commodity, and/or used our market label. We will do this by both tracking the information provided to the distributor/grocer, by leveraging the relationships described above to collect information

directly from the end user, and by sending staff/partners out into the community to collect information on final sale price and look for our market label and other marketing materials.

- Where the commodity is marketed to an entity making a final product for distributed retail sale, we will attempt to track the final location of sale and the final sale price, the price any middleman/distributor gets for the product, in addition to the sale price of the item from the producer to the grocer or distributor. We will also attempt to identify whether the grocer/distributor marketed the product as utilizing climate-smart commodities, and/or used our market label. We will do this by both tracking the information provided to the distributor, by leveraging the relationships described above to collect information directly from the end user and others in the supply chain, and by sending staff/partners out into the community to collect information on final sale price and look for our market label and other marketing materials.

C. ESTIMATED ECONOMIC BENEFITS FOR PARTICIPATING PRODUCERS

One of the data collection requirements is the costs of items sold. This will be collected directly from producers and through market data provided by local farmers' markets. This will allow us to identify if, pursuant to our hypothesis, the branding of these items increases their value at the point of sale (retail or wholesale). We will then use data on the costs of employed measures to determine the viability of practices.

D. POST-PROJECT POTENTIAL

This project will inform County programs to reduce GHG emissions and meet the promise of our Climate Action Plan. The intent is to scale this program and fund future efforts with local/state dollars, including a broad educational program and a future incentive payment or revolving loan program targeting the practices found to be most sustainable and cost-effective. This also has a great potential to identify the real value of these practices in the Mid-Atlantic- a rich agricultural region with a potentially dire future regarding climate impacts. The program itself reduces the largest barrier- untested technologies and practices- reducing the risk to future producers.

Specifically, if the project is able to demonstrate that there is a market for these commodities grown utilizing climate-smart practices, and that the practices combined with the increased value in the market provide an economic benefit to farmers, the County will continue to support the market label and marketing of products under the label. This will require the development of a long-term, sustainable approach to 'certifying' new producers in partnership with NRCS.

Page 032

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Page 033

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of the Freedom of Information and Privacy Act

Page 034

Withheld pursuant to exemption

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of the Freedom of Information and Privacy Act

Page 035

Withheld pursuant to exemption

(b)(4)

of the Freedom of Information and Privacy Act

Page 036

Withheld pursuant to exemption

(b)(4)

of the Freedom of Information and Privacy Act

Page 037

Withheld pursuant to exemption

(b)(4)

of the Freedom of Information and Privacy Act

Page 038

Withheld pursuant to exemption

(b)(4)

of the Freedom of Information and Privacy Act

Page 039

Withheld pursuant to exemption

(b)(4)

of the Freedom of Information and Privacy Act

Page 040

Withheld pursuant to exemption

(b)(4)

of the Freedom of Information and Privacy Act

Page 041

Withheld pursuant to exemption

(b)(4)

of the Freedom of Information and Privacy Act

Page 042

Withheld pursuant to exemption

(b)(4)

of the Freedom of Information and Privacy Act

Page 043

Withheld pursuant to exemption

(b)(4)

of the Freedom of Information and Privacy Act

Page 044

Withheld pursuant to exemption

(b)(4)

of the Freedom of Information and Privacy Act

Page 045

Withheld pursuant to exemption

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of the Freedom of Information and Privacy Act

Program Targets	Year 1				Year 2				Year 3				Year 4				Program Total	NOTES on Program Targets:
	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Quarter 1	Quarter 2	Quarter 3	Quarter 4		
Number of producers *involved*- may not lead to actual funding application due to their role in process, not all producers engaged through outreach will be a good fit, or willing to engage in program. This Target would also be considered *Outreach, training and other technical assistance benchmarks*	0	15	15	30	40	50	50	50	50	60	80	80	60	30	30	30	**670**	Estimated producers involved is a number based on the program's anticiapted reach of marketing and engagement efforts. Number of participants does not equal actual applicants or successful applicants receiving incentive payments.
Number of underserved producers involved	0	4	4	10	20	30	40	45	25	25	30	15	10	8	8	5	**279**	Estimated number of producers to participate in an outreach event or inquire or provide feedback in some manner that can be quantified.
Number of acres involved	0	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	300	Final acreage number based on 40 producers averaging 7.5 acres per producer; no animal units were included in this scenario. Of the 34, 399 acres classified as privately owned agricultural land, most farms are at least 50% wooded. Consequently, approximately anywhere from 6,000 to 9000 acres of land classified as farm are actual tillable acres
Number of head involved (if applicable)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	This target is not applicable.
Dollars provided to producers																	**$ 2,250,000.00**	
target of 40-may include supply chain	0	0	$ 10,000.00	$ 15,000.00	$ 15,000.00	$ 25,000.00	$ 30,000.00	$ 30,000.00	$ 40,000.00	$ 20,000.00	$ 15,000.00	$ -					**$ 200,000.00**	
Stipends to attend Training- $500 each-100 farmers	$ -	$ -	$ 2,000.00	$ 3,000.00	$ 4,000.00	$ 5,000.00	$ 6,000.00	$ 5,000.00	$ 9,000.00	$ 8,000.00	$ 8,000.00	$ -	$ -	$ -	$ -	$ -	**$ 50,000.00**	
CASF Practice Grants-Ex. Farmers-20-40 Farmers_Up to $50K	$ -	$ -	$ -	$ 30,000.00	$ 70,000.00	$ 80,000.00	$ 110,000.00	$ 120,000.00	$ 140,000.00	$ 150,000.00	$ 150,000.00	$ 150,000.00					**$ 1,000,000.00**	
Start-up Farmers_10-15 -Up to $100K	$ -	$ -	$ -	$ -	$ 50,000.00	$ 100,000.00	$ 200,000.00	$ 200,000.00	$ 200,000.00	$ 150,000.00	$ 50,000.00	$ 50,000.00					**$ 1,000,000.00**	
GHG Benefits (Metric Tons of CO2e Reduced or Sequestered)	0	6	6	6	6	12	12	12	12	18	18	18	18	24	24	24	216	* Based on 300 acres total by the end of 4 years, using cover crop (50% reduction fertilizer on non-irrgated land), reduced tillage and crop rotation; total tonnes CO2 equivalent = 216; reduction of 18 tonnes of CO2 equivalent in year 1; 42 tonnes in year 2; 66 in year 3; 90 in year 4; see COMET Planner attachment
Number of new marketing channels* established				9				9				9				9	36	Program defines establishing a marketing channel as the producer has identified the market or niche to strategically offer or sell their climate smart commodity product.
Number of marketing channels* expanded				9				9				9				9	36	Program defines establishing a marketing channel as each successful applicant has identified the market or niche to strategically offer or sell their **climate** smart commodity product.
Number of measurement tools utilized* (Haney Test for soil health)*				9				9				9				9	36	For the purpose of a target, based on the overall program average of (9) producers receiving incentives to deploy climate smart practices, Haney Test for Soil health will be the most common method of measurement to be performed once a year.

Other MMRV and supply chain traceability attributes				1				1				1				1	4	Program generally defines traceability as ways producers can respond to consumers better, identify unnecessary resource consumption, respond **to** demand, and/or operate efficiently. Program will help producers identify strategic value chain opportunities in **climate** smart commodities or marketing sustainable processes and products.
Other measurements of work related to marketing of commodities				1				1				1				1	4	Quantification through relevant website hits, email inquiry, phone inquiry, tracking word of mouth or referral of program.
Climate smart technologies employed (if applicable)				9				9				9				9	36	Based on the overall program average of (9) producers receiving incentive to deploy climate smart practices annually, program expectation is that at least one smart technology will be deployed per each successful applicant.
Demonstrated engagement of major partners by anticipated spend down of subaward.																	**$ 649,610.00**	
Food Equity Council					$ 20,000.00	$ 20,000.00		$ 10,000.00	$ 10,000.00	$ 20,000.00	$ 20,000.00						$ 100,000.00	
Bowie State University	########		$ 40,000.00		$ 50,000.00	$ 10,000.00	$ 20,000.00	$ 20,000.00	$ 23,000.00		$ 18,000.00		$ 18,000.00			$ 5,610.00	$ 214,610.00	
UMD Extension	########		$ 25,000.00		$ 30,000.00		$ 40,000.00	$ 20,000.00	$ 40,000.00		$ 20,000.00		$ 15,000.00			$ 5,000.00	$ 235,000.00	
PGSCD	########				$ 25,000.00				$ 25,000.00				$ 25,000.00				$ 100,000.00	
Contractual Support																	**$ 350,390.00**	
Contractor-Marketing Plan, Report Support				$ 50,000.00				$ 70,000.00				$ 40,000.00				$ 20,000.00	$ 180,000.00	
Contractor_TBD-Technical MRV Support				$ 35,000.00				$ 63,390.00				$ 60,000.00				$ 12,000.00	$ 170,390.00	

NOTE: As an applicant under the second funding pool and as a minority majority county, DoE and its partners will primarily focus on the enrollment of small farms and/or underserved producers to implement CSAF practices. While NRCS cost-share payment rates for small farms have improved for some practices, many of the existing practices and payment rates are designed for mid to large-scale farms. We envision this county program will fill that gap while NRCS continues to tweak its financial incentive programs to better serve our small and urban farms. Per the 2017 Ag Census, there are about 367 farms and 34,399 acres of farmland in the County. Maryland Department of Agriculture's agriculture assessment data shows there are approximately *1,300 parcels in Prince George's County ranging in size from 5 acres to over 300 acres.* With the new Zoning Ordinance, all zones in Prince George's County are eligible for urban agriculture. PGSCD is currently working with 40 urban farms and other small-scale producers on approximately 100 acres in the County. Given the vast array of different scenarios of CSAF deployment that could occur on urban land vs rural land and this program's status as a pilot program, the County does have a reasonable method to provide program targets that involve number of acres, measurement tools utilized, and GHG benefits. The achievement of these targets is not guaranteed until the program is fully underway and stakeholders are engaged with the opportunities. At this juncture, targets to achieve stakeholder engagement, participation, spend out represent our best effort to forecast with multiple unknowns at time of forecast. Targets were estimated per request of negotiations.

*Note: Marketing channels can be a wide range of scenarios, e.g., selling to food processors, distributers, direct to consumer, food assistance providers etc.

(7.25 Acre average per successful applicant average)

Prince George's County

Climate-Smart Practices and Limitations

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

NRCS Practice Code	Practice Name
327	Conservation Cover
328	Conservation Crop Rotation
329	Residue and Tillage Management, No-Till
340	Cover Crop
345	Residue and Tillage Management, Reduced Till
372	Combustion System Improvement
374	Energy Efficient Agricultural Operation
379	Forest Farming
381	Silvopasture
391	Riparian Forest Buffer
393	Filter Strip
412	Grassed Waterway
420	Wildlife Habitat Planting
422	Hedgerow Planting
484	Mulching
528	Prescribed Grazing
585	Strip-cropping
590	Nutrient Management
601	Vegetative Barriers
612	Tree/Shrub Establishment
645	Upland Wildlife Habitat Management
666	Forest Stand Improvement
670	Energy Efficient Lighting
672	Energy Efficient Building Envelope

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

Practice Name/Code	Alternative Standard
PGC001, Aquaponics	Aquaponics **PRINCE GEORGE'S COUNTY NON-STANDARD PRACTICE** **SUBJECT TO APPROVAL FOR USE WITH THE GRANT** **CONSERVATION PRACTICE STANDARD** **AQUAPONICS** **CODE PGC001** **DEFINITION** Aquaponics combines hydroponics (growing plants without soil) and aquaculture (raising fish) in a recirculating sustainable agricultural system

	where waste (total ammonia nitrogen, TAN) produced by farmed fish is transformed by beneficial bacteria through the nitrification process into the nutrients for plant growth. Aquaponic systems are self-contained ecosystems where water quality is continually monitored and adjusted to ensure a balance is maintained between the needs of the fish, beneficial bacteria, and plants to maintain a healthy system. **PURPOSE** This practice is used to accomplish one or more of the following purposes: • Improve plant health and productivity. • Produce more than one commodity with the same inputs (generally a vegetable or fruit and a fish) • Reduce excess nutrients in surface and ground water. • Enable production on otherwise unusable land • Enable production closer to the purchaser of the commodity, reducing vehicle miles traveled(VMT) GHG and particulate emissions • Reduce emissions of objectionable odors. • Reduce emissions of particulate matter (PM) and PM precursors. • Reduce emissions of greenhouse gases (GHG) including lifecycle emissions from inputs of energy and fertilizers • Reduce emissions of ozone precursors. • Reduce the risk of potential pathogens from manure, biosolids, or compost application from reaching surface and ground water. • Improve energy efficiency for facilities, equipment, and/or processes. **CONDITIONS WHERE PRACTICE APPLIES** This practice applies to nonresidential structures, equipment, and other systems that support agricultural production and related enterprises except where another NRCS Conservation Practice Standard (CPS) is more appropriate. **CRITERIA** General Criteria Applicable to All Purposes Implement aquaculture growing method in facility to meet the intended purposes for each area, space, or function. Plan, design, and implement improvements to meet all Federal, State, Tribal, and local laws, codes, and regulations. Design improvements in accordance with sound agricultural and engineering principles and industry standards. **Criteria Applicable to GHG Reduction Analysis** Provide an analysis that demonstrates improved GHG emissions by documenting the emissions from the aquaculture production, versus traditional production methods of the plant and meat/protein commodities for the same pounds/other measure of yield. Some examples of GHG emission sources in aquiculture, cited in (MacLeod, M.J., Hasan, M.R., Robb, D.H.F. et al. 2020) are documented below: Feed: fertilizer production, Emissions arising from the production of synthetic fertilizers applied to crops

	Feed: crop N2O, Direct and indirect nitrous oxide from the application of N (synthetic and organic) to crops and crop residue management Feed: crop energy use, CO2 from energy use in field operations, feed transport and processing Feed: crop LUC, CO2 from land use change arising from soybean cultivation Feed: rice CH4, Methane arising from flooded rice cultivation Feed: fishmeal, CO2 from energy use in the production of fishmeal Feed: other materials, Emissions from the production of a small number of "other" feeds (including animal by-products, lime and synthetic amino acids) Feed: blending and transport, CO2 from energy use in the production and distribution of compound feed Pond fertilizer production, Emissions arising from the production of synthetic fertilizers applied to increase aquatic primary productivity On-farm energy use, Emissions arising from the use of electricity and fuels on fish farm Aquatic N2O, N2O from the microbial transformation of nitrogenous materials (fertilizers, excreted N and uneaten feed) in the fish farm water body **Criteria Applicable to Other Purposes Analysis** For aquaponics systems that do not have additional criteria, academic, industry, manufacturer, or parameters may be used to select and analyze production improvements attributable to aquaponics systems. **CONSIDERATIONS** Refer to the Conservation Practice Standard 374 for energy upgrades for aquaponics facilities. Refer to the Conservation Practice Standard 590 for best practices for Nutrient Management for aquaponics facilities. **PLANS AND SPECIFICATIONS** Prepare plans and specifications to meet the requirements of this standard. As a minimum, include— • Detailed drawings of the aquaponics production system and facility housing the system. • Detailed information on production- including commodities to be produced (type, species, growing time, etc.) • Detailed construction drawings of the measures and appurtenances, such as piping, inlet and outlet connections, mounting, foundations, and other structural components, where applicable and appropriate. **OPERATION AND MAINTENANCE** Prepare a site-specific operation and maintenance plan that is consistent with the purposes of the aquaponics equipment, facility, or processes; its intended life; and safety requirements. Utilize manufacturer's recommendations to the extent practicable. At a minimum, include— • Startup procedures per manufacturer's written instructions and other applicable forms or requirements. • Items in need of periodic inspections (e.g., components, equipment)

	• Components that are subject to routine replacement to ensure proper function. • Appropriate service intervals and maintenance tasks to ensure expected useful life of the equipment. **SUPPORTING DATA AND DOCUMENTATION** **Field Data and Survey Notes** Provide the following: 1. An aerial map of the site showing the location of all buildings, and other permanent features adjacent to the site; 2. Identify on the map, where and what is to be installed, including the number to be installed; 3. All information contained in the section, PLANS AND SPECIFICATIONS, located in the standard. **Design Data** The following is a list of the minimum required design data: 1. Documentation of all site visits and any conversations the landowner or venders on the CPA-6. Include the date, who performed the visit, specifics as to what was discussed, including all alternatives, and decisions made and by whom; 2. Copies of all required permits and documentation to be on file with the design information; 3. Plan view of the facility including, location map, all system components, material and construction specifications; 4. Construction drawings, and component details; 5. Job class on plan; 6. Design calculations appropriate for the type of system being designed; 7. List of quantities with supporting computations; 8. Show construction specifications on drawings. 9. Provide an operation and maintenance plan. **Construction Check Data** Check off all items on the construction drawing plans in red. The following is a list of minimum data needed for as built: 1. Documentation of all site visits on CPA-6. Include the date, who performed the inspection, specifics as to what was inspected, all alternatives discussed, and decisions made and by whom; 2. Actual dimensions of installed practices, if applicable; 3. Material certifications and photographs of certification markings and/or stamps; 4. A certification statement from the contractor(s), suppliers, licensed electricians, licensed plumbers or licensed heating contractor that they have constructed/assembled and installed all items in accordance with the plans and specifications, i.e. proprietary or manufactured items or products; 5. Red lined as-built and certification; 6. Sign and date check notes and plans by a person with appropriate approval authority. Include statement that the practice meets or exceeds plans and the grant Aquaponics practice

	standards. *** Note that the grant funds do not cover constructions costs.

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."

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.