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:
NR233A750004G017		Date of final signature - 03/31/2028	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	NEW ENGLAND FORESTRY FOUNDATION, INC. NEFF 32 FOSTER ST LITTLETON MA 01460-1540 UEI Number / DUNS Number: E2Z3KSYKG6X6 / 939243721 EIN:

7. NRCS Program Contact	8. NRCS Administrative Contact	9. Recipient Program Contact	10. Recipient Administrative Contact
Name: MUSTAPHA ABOUALI	Name: CHARLENE WINTERS	Name: Andrea Colnes	Name: Catrina Vear
(b)(6)			

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

15. Project Title/ Description: Expands markets for climate-smart forestry in ME, MA, NH, VT, CT, RI and supports forest landowner implementation and monitoring of climate-smart practices.

16. Entity Type: M = Nonprofit with 501C3 IRS Status (Other than Institution of Higher Education)

17. Select Funding Type

Select funding type:	☒ Federal	☒ Non-Federal
Original funds total	30,000,000.000	$9,488,083.00
Additional funds total	$0.00	$0.00
Grand total	30,000,000.000	$9,488,083.00

18. Approved Budget

Personnel	$6,088,086.00	Fringe Benefits	$1,383,619.00
Travel	$107,363.00	Equipment	$0.00
Supplies	$8,600.00	Contractual	$1,696,950.00
Construction	$0.00	Other	20,715,382.000
Total Direct Cost	28,523,978.000	Total Indirect Cost	$1,476,022.00
		Total Non-Federal Funds	$9,488,083.00
		Total Federal Funds Awarded	30,000,000.000
		Total Approved Budget	39,488,083.000

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 Senior Advisor for Climate-Smart Commodities	KATINA HANSON Digitally signed by KATINA HANSON Date: 2023.04.24 15:54:00 -05'00'	
Name and Title of Authorized Recipient Representative	Signature	Date
ROBERT PERSCHEL Executive Director	Robert Perschel	4/24/23

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 New England Forestry Foundation (Recipient), is to build markets for climate-smart commodities and invest in America's climate-smart producers to strengthen U.S. rural and agricultural communities.

Objectives

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

Budget Narrative

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

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

TOTAL BUDGET $39,488,083

TOTAL FEDERAL FUNDS $30,000,000
PERSONNEL $4,612,064
FRINGE BENEFITS $1,383,619
TRAVEL $107,363
EQUIPMENT $0
SUPPLIES $8,600
CONTRACTUAL $1,696,950
CONSTRUCTION $0
OTHER $20,715,382 (includes PRODUCER INCENTIVES $14,927,112)
TOTAL DIRECT COSTS $28,523,978
INDIRECT COSTS $1,476,022

TOTAL NON-FEDERAL FUNDS $9,488,083
PERSONNEL $991,666
FRINGE BENEFITS $297,500
TRAVEL $0
EQUIPMENT $0
SUPPLIES $0
CONTRACTUAL $0
CONSTRUCTION $0
OTHER $8,198,917 (includes PRODUCER INCENTIVES $6,962,460)
TOTAL DIRECT COSTS $9,488,083
INDIRECT COSTS $0

Recipient has an approved Negotiated Indirect Cost Rate Agreement (NICRA) with a rate of 26.34 percent and a base of direct salary and wages.

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 and associated Project Narrative.

Resources Required

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

Milestones

See attached Benchmarks and associated Project Narrative.

GENERAL TERMS AND CONDITIONS

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

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

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USDA NRCS Partnerships for Climate-Smart Commodities Funding Opportunity
First Funding Pool
Notice of Funding Opportunity # USDA-NRCS-COMM-22-NOFO0001139
Proposal submitted by New England Forestry Foundation, April 2022
For the New England Climate-Smart Forest Partnership Project

UPDATED PROJECT NARRATIVE

February 2, 2023 Revision

i. EXECUTIVE SUMMARY OF PILOT PROJECT [including, at a minimum, a high-level description of the project, the issues it is seeking to address, and how it will contribute to the goals in this funding opportunity]

In response to the USDA Partnerships for Climate-Smart Commodities Funding Opportunity, the New England Forestry Foundation (NEFF) is anchoring a partnership project, proposing a groundbreaking and nationally relevant pilot program in New England to build a climate-smart forest-based economy as a powerful tool for climate action. This pilot project builds on a solid foundation constructed over decades by partners in the forestry and forest products sectors, aiming to:

1. Implement forest management practices with large commercial producers and smaller woodlot owners to store more carbon in the forest;
2. Quantify the resulting carbon gains; and
3. Build markets for climate-smart forest products to store carbon in wood products and substitute wood products for fossil fuel-based materials.

The proposed project will realize nationally significant climate benefits from New England, expand the forest products markets, and benefit economically distressed rural communities. A climate-smart supply chain will deliver economic benefits at the stump and in commodity wood markets while improving forest health, resilience, and climate mitigation. Climate smart forest management practices have been demonstrated to enhance wildlife habitat, support ecosystem health, and grow more and better-quality wood, while increasing carbon sequestration and storage in forests and wood products. Benefits will also accrue to constituents in urban and suburban areas as well, with locally grown, healthy, low-carbon building materials that can help meet the increasing demand for affordable housing and other commercial and residential construction with a lower climate impact. Analysis for New England shows that a holistic approach to forest-based climate mitigation -- protecting forests, practicing climate-smart forestry, and strategically utilizing renewable wood products instead of fossil fuel-intensive materials -- can deliver carbon savings equal to 30% of the emissions reductions needed for this region to reach net zero by 2050.

NEFF is coordinating a partnership of large and small producers, including forestland owners, Tribes, foresters, loggers, forest products manufacturers, mass timber developers, climate interests, universities, and financing partners. Foremost are those who own, manage, and sustainably harvest the forest -- the producers who will implement climate-smart practices on the ground -- including large commercial producers, small woodlot owners, Tribes, foresters, and logging operators. To quantify, model, and track the resulting carbon benefits, the partnership includes the established Family Forest Carbon Program, academic research institutions, and for-profit consultancies that specialize in relevant applied technical analyses. Green finance partners will

help design potential innovative financing mechanisms to help scale practices and products piloted through this program. At the far end of the supply chain, the partnership includes businesses that represent the end users of climate-smart forest products, focused on high-value wood for mass timber construction. In addition, although not directly funded in this project, partners will continue to support important markets for low grade wood to improve the economics of climate-smart forest management. A wider group of individuals and organizations will join an advisory panel to help guide the project and evaluate its success.

A. Contact Information: Ms. Andrea Colnes, Exemplary Forestry Center Director, New England Forestry Foundation, P.O. Box 1346, 32 Foster Street, Littleton, MA 01460; 802-522-4347; acolnes@newenglandforestry.org

B. List of Project Partners:

Based on an extremely strong roster of already-committed producers via large and smaller landowners (alongside forest carbon researchers, experts in climate-smart silvicultural practices, modeling experts, forest finance specialists, and commodity market participants) this integrated climate-smart commodities program is ready to implement from forest to market.

Landowners, Foresters, Loggers
(Producers to Receive Incentives)
Participating Producers

- Seven Islands
- Weyerhaeuser
- Wagner Woodlands
- Baskahegan Land Company
- Robbins Lumber
- Passamaquoddy Tribe
- Mi'Kmaq Nation
- The Nature Conservancy (Maine lands)
- Woodlands Partnership of Northwest Massachusetts (formerly Mohawk Trail Woodlands Partnership)
- Massachusetts Tree Farm Program
- Hull Forestlands, L.P.
- Heyes Family Forests LLC

Participating Loggers & Foresters

- Professional Logging Contractors Maine
- Trust to Conserve Northeast Forestlands
- Professional foresters & loggers

Monitoring, Verification & Reporting

- University of Maine – multiple departments
- American Forest Foundation - Family Forest Carbon Program
- Spatial Informatics Group
- Thomas Walker, Resource Economist
- Innovative Natural Resource Solutions, LLC

Commodity Markets

- Spiritos Properties, LLC
- Leers Weinzapfel Associates
- Quantified Ventures
- WoodWorks

Supporting Organizations

- Forest Stewards Guild
- Mass Audubon Society
- Our Climate Common
- Highstead Foundation
- Massachusetts Forest Alliance
- Connecticut Forest & Park Association
- Appalachian Mountain Club
- Massachusetts Woodlands Institute

C. List of Underserved/Minority-focused Project Partners

(See attached Match Justification for Underserved/Distressed Populations)

Tribal Nations: The Passamaquoddy Tribe, through the Passamaquoddy Forestry Department and the Mi'Kmaq tribe will participate in this project to serve several goals: first, to protect and enhance cultural resources, e.g., maintaining brown ash and canoe quality birch as components

of the forest; and second, to increase the extent of climate-smart forestry practices on Tribal lands through silvicultural interventions that aim to store more carbon on Tribal forests. The Tribes see these actions as a way to mobilize growth in the economies of rural, economically distressed, forest-dependent communities throughout the region. The Tribes support the market building focus of this project to increase demand for climate-smart forest products which will, over time, improve the economics of climate-smart forest management and wood production. In addition, John Daigle (member of the Penobscot Nation and University of Maine professor and Tribal liaison) will serve as a facilitator for engaging the Passamoquoddy Tribe and Mi'Kmaq Nation. Dr. Daigle offers a framework for collaboration among the Wabanaki Nations of Maine. He led a team that explored the impacts of potential climate scenarios for Maine and as related to the Indigenous Peoples of Maine.

- **Distressed rural communities**: Much of northern New England and all major wood producing counties in the project area are formally designated by the federal Northern Border Commission as 'distressed'. *See attached documentation.*
- **Affordable Housing Sector**: Mass timber partners will conduct an in depth program of direct outreach to affordable housing agencies across the New England region and develop a case study for utilizing climate-smart sourced mass timber for construction of affordable housing. See market section below for more detail.

D. Compelling Need for the Project, High-Level Project Description, and How Project Will Contribute to Funding Opportunity Goals

The environmental, economic, human health, and social threats posed by climate change are well documented. As noted by the UN IPCC in its August 2019 *Special Report* and its April 2022 *Climate Change 2022 Mitigation of Climate Change Summary for Policymakers*, climate-aligned forest management paired with utilization of climate-smart wood maximizes carbon benefits from forests while supporting overall forest health and ecological values:

> "A sustainable forest management strategy aimed at maintaining or increasing forest carbon stocks, while producing an annual sustained yield of timber, fiber or energy from the forest will generate the largest sustained mitigation benefit. ...forest products can be used instead of more GHG intensive products.... The…expanded use of wood products sourced from sustainably managed forests also has potential through the allocation of harvested wood to longer-lived products, increasing recycling or material substitution."

The New England Climate-Smart Forest Partnership Project will act on this finding by the IPCC to realize **nationally significant and additional climate benefits** from the forests of New England, expand forest products markets, and benefit Native American tribes as well an economically distressed rural communities. New England stands out as a powerful opportunity zone for the production of forest-based climate-smart commodities and market placement because:

- New England will experience significant climate impacts across all ecosystems affecting multiple aspects of ecology, economics and communities.
- New England has 10 million+ acres of forestlands with significant additive carbon sequestration and storage potential that can reduce carbon emissions between now and 2050.
- New England's forests are mostly private in a mix of family and commercial ownerships well suited to the incentive-based approach reflected in this Climate-Smart Commodities program.
- New England has large dense populations and major cities, yet is also heavily forested, creating an opportunity for a regionally integrated pipeline from producer to consumer.

- Densely populated and industrialized New England states have major equity challenges, including affordable housing, that can be linked to solutions from forest-based climate strategies.
- Sustainable forest practices that can contribute to climate mitigation are deeply rooted and understood across the region.

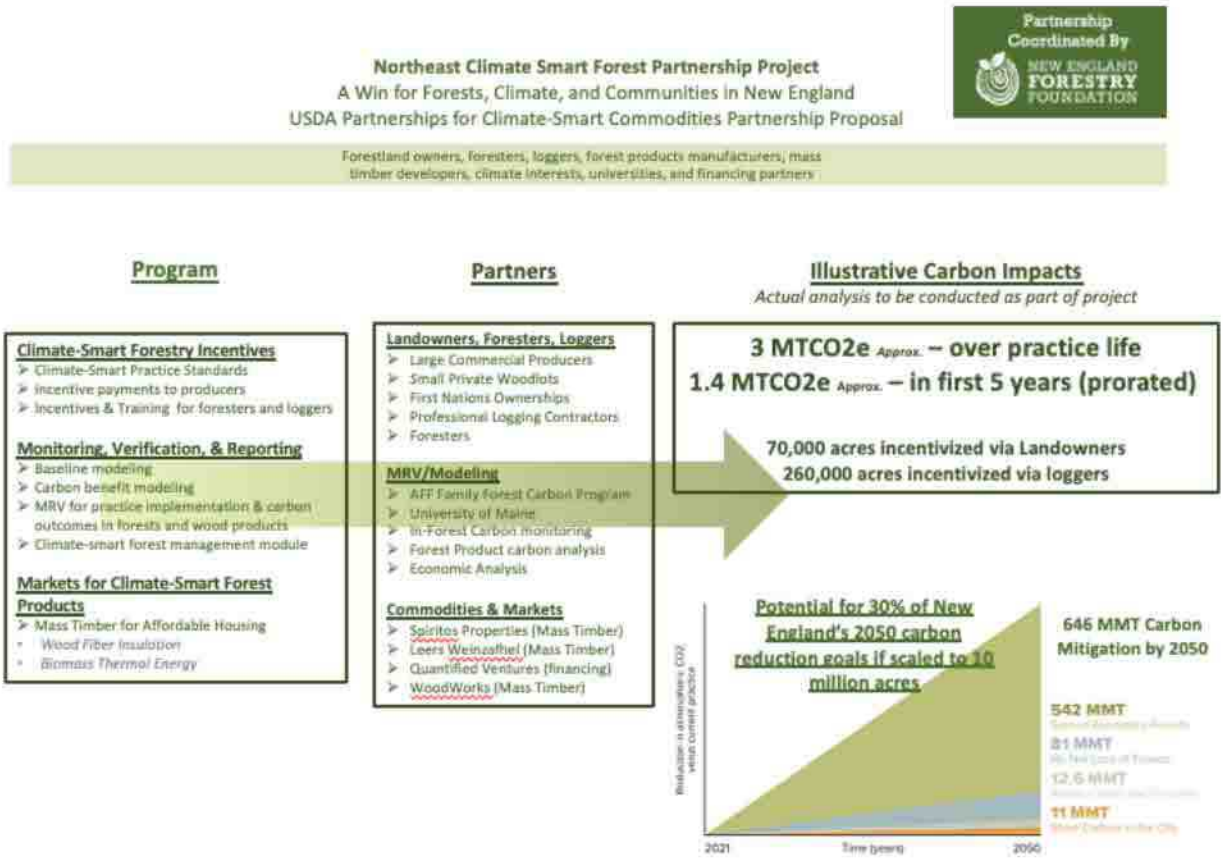
This proposed pilot project will focus on the following three major elements:

1. **Climate-Smart Forestry Incentives:** Provide direct incentives to large commercial forestlands, Tribal lands, and family forestland owners/producers we are targeting approximately 66,000 acres in a pilot program to incentivize adoption of silvicultural and harvesting practices that accelerate carbon storage in working forests and in products across New England including Maine, Massachusetts, Vermont, New Hampshire, Connecticut, Rhode Island. Provide incentives, training, and silvicultural guidance to professional foresters and logging contractors.
2. **Monitoring and Verification:** Measure current and project future carbon and greenhouse gas (GHG) benefits associated with climate-aligned silvicultural and harvesting practices on large and smaller forestland ownerships in rural communities in Maine and northwest Massachusetts, as well as across New England. This work will include development of a climate-smart forest management module and will provide a baseline for monitoring results beyond the life of this project. (Measurements made during the project period will be to provide a baseline for future longer-term forest monitoring beyond the short 5 year project period.)
3. **Build Markets for Climate-Smart Forest Products:** Expand the scope and scale of markets for climate-smart forest materials as a driver for production of a cost-effective climate-smart wood supply. This pilot program will support increased carbon storage in high-value wood commodities used in construction of buildings and reduced use of carbon-intensive steel and concrete. The project will also support efforts to expand markets for low value wood.

Project Flow & Carbon Impact Overview

Note: As per USDA request, the proposed budget is reduced by 21%, and we have done our best to maintain maximum carbon outcomes by maintaining more large commercial landowner acres with the largest additional carbon outcomes and trimming as needed smaller landownerships with lower additive carbon reduction potential.

Based on an initial rough draft carbon impact analysis, carbon benefits of approximately 3 $MTCO_2e$ could accrue over the entirety of the practice life (which, depending upon the practice, varies from 5 to 75 years) and on a prorated basis, carbon benefits could be roughly 1.4 $MTCO_2e$ in the first 5 years. Acres treated include approximately 66,000 acres that will be incentivized through landowners and approximately 260,000 that will be incentivized through loggers. *(Note: This rough carbon impact analysis is only provided for illustrative purposes and while directionally correct, it is only preliminary and requires additional work on data inputs, an analysis of leakage, and other issues as the project proceeds. (The term "leakage" refers to when harvesting of timber is avoided on one property, avoiding pushing that demand elsewhere.) A full carbon impact analysis will be designed and conducted as a key component of the 5-year pilot project itself.)*



This project is designed to realize significant additive carbon sequestration and in-forest carbon storage, alongside reductions of carbon emissions through climate-smart wood utilization and substitution for carbon-intensive steel and concrete. Taken to scale, the elements in this proposed project have the capacity to deliver the following outcomes:

1. Increase stocking on over 10 million forested acres in northern New England, to improve carbon storage, wildlife habitats, and improve timber productivity.
2. While maintaining high levels of carbon storage in existing stands, implement practices to enhance forest resilience, and increase supply of sustainably harvested wood products to substitute for carbon-intensive steel, concrete, plastic produced from the forests of central and northern New England.
3. Address the issues of additionality and leakage.
4. Build the bio-based economy and increase demand for high-value wood products like cross-laminated timber (CLT) that can permanently store significant forest-carbon in buildings.
5. Provide training and information to forest professionals and woodland owners on how to implement climate-smart forestry.
6. Develop delivery mechanisms, monitoring and verification protocols, and financing strategies to build on this pilot project to take it to scale across the New England region.

E. Approach to minimize Transaction Costs Associated with Project Activities:
Project transaction costs will be minimized through the following measures:

- Landowner incentives will be on a cost-sharing basis with commercial landowners and smaller woodlot owners for the cost of climate-aligned forestry practices applied through the project, with exceptions for Tribes who will not contribute a cost-share for incentives.
- The project is designed to maximize efficiency and minimize transaction costs by working directly with the commercial-scale landowners with no intervening entities.
- Small landowners will be engaged through a highly coordinated and efficient program implemented in partnership with the American Forest Foundation (AFF)/The Nature Conservancy (TNC) Family Forest Carbon Program, utilizing existing methods, protocols, materials, and systems. This will allow for economies of scale in reaching small landowners and minimizing per-ownership transaction costs.
- No transaction costs are associated with market-building activities in this project.

F. Approach to Reduce Producer Barriers to implementing CSAF (Climate-Smart Agriculture and Forestry) practices for the purpose of marketing climate-smart commodities:

This project is specifically designed to reduce barriers to implementing climate-aligned forestry with large commercial wood producers and smaller woodlot producers and loggers through the following approaches:

- Commercial Forestland Owners: Provide direct incentives on a cost-sharing basis to large commercial producers to make the economics of climate-aligned forestry work by significantly reducing the cost to implement silvicultural practices that reduce GHG levels.
- Smaller Woodlot Owners: Provide direct incentives to smaller woodlot owners/producers to maintain carbon storage levels in heavily stocked stands and at the same time implement forest management plans that support production of climate-smart wood products.
- Loggers: Provide training, information, and cost-share to loggers to implement climate-smart forestry planning and harvesting.
- Foresters: Train foresters on climate-smart forest practices so they can assist both landowners and loggers to implement the project's practices.
- Create markets for climate-smart forest products: Improve the economics of climate-smart forestry practices by increasing demand for climate-smart wood products for high-value wood in mass timber buildings (focus on affordable housing sector). Assist with the development of markets for low value wood as possible.

G. Geographic Focus:

This project will focus on the New England region (Maine, Vermont, New Hampshire, Massachusetts, Connecticut, and Rhode Island). This region is simultaneously one of the most heavily forested and populated in the country, creating an integrated opportunity for sequestering large amounts of carbon in the forest, storing large amounts of carbon in mass timber buildings, and substituting bio-based wood products for carbon-intensive steel, concrete, and other materials in the significant urban centers across the region. *(See Section i.D above).*

All practices implemented through this project will be conducted on land that is already forested and suitable for forest management activities. No project activities will be conducted on lands that are not yet forested or in any way unavailable for active forest management.

H. Project management capacities of partners, including a description of existing relationship with and/or prior experience working with producers or landowners, promoting climate-smart activities and marketing climate-smart commodities:

New England Forestry Foundation (NEFF) – Coordinating entity has a 78-year history of managing New England forestlands and has demonstrated strong leadership on the science and practice of high-level forestry. The organization has successfully engaged extensive networks of producers (large commercial landowners and small forest landowners) in improved forest management and spearheaded large-scale land conservation. NEFF staff possess a combined total of hundreds of years of experience on these topics, including:

- Working with University of Maine to model forest practices on over 9 million acres, drawing on extensive experience engaging small private landowners in active forest management.
- Acquiring and monitoring conservation easements on 1.2 million acres in New England.
- Linking improved forest management with wood buildings in New England's urban areas and determining how to mitigate climate change by increasing carbon storage in forests and in products such as mass timber (MT) construction.
- Working with the Maine Mountain Collaborative and Quantified Ventures to establish an innovative forest management finance vehicle -- the Exemplary Forestry Investment Fund -- to buy forestland and apply climate-smart forestry. NEFF also operates the Pooled Timber Income Fund to allow smaller landowners to receive a return for the practice of climate-smart forestry on their lands to be conserved.
- Working with commercial forest landowners, scientists, and conservation organizations to define how to store more carbon in New England forests and products while maintaining harvest.
- Establishing working relationships with the large commercial forestland owners in Maine (10 million acres) and collaborative design of climate-smart forestry practices and incentives.
- Piloting family forest landowner outreach in Western Maine, Massachusetts, and Connecticut through ongoing state, federal, and partnership programs.
- Codifying climate-smart practices for the Northern Acadian and Central Transition Hardwoods forest regions and demonstrating these standards on NEFF lands.
- Modeling impact of climate-smart practices across the New England regional landscape.
- Establishing relationships with partners in the engineered wood industry.

NEFF has demonstrated its project management capacity at a scale similar to this proposal in the Pingree Forest Partnership and Downeast Lakes Forestry Partnership Projects (total of 1.1 million acres). In both of these large-scale projects, NEFF utilized its extensive network of working relationships with producers and landowners, working intensively with large and small landowners, communities, loggers, and state, federal and philanthropic agencies and stakeholders:.

- **Pingree Forest Partnership (762,192 acres; NEFF raised approx. $32M)**
  In 2001, NEFF and the Pingree family completed the **largest forestland conservation easement in the history of the United States**. The project permanently protects from development an area three-and-a-half times the size of Maine's Baxter State Park and larger than the State of Rhode Island. The Pingree easement conserves spectacular natural resources in Maine, including the Allagash Lakes and 16 miles along the St. John River. This transaction set the stage for an explosion of so-called landscape-scale conservation projects.
- **Downeast Lakes Forestry Partnership (339,000 acres; NEFF raised approx. $34M)**
  NEFF undertook the Downeast Lakes Forestry Partnership in a joint effort with the Downeast Lakes Land Trust (DLLT) to protect a huge portion of Maine's easternmost county. This project addressed far-reaching conservation goals and the social and economic needs of the region by

maintaining the areas' extraordinary fish and wildlife habitat and guiding businesses. Through this partnership, DLLT purchased 27,080 acres as the Farm Cove Community Forest and NEFF purchased a 312,000-acre sustainable-forestry easement on the surrounding lands.

This proposed partnership-based Climate Smart Commodities pilot project will deliver incentives to producers of climate-smart forest products and pilot market placement and development through a consortium of experienced institutions and partners, reflecting extensive expert capacity and a regional network of primary relationships with forest landowners, producers, foresters, loggers, market-based entities, and researchers. *(See attached two packages of curriculum vitae for (1) NEFF project team and (2) partner organization team leads.)*

I. Evaluating Results and Reporting

NEFF will engage an independent panel of experts to help guide this project and assist in program evaluation, including foresters, economists, soil scientists, and First Nation representatives. NEFF will document the project's results and analyze acres treated, carbon stored in the forest and in products, and economic impacts. NEFF will analyze project results from both an economic and social perspective, assessing what mix of practices and incentives is most cost-effective for sequestering and storing carbon and avoiding carbon emissions, as well as which silvicultural practices were most readily accepted, and which were not. NEFF and its partners will distill lessons learned from these analyses and present recommendations outlining the most successful options to maximize impacts, with a focus on the production and use of climate-smart commodities.

ii. A PLAN TO PILOT CLIMATE-SMART FORESTRY PRACTICES ON A LARGE SCALE, including:

A. A description of CSF practices to be deployed:

This project will feature large-scale deployment of climate-smart silvicultural and harvesting practices that accelerate carbon storage in working forests and in products by a pilot group of large commercial, Tribes and smaller private forestland owners across New England. These practices are rooted in the significant body of scientific research on management strategies that help forests mitigate and adapt to a changing climate. Through collaborative efforts of NEFF and key partners, including the University of Maine, The Nature Conservancy, American Forest Foundation, the Northern Institute of Applied Climate Science, Mass Audubon, and others, a solid scientific foundation providing clarity and consistency around what constitutes 'climate-smart' forest management in Northeastern forests has been established. (Detailed scientific basis available on request). These practices will include:

- Reduced impact logging
- Planting areas that lack species that can maximize growth rates
- Pre-commercial thinning
- Early commercial thinning
- Improved silviculture in certain small-diameter low-value stands, where harvesting is not currently financially feasible and where improved silviculture will increase productivity and reduce rotation ages.
- Crop tree release
- Timber stand improvement thinning
- Maintaining very heavily-stocked old growth stands and legacy trees, as heavy harvesting of these trees will not reduce GHG levels within the next few decades

- Maintaining brown ash as a component of New England's forests, favoring canoe-quality white birch, and other practices to maintain cultural integrity and economy of Tribes

NEFF will work to maximize consistency of the climate-smart practices with NRCS standards. A number of the practices have been identified and are known to meet NRCS standards; for example, precommercial thinning, early commercial thinning, crop tree release, and thinning for wildlife. Through our Regional Conservation Partnership Program (RCPP) in western Maine we have intimate familiarity with these NRCS practice standards and implementing them on the ground with landowners. Many climate-smart forestry practices and desired purposes are included under Forest Stand Improvement (Code 666), including "improve and sustain forest health and productivity," "reduce damage from pests and moisture stress," "initiate forest stand regeneration," and "increase or maintain carbon storage." However, there are other practices that have been requested where it is not clear if NRCS has standards that apply. For example, Maine tribes have requested that they be allowed to use funding to keep selected, vigorous brown ash trees alive in the face of the emerald ash borer (EAB) outbreak. It appears that this may be allowed by CPS 595; thus, we are requesting confirmation.[1] A similar practice to inoculate male and female ash trees against EAB is being piloted as part of climate-smart forest management planning being implemented by the Department of Conservation & Recreation and partners in Massachusetts. In other cases, we have identified issues to be addressed (e.g., keeping exceptionally large, old trees on the landscape) but states like Maine lack practice standards. In still other cases we intend to evaluate the desirability of other practices (e.g., logging practices to minimize ground disturbance in skid trails, and/or favoring the growth of trees that are best suited to future climatic conditions, and/or payments for thinning that promotes faster growth but is not financially feasible) and it may well be that these are consistent with NRCS practice specifications, but that will only become clear during project implementation. Again, in every case NEFF will work to maximize consistency with NRCS practice specifications by reviewing these determinations with the appropriate representatives of NRCS. If important practices are identified that are not served by NRCS standards, NEFF will work with NRCS as needed to develop a workable approach.

No practices implemented through this project, except for building, improving, or using forest roads as needed for low impact logging, will involve ground disturbance below the plow zone as this project is focused on applying climate smart silvicultural practices that do not involve agricultural plowing.

Completion of the NRCS-CPA-52 form will be done as part of technical assistance for each Climate Smart practice implemented (in some case one NRCS-CPA-52 can be completed if multiple practices are installed at the same time and location). Additional guidance form USDA will be noted if provided following the award.

No animal feeding operations of any kind are involved in this project.

B. Plan to recruit producers and landowners, including estimated scale of the project (e.g., number of landowners, acres targeted, head of livestock, etc.)

[1] This interpretation seems promising in light of the fact that the tribes are already working with USDA through Animal & Plant Health Inspection Service and US Forest Service to implement this practice on a limited basis (see communication from John Daigle, a coordinator for the tribes and a member of the Penobscot Nation).

NEFF has secured participation commitments from four large forest landowners in Maine managing in excess of 2 million acres, interest from several Tribes, and an identified network of smaller woodlot owners in the southern part of the region. Project partners will expand engagement of producers through an extensive network of forest landowners. NEFF will recruit smaller private woodland owners through an intensive outreach effort in partnership with the Family Forest Carbon Program. This pilot project seeks to engage approximately 3-5 large commercial producers and approximately 158 small landowners, with a total target of approximately 66,000 acres.

C. Plan to provide technical assistance, outreach, and training, including who will be conducting these activities, qualifications, and projected timeline)

NEFF will coordinate technical assistance, outreach, and training for foresters, loggers, and landowners alongside partners with extensive experience in training forestry professionals, including the Professional Logging Contractors of Maine, the Trust to Conserve Northeast Forestlands, the American Forest Foundation, Society of American Foresters, Forest Stewards Guild, Mass Audubon, Tribes, foresters, and others. Resources and modules from past work with respected science leaders, such as Northern Institute of Applied Climate Science, will be incorporated while drawing on each partner's expertise. The training will be front-end loaded to maximize impact and cover an array of subjects selected to increase the production of climate-smart commodities and storing more carbon. If awarded, NEFF will design and build the outreach and training program within the first year of the grant, including an audience-specific messaging toolbox, and a hub and spoke approach to identify mini-pilot areas where innovative approaches may focus on underserved producers, local "wood baskets," or tree species for certain products.

The Family Forest Carbon Program, with NEFF, will implement an extensive outreach, engagement, and enrollment program for smaller producers, or family woodlot owners, in southern New England. This outreach will utilize digital engagement tools and online resources, as well as direct mailings, in-person events, and workshops and coordination with regional partnerships already invested in sustainable forestry and landowner peer learning. This landowner engagement program will include boots-on-the-ground outreach by foresters to a target audience of approximately 158 landowners, enrollment of landowners and acres in climate-smart forest management plans and implementation, as well as monitoring and verification of climate-smart forestry and related carbon outcomes. The FFCP is a partnership run by American Forest Foundation (AFF) and The Nature Conservancy (TNC). AFF is an established national organization that works to deliver conservation impact and forest stewardship through the empowerment of family forest owners. TNC is a global organization that works to conserve the lands and waters on which all life depends. While coordinating outreach will realize economies of scale, NEFF and AFF are cognizant that carbon is not considered a commodity for this grant, and strong protocols will be implemented to ensure that practices funded through this grant will not be counted in other payment-for-practice programs. (See attached *Overview of The Family Forest Carbon Program Approach and Carbon Accounting Methodology.)*

Technical assistance across the full scope of project activities will be provided by the following project partners:

- New England Forestry Foundation - NEFF will coordinate all technical assistance provided through this project and also provide direct technical assistance to support logger and forester outreach and training, and outreach and engagement of landowners alongside project partners

- American Forest Foundation/FFCP – As described above, the AFF/FFCP will provide direct technical assistance to smaller producers, or family woodlot owners involved in this project across southern New England.
- Quantified Ventures: Quantified Ventures will provide technical expertise to NEFF and project partners on quantifying the financial, social, and environmental impacts of the project and designing the structure for the incentive program to enable effective implementation.
- Tom Walker, Resource Economist: Will provide expert technical assistance to NEFF and project partners to design and implement specific landowner incentive mechanisms for program design and implementation. Will also provide technical evaluation assistance and services focused on assessment of implementation methods, program cost-effectiveness, and socioeconomic objectives.
- University of Maine (Partnership with Passamaquoddy/Mi'kmaq Tribal Nations) – University of Maine will be the locus of and conduit for technical support for Tribal engagement in all aspects of the project including Tribal landowner engagement, relevant trainings, incentive program design and delivery, monitoring and reporting activities.
- Wood Works – Wood Works will lead the creation of a mass timber design study and technical guidance framework that is specific to the affordable housing market.
- Spatial Informatics Group – SIG will provide technical assistance to NEFF and project partners focused on forest practice based carbon emission impact modeling
- Leers Weinzapfel Associates – LWA will provide technical assistance for the development of a mass timber affordable housing design study and technical guidance framework.
- Spiritos Developers – Spiritos Developers will provide technical assistance on utilization of mass timber in U.S. multi-family affordable housing projects. Specific areas of work will include: quantify future multi-family affordable housing needs in the U.S. through 2040; generate estimates of potential demand for mass timber technologies in meeting the quantified affordable housing need; illustrate and report on the connection to sustainable forestry if those demands were realized; develop a case study of the implications of converting a multi-family affordable housing unit from traditional building materials to mass timber; develop an outreach program and informational package for affordable housing, forestry and environmental interests.
- Trust for the Conservation of Northeast Forestlands – TCNEF will provide technical assistance to include an additional Climate Smart training credential in the Master Logger Certification training program; build a Climate Smart Curriculum for logging businesses that will lead to a new Climate Smart credential and incentives for qualifying businesses; and incentivize CSF practices for current and new Master Logger participants that have completed the Climate Smart Curriculum.
- Innovative Natural Resources Solutions – INRS will provide technical assistance to help develop a system to track harvested wood products from forestlands receiving climate smart incentives and help estimate likely end uses of that wood to feed into analysis of substitution benefits.

D. Plan to provide financial assistance for producers to implement CSF practices

This program is centered on providing direct payments to producers/landowners to implement silvicultural practices that will increase carbon sequestration and storage in the forest, increase the production and quality of timber over time, and support ecological values. Payments will be provided in full for underserved or small family forest owners (with funds from USDA and cost share from non-federal matching sources) and on a cost-share basis for large commercial owners. The program will be designed to maximize GHG benefits based on guidance from economists, industry participants, experts in innovative financing, and Tribal interests. This climate-smart

forestry program will grow the economies of economically distressed forest-dependent rural communities in the region. These silvicultural interventions are designed to deliver a maximum carbon benefit that will accrue over 30 years or more, well beyond the five-year grant period. *It is important to note that any development of climate-smart commodities from wood must necessarily incorporate these longer timeframes related to the lifespan of trees grown through sustainable forestry implemented over the course of decades, compared to other economic sectors, such as agriculture.* The forest management interventions and related monitoring are designed to ensure that carbon benefits derived from the incentives are maximized over the long term.

This project element also includes:

1. Payments to loggers to implement specific low-impact logging practices as defined for this project that maintain soil carbon storage and enable loggers to operate in stands that would otherwise be financially unfeasible;
2. Payments to foresters to increase the assistance they can provide to small landowners, as well as expanded outreach to those landowners and training for foresters and loggers on how to deliver the specific climate-smart practices as defined for this project; and
3. Efforts to identify and bring forward additional sustainable sources of landowner incentives over time.

Specific program elements include the following:

Direct payments, through contracts with NEFF, of approximately $13.5 million in incentives to large and small private forestland owners, Tribes, foresters, and loggers to cover the costs related to implementing heretofore uneconomic silvicultural practices that increase storage of carbon in the forest and in forest products (relative to business as usual).

This producer incentive program will function through a cost-share model incentivizing landowners for the cost of climate-smart practices, with varying levels of cost-share from large commercial producers, small family forest owners and historically underserved producers, such as Tribes, whose practices may be paid in full through the program. Exceptions may be needed for certain practices that will not be implemented unless they are fully funded (such as harvesting in stands that would not be financially feasible.) *NOTE: The guiding principle will be to provide the level of incentive payment that is necessary to make the practices financially attractive at scale. For example, the project will consider covering the producer portion of the cost share with a five-year, zero-interest loan, rather than requiring up-front payment of the landowner share.* Incentives will be provided directly to landowners (large commercial, First Nation, and small private), foresters, and loggers to determine fair compensation for each silvicultural practice.

In general, payment amounts for the climate-smart forest practices applied through this project for all categories of landowners will be calculated to make it financially feasible for landowners to implement climate-smart practices. The amount of payment per acre may vary between landowner types and different mechanisms for determining the amount of payment may be employed. For example, maximum climate benefits may be achieved by employing auction techniques with large landowners or consolidated proposals by groups of smaller landowners. On the other hand, the climate benefits from individual small landowners may be maximized by establishing fixed payment rates, such as those currently employed by NRCS. Payment rates for tribal practices will be informed by the efforts outlined above and will be negotiated with the tribes. Overall, from a design perspective, all payments will be designed to maximize climate benefits per dollar spent.

It is important to note that the basis of determining the cost per acre for climate-smart practices for the 3 different categories of forest landowners (including large commercial forestland, small private family forestland and forestland), is a core element of the pilot project itself and will be worked out during project implementation after a contract with USDA is finalized.

To facilitate input and involvement from Tribal partners, particularly in Maine, John Daigle, Professor of Forest Recreation Management at the University of Maine, will serve as a liaison between NEFF as the coordinating entity and Tribal Nations in the region.

Landowners (all located in 'distressed' underserved rural and Tribal lands/communities) –$13.5 million (approx.) in direct incentives for a combination of small landowners (26,000 acres), commercial landowners distressed counties (40,000 acres) and Tribes (1,500+ acres)

- Planting areas that have failed to regenerate
- Pre-commercial thinning
- Early commercial thinning
- Crop tree release
- Timber stand improvement thinning
- Maintaining heavily stocked old growth stands
- Serving the interests of Tribes, e.g., maintaining brown ash, canoe-quality white birch
- Other climate-beneficial practices yet to be defined

Foresters – $750,000 for consulting foresters to work with landowners and loggers to implement climate-smart management plans for producers on up to 66,000 acres.

- Expanded technical assistance for forest management plans and forest harvesting plans
- Direct payments to foresters to assist landowners in implementing practices that accelerate carbon storage
- Other climate beneficial practices yet to be defined

Foresters will be under contract with NEFF to provide assistance to landowners in designing and implementing climate-smart practices as well as inspecting outcomes to ensure compliance.

Loggers – $1.6 million for commercial loggers to conduct climate-smart harvesting on 340,000 acres including 40,000 large commercial project acres that receive landowner incentivizes under this program, and approximately 300,000 additional acres that will also treated by CSC trained loggers.

- Reduced-impact logging
- Harvesting in small-diameter and low-value stands, where not otherwise financially feasible
- Other climate beneficial practices yet to be defined

NEFF will be responsible for outreach and delivering the program to large commercial landowners and Tribes. NEFF will partner with the American Forest Foundation to conduct outreach to small family forest landowners based on an adaptation of the latter's existing program for contracting, combined with delivering the specific forest practices noted above (which are compatible with the Family Forest Carbon Program's "Enhance Your Woodland" practice).

The bulk of the funding for loggers will go to pay for them to become, or stay as, certified "Master Loggers." This is a program that trains loggers on how to apply "low impact" logging techniques (e.g., avoiding rutting and excess soil disturbance) on the areas they harvest (see

https://masterloggercertification.com/# for a description of the program and its standards). The harvests conducted by Master Loggers are inspected to ensure compliance with the program's standards.

In addition to paying for training and certification, loggers may be paid for specific climate-smart techniques that go beyond Master Logger standards (e.g., conducting thinning that is otherwise uneconomic and/or favoring the growth of trees best suited to future climate conditions). The details of these practices will be determined during project implementation after a contract with USDA is finalized; however, they will to the maximum extent possible, be consistent with applicable USDA standards.

E. Plan to enroll underserved and small producers, including estimated number of underserved and small producers participating and associated dollar amounts anticipated to go directly to producers, in the form of technical and financial assistance

Landowners - $13.5 million (approx.) in incentives for a combination of small landowners (26,000 acres), commercial landowners distressed counties (40,000 acres), Tribes (1,600+ acres)
Foresters– $750,000 for consulting foresters to implement climate-smart management plans on approximately 66,000 acres.
Loggers – $1.6 million for commercial loggers to conduct climate-smart harvesting on approximately 40,000 acres.

The Passamaquoddy Tribe will participate in this project to serve several goals: first, to protect and enhance cultural resources, e.g., maintaining brown ash and canoe quality birch as components of the forest; and second, to increase the frequency of climate-smart forestry practices on Tribal lands through silvicultural interventions that aim to store more carbon on Tribal forests. The Tribes see these actions as a way to mobilize growth in the economies of rural, economically distressed, forest-dependent communities throughout the region. The Tribes support the market building focus of this project to increase the demand for climate-smart forest products which will, over time, improve the economics of climate-smart forest management and wood production. In addition, participation of the Passamoquoddy and Mi'Kmaq Tribes will be developed through Dr. John Daigle (of the Penobscot Nation), and via the Wabanaki Center at the University of Maine.

In addition, the large commercial producers are all located in areas designated as 'distressed' by the Northern Border Regional Commission's Annual Economic & Demographic Research for Fiscal Year 2022,[2] which determined that all of the counties in the northern forested regions of Maine, New Hampshire and Vermont meet the criteria for 'distressed' as per the federal criteria for 'distress' (Federal law (40 U.S.C., Subtitle V, §15702) which states that, 'distressed' counties are those that, "have high rates of poverty, unemployment, or outmigration" and "are the most severely and persistently economic distressed and underdeveloped.")

In partnership with AFF, NEFF plans to conduct concentrated outreach to engage small private landowners, many of them underserved, in active forest management, modelling this work on efforts already tested and proven through NEFF and partners' MassConn Woods outreach initiative and engagement of landowners in the mountains of western Maine. To the extent possible, NEFF and

[2] https://www.nbrc.gov/userfiles/files/Announcements/Distress%20Criteria/NBRC-EconomicDemographicResearch-2022-FINAL.pdf

AFF will activate outreach through local land trusts and strong regional collaborations, as well as NEFF's own efforts. NEFF's efforts to date have been particularly successful in connecting small landowners (30 to ~300 acres) with foresters to learn about promoting climate resilience and management in southern New England, and in the mountains of western Maine where landowners are signing up to improve forest management on their lands (typically ownerships of several thousand acres). With the assistance of John Daigle at the University of Maine, NEFF will focus particular attention on engaging Tribal Nations.

The project's commodity market development work in the mass timber sector will be focused on expanding the affordable housing sector's use of climate-smart wood commodities, and where possible building markets for low value wood, which will benefit underserved populations in the region's cities.

iii. A MEASUREMENT/QUANTIFICATION, MONITORING, REPORTING, AND VERIFICATION PLAN, including

A. Approach to greenhouse gas benefit quantification, including methodology approach consistent with the section titled "Quantification Requirements" below:

The USDA COMET monitoring tool is not applicable to the climate-smart forestry activities to be incentivized under this grant because of two factors:

- **Prescription –** COMET only offers two forest management prescriptions -- "No Management" or "Clear Cut" -- neither of which is inclusive of the climate-smart forest management practices that are required to provide climate-smart wood commodities.
- **Parcel Size** – The COMET tool is limited to 1,200 acres, not consistent with the range of parcel sizes that this project will model.

Given these factors, the COMET tool is not built for climate-smart forestry at the landscape scale. Consequently, NEFF and its partners will use innovative quantification methodologies for the project to measure/quantify, monitor, and verify the carbon and GHG benefits associated with climate-aligned silvicultural and harvesting practices on large and smaller forestland ownerships in rural communities in Maine and across New England.

Regarding projections of carbon benefits, the project team will utilize a four-part methodology based on application of existing protocols and modeling components. The measurement and monitoring of forest carbon via on-the-ground and remote sensing data is an established, robust, and active area of application and ongoing research to refine already reliable techniques. This project will utilize the proven monitoring and verification program created by AFF and TNC for the Family Forest Carbon Program (FFCP) that provides a sophisticated methodology for determining carbon stocking and can differentiate between areas treated with practices and the surrounding landscape. This methodology has been approved by Verra.[3] NEFF will contract with AFF to apply this system for measuring carbon outcomes for small and large landowners and First Nation lands (please see Attachment for detail on this methodology). This project will draw from existing science and practice to develop the monitoring components outlined below.

1. The project will utilize established AFF-FFCP carbon baseline assessment methodology to determine initial carbon stocks on forestlands enrolled in the program.
2. The project team will expand on its substantial efforts to predict the carbon benefits of improved forest management practices using the Forest Vegetation Simulator (FVS), or another

[3] https://verra.org/

model if it is determined to be more reliable, to predict anticipated carbon benefits from this project for each climate-smart forestry practice applied and across all forest types involved in the project.

3. While most of the wood to be harvested within the project period is unlikely to be merchantable (e.g., the very small material that results from practices like precommercial thinning), using established protocols, through Innovative Natural Resource Solutions, LLC, the project will measure and quantify GHG benefits of wood products off the forest by product type.

B. Approach to monitoring of practice implementation, including the anticipated number of forest tracts and acres reached through project activities

In partnership with participating loggers and landowners, NEFF will implement our established protocols for real-time monitoring of the on-the-ground climate-smart practices as funded over the five-year project period, including:

1. Pre-application site visits to verify that selected sites have characteristics that are suitable for application of the intended climate-smart practices.
2. Post-application site visits to document actual application of the intended silvicultural prescriptions and logging techniques, using a combination of ground truthing and information from participants.
3. Utilization of the Master Logger Certification Program (MLCP) as the monitoring and verification entity for logging operations conducted through this project. MLCP provides third-party verification with a timber harvesting standard that includes legal compliance, protection of employees, professional harvest planning, and the application of logging techniques that protect soil and water resources, cultural heritage, wildlife, and forest aesthetics.
4. Verification of application of the climate-smart silvicultural practices applied through this program, in Year 5 of the project period.

C. Approach to reporting and tracking of greenhouse gas benefits including the anticipated GHG benefits per forest tract, per project, per commodity produced, per dollar expended, and the anticipated longevity of GHG benefits

1. To track GHG benefits per forest tract, per types of wood commodities produced, and per dollar expended, as well as the anticipated longevity of GHG benefits for the range of wood products produced through this project, we will utilize US Forest Service Forest Vegetation Simulator (FVS), or another model if it is found to be more accurate, to model and predict the carbon benefits of improved forest management practices. Build on existing efforts to predict increases in forest carbon and carbon stored in products, as well as the benefits of substituting wood for other materials. This work will be based on empirical studies and models that have been shown to be accurate and will include modeling of forest growth and harvest that NEFF has already completed using FVS for the Acadian Forest, and the LANDIS model already being applied by the University of Maine on 9 million acres, and another modeling effort for the Commonwealth of Massachusetts to evaluate carbon impacts of harvests for the production of wood for cross-laminated timber.
2. Project partners (Research Economist Tom Walker, the University of Maine, Innovative Natural Resource Solutions, LLC, and First Nation forest experts) will review and measure economic and social issues to evaluate the successes or needed changes to this effort, including costs per ton of carbon benefits; longevity of carbon benefits; which practices result in the greatest cumulative carbon benefits; what factors were most important in influencing the adoption or

avoidance of practices; how program delivery could be improved; and how the program could be scaled up.

Long-Term Monitoring

In partnership with AFF, NEFF also will develop, a plan for USDA's consideration outlining how a cost-effective, long-term monitoring, verification, and reporting protocol could be implemented beyond the project period to document the carbon gains that will accumulate in the decades following application of climate-smart practices funded through this pilot project. This will be a model for USDA and others on how to execute long-term monitoring to verify the anticipated carbon projections from climate-smart forestry. This will include the monitoring of future forest condition, carbon storage, and the volume and fate of harvested wood products.

Scaling Climate-Smart Forestry

Using the results obtained by the activities noted above, NEFF and its partners will develop a climate-smart forest management module designed to reflect climate-oriented factors. This will involve:

- Developing criteria for practices to include in the module.
- Identifying practices that are the best fit for climate-smart forestry.
- Determining how to predict and measure results.
- Piloting a scalable method for traceability and point-of-origin tracking through the supply chain to document and market the value-add of climate-smart wood to the consumer.

This effort will include promoting adoption of this climate-smart approach by:

- Identify, develop and utilize effective communication channels (e.g., print, video, training, webinars) to promote adoption.
- Linking climate-smart criteria to existing programs.
- Recognize landowners who participate in this incentive program as meeting this climate-smart standard and providing climate-smart products for the commodities market.

D. Approach to verification of greenhouse gas benefits:

Third-party verification of the GHG benefits as monitored and tracked under the protocols described above will be provided through adapting the AFF Family Forest Carbon Program's established and fully vetted methodology for the five-year project period. Because the carbon benefits in forests overall (and as related to the specific climate-smart forest practices to be implemented through this project) take longer than the five-year project term to accrue, NEFF will work with AFF to proactively lay the basis for how long-term verification could be accomplished if USDA so desires. Verification beyond the grant period would require remeasuring the carbon stored in the forest areas treated with the practices specified in comparison to the untreated areas around them. It would also require documenting the wood harvested since treatment, and its end use. The combination of these two datasets for treated and untreated areas would allow verifying the carbon benefits that have accrued over any given time span.

E. Agreement to participate in the Partnerships Network (see entry below in "Considerations for Successful Projects")

NEFF agrees to participate in the USDA Partnerships for Climate-Smart Commodities Learning Network. Project Director Andrea Colnes will be an active member in the Partnership Network, participating in its virtual and in-person meetings and contributing information to be used in USDA's productions of synthesis reports on topics related to the implementation of Partnerships

for Climate-Smart Commodities projects. NEFF attests that producers and land owners will not be involved in multiple USDA programs that fund the same practice on the same land.

iv. A PLAN TO DEVELOP AND EXPAND MARKETS FOR CLIMATE-SMART COMMODITIES GENERATED AS A RESULT OF PROJECT ACTVITIES, including

Expanding the scale of markets for climate-smart forest products is an essential driver for production of a cost-effective climate-smart wood supply. This pilot program will support development of markets for climate-smart forest products to accomplish three related outcomes:

1. Increased carbon sequestration/storage in the forest,
2. Increased carbon storage in wood commodities; and
3. Use of less carbon-intensive materials for buildings.

We will achieve these outcomes by supporting development markets for a suite of forest products that are produced from a diversity of species, sizes, and grades of harvested wood. This will focus on supporting development of markets for high-value commodities which is critical for making the practice of climate-smart forestry economically viable.

A. Any partnerships designed to market resulting climate-smart commodities

This project will utilize several partnerships to support the marketing of climate-smart wood sourced from forestlands managed with practices incentivized through this project and/or forests where the same climate-smart silvicultural management standards are applied in New England. As noted in the project narrative, this project will focus on expanding markets for use of climate-smart wood in mass timber construction with a focus on the affordable housing sector. Other important markets focused on uses of low-grade thinning as consistent with the requirements of climate-smart silviculture will also be supported as opportunities arise within the scope of this project. These partnerships include the following:

Developers & Architects: Two project partners, including a leading mass timber developer and leading mass timber architect (Spiritos Developers and Leers Weinzapfel Associates), will be responsible for the following components of the market development plan for this project:

- Conduct a New England study to define the mass timber market potential in the affordable housing sector
- Develop and implement an outreach program and informational package for affordable housing agencies and stakeholders, including region-wide report, presentations, and stakeholder outreach.

Quantified Ventures: Quantified Ventures designs, capitalizes, and scales investible solutions to address the most pressing challenges facing communities, with significant focus and experience in forest-climate solutions in New England and they will be responsible for the following components of the market development plan for this project:

- Develop and pilot innovative financing mechanisms specifically designed to unlock mass timber market potential in the affordable housing sector. This work will be conducted in the context of several mass timber projects, including the Eliot Congregational Church Project (four-story affordable housing project in Roxbury, MA by Leers Weinzapfel Assoc. Architects), recently selected by the Boston Mass Timber Accelerator Program for an accelerator award.

Wood Works: Wood Works, a non-profit company that serves as a resource for commercial and multi-family wood building design, engineering, and construction, with a particular focus on mass timber construction, will be responsible for the following components of the market development plan for this project:

- Create a mass timber design study and technical guidance framework for use of mass timber in the affordable housing market.
- Convert the design specifications for a multi-family affordable housing unit from traditional building materials to mass timber, as a case study to support market uptake.

B. **A plan to track climate-smart commodities through the supply chain.** To support the sourcing of climate-smart wood in the mass timber sector, NEFF will focus on the following key climate-smart sourcing market-related activities through this project.

- Develop Climate-Smart Wood Criteria: Contribute to the development of climate-smart forest management criteria *to complement existing forest certification programs* to enable climate-smart wood sourcing in the marketplace; collaborate with green building and forest certification entities to encourage adoption of a climate-smart sourcing guidance framework at scale; and engage with low value wood market opportunities to advance climate-smart wood sourcing. Integrate and pilot climate-smart sourcing criteria with the mass timber design study and technical guidance framework being developed through this project.

- Develop & Document the Climate-Smart Wood Supply Chain in New England: Integrate with existing scalable methods for traceability and point-of-origin tracking through the supply chain to document and market the value-add of climate-smart wood to the consumer; work with project partners to organize data on quantity, quality, volume, etc. of harvested wood products produced from the forest management practices implemented through this project; support the quantification and reporting of the carbon profile of harvested wood products produced through this project; develop verifiable and actionable criteria for sourcing climate-smart wood materials for building construction, including assessment of how criteria dovetail with existing forest certification systems (e.g. FSC) and green building certification systems (e.g. LEED).

C. Estimated economic benefits for participating producers including market returns

As part of the economic study outlined in Section ii.C.2 to assess economic and social benefits for participating producers, relevant market sectors, and communities, market building elements will include an analysis of the following factors to inform and help monetize the benefits of utilizing climate-smart sourced wood supply in a variety of market applications (with a focus on mass timber buildings):

- Costs per ton of carbon benefits by practice and/or combinations of practices
- Financial impacts for producers associated with implementation of climate-smart practices under this project
- Longevity of carbon benefits
- Which practices result in the greatest cumulative carbon benefits
- What factors were most important in influencing the adoption or avoidance of practices
- How program delivery could be improved and scaled up
- Benefits for the New England and national economies of the reductions in GHG levels achieved

This analysis of economic benefits will be utilized to encourage utilization of climate-smart sourced wood in the market and to strengthen markets for producers.

D. Post-project potential, including anticipated ability to scale project activities, likelihood of long-term viability beyond project period, and ability to inform future USDA actions to encourage climate-smart commodities.

There is significant potential for scaling this project, as follows:

Scaling Producers: This project will pilot incentives to producers/landowners on approximately 66,000 acres of commercial, First Nation and smaller private forestland ownerships in New England to demonstrate the viability of climate-smart forestry practices and to generate increased value in wood products for the commodity market. Once implemented, these practices and the associated modeling and verification systems developed will be applicable across the region, with particular additive carbon storage opportunity on the **10 million** acres of commercial forestland in Maine, representing a significant opportunity to increase stocking and carbon sequestration for New England beyond the project period. Achieving this potential depends on a funding mechanism to support climate-smart practices on these lands beyond this project. As noted, this holistic approach to forest-based climate mitigation can deliver carbon savings equal to 30% of the emissions reductions needed for this region to reach net zero by 2050.

Scaling Markets: The elements of the mass timber program framed in this project are designed to support scaling of this important market sector in several ways:

- Engage affordable housing agencies across the region in utilizing mass timber construction (the size of this market is well documented, as the National Low Income Housing Coalition's 2021 report shows that, even before the COVID-19 pandemic, our nation had *a shortage of 7 million affordable and available homes)*;
- Define the near and longer-term mass timber market potential across New England and the related regional climate-smart wood supply required to achieve that potential;
- Provide a mass timber design study and technical guidance framework specific to the affordable housing market to enable developers to adopt the technology at scale; and
- Pilot innovative financing mechanisms specifically designed to unlock mass timber market potential with a focus on the affordable housing sector.

E. Please provide the reporting, measurement, or monitoring on the marketing throughout the project.

Marketing activities conducted through this project will be monitored and reported on as follows:

Detailed work plans: All project partners responsible for implementing marketing-related activities as part of this project (including NEFF as the prime recipient) will prepare a detailed workplan with quarterly milestones on activities and related deliverables. NEFF's project leadership team and specific staff as appropriate to each area of work will regularly review progress on work plans and assess deliverables for quality, completeness and effectiveness regarding delivery and engagement of market participants.

Reporting & Measurement of Specific Outcomes: The project team will monitor and report on the following market-related outcomes:

- A New England study to define the mass timber market potential in the affordable housing sector.
- Implementation of an outreach program and informational package for affordable housing agencies and stakeholders.
- Design of potential innovative financing mechanisms designed to unlock mass timber market potential in the affordable housing sector.
- Create a mass timber design study and technical guidance framework for use of mass timber in the affordable housing market.
- Development of climate-smart forest management criteria *to complement existing forest certification programs* and adoption of a climate-smart sourcing guidance framework at scale.
- Integration of scalable methods for traceability and point-of-origin tracking through the supply chain for climate-smart sourced wood.
- An estimate of the financial, economic and social benefits of using climate-smart sourced wood in a variety of market applications (with a focus on mass timber buildings).
- Efforts to support the scaling of markets will be assessed through the engagement of affordable housing agencies; outcomes of pilot projects and lessons learned; and inclusion of climate-smart wood souring criteria in forest and building certification programs.

v. Benchmarks & Milestones

All applicants are expected to provide quarterly benchmarks. Benchmarks will be considered interchangeably with milestones for the purposes of these discussions and the progress reports expected of grantees.

Benchmarks indicted below are provided with the following characteristics:

- Benchmarks indicate estimated completion, but all benchmarks will be subject to complex project interactions and consequently, each benchmark also allows for the possibility of work continuing for up to an additional 4 quarters of the project period beyond stated benchmarks.
- Payments for staffing and program costs associated with benchmarks will be on an accrual basis with quarterly payments to be made during appropriate quarters to cover staff and program costs for these activities.
- All work to be conducted by sub-awardees will be on an accrual basis, where the project-related contract signed between NEFF and each sub-awardee constitutes 'an obligation to pay' and will therefore be billed on an accrual basis.
- Payments for specific contracted items (such as commissioned studies) or the actual incentive payments will be invoiced to USDA on a cash basis, e.g. requested as work products are delivered based on project-specific work plans. These activities will be billable as work products are completed.

A. Required Quantitative Targets by Quarter (Cumulative) – some initial quarters may be zero:

Note: Quantitative quarterly targets for Benchmarks are provided as estimates and these are expected to vary through project implementation.

Number of producers involved

Year 1: Quarters 1-2-3-4:

- Enrollment of producers will follow on program design and producer outreach
- Estimated Quantitative Target: 0 producers by Quarter 4.

Year 2: Quarters 5-6-7-8:
- Enrollment of smaller producers ongoing through Quarter 8. Estimated Quantitative Target: 50 small producers by Quarter 8.
- Enrollment of commercial and Tribal producers will follow on program design and producer outreach. Estimated Quantitative Target: 0 large producers by Quarter 8.

Year 3: Quarters 9-10-11-12:
- Enrollment of smaller producers ongoing through Quarter 12. Estimated Quantitative Target: 50 additional small producers by Quarter 12.
- Enrollment of commercial and Tribal producers ongoing through Quarter 12. Estimated Quantitative Target: 2 large producers by Quarter 12

Year 4: Quarters: 13-14-15-16:
- Estimated Quantitative Target: 58 additional small producers by Quarter 16 for a total enrollment of 158 landowners in the small landowner portion of the project program. Completed by Quarter 16
- Enrollment of commercial and Tribal producers ongoing through Quarter 16. Estimated Quantitative Target: an additional 4-6 large producers by Quarter 16

Year 5: Quarters 17-18-19-20:
- Enrollment of a total of 4-8 Commercial producers and 2 Tribal producers. Completed by Quarter 20

Number of underserved producers involved

See Number of producers involved as noted above.

All producers served through this program are 'underserved' as per determination by the Northern Border Regional Commission[4] which was formed by Congress in 2008 to help alleviate economic distress in the hard-hit northern counties of Maine, New Hampshire, Vermont and New York. Bordering Canada, these counties generally have higher levels of unemployment, population loss, and lower incomes.

The NBRC Annual Economic & Demographic Research for Fiscal Year 2022[5] determined that all of the counties in northern forested regions of Maine, New Hampshire and Vermont meet the criteria for 'distressed' as per the federal criteria for 'distress' (Federal law (40 U.S.C., Subtitle V, §15702) which states that, 'distressed' counties are those that, "have high rates of poverty, unemployment, or outmigration" and "are the most severely and persistently economic distressed and underdeveloped.")

Number of acres involved

Year 1: Quarters 1-2-3-4:
- Enrollment of acres will follow on program design and producer outreach
- Estimated Quantitative Target: 0 acres involved by Quarter 4.

Year 2: Quarters 5-6-7-8:
- Enrollment of small producers, commercial producers and Tribal producers. Ongoing through Quarter 8.
- Estimated quantitative target: 6,000 acres of small producers involved by Quarter 8

Year 3: Quarters 9-10-11-12:

[4] https://www.nbrc.gov/content/northern-border-region
[5] https://www.nbrc.gov/userfiles/files/Announcements/Distress%20Criteria/NBRC-EconomicDemographicResearch-2022-FINAL.pdf

- Enrollment of small producers, commercial producers and Tribal producers. Ongoing through Quarter 12.
- Estimated quantitative target: an additional 12,000 acres of small producers involved by Quarter 12 and 15,000 acres of commercial or Tribal producers involved by Quarter 12.

Year 4: Quarters: 13-14-15-16:
- Estimated quantitative target: an additional 7,000 acres of small producers involved by Quarter 16 and an additional 25,000 acres of commercial or Tribal producers involved by Quarter 16.
- Enrollment of 26,000 aces (approx.) of small producer acres in the program by Quarter 16 and 40,000 acres of commercial or Tribal producers involved by Quarter 16.
- Estimated quantitative target

Year 5: Quarters 17-18-19-20:
- Projects completed on 40,000 acres (approx.) of commercial and Tribal lands and 26,000 acres (approx.) of small producers lands in the program

Dollars provided to producers

Year 1: Quarters 1-2-3-4:
- *Payments to producers will follow on program design and producer outreach*
- *$0 dollars provided to producers by Quarter 4*

Year 2: Quarters 5-6-7-8:
- Approximately $288,000 USDA incentive funds provided to small producers by Quarter 8
- *$0 dollars provided to commercial or Tribal producers by Quarter 8.*

Year 3: Quarters 9-10-11-12:
- Approximately an additional $576,000 USDA incentive funds provided to small producers by Quarter 12
- Approximately $4 million provided to commercial or Tribal producers by Quarter 12

Year 4: Quarters: 13-14-15-16:
- Approximately an additional $336,000 USDA incentive funds provided to small producers by Quarter 16
- Approximately an additional $6 million provided to commercial or Tribal producers by Quarter 16

Year 5: Quarters 17-18-19-20:
- Approximately an additional $2 million provided to commercial or Tribal producers by Quarter 20

Total:
- Provide $ 1.2 million in USDA funding and $849,460 in matching funds to small producers. Completed by Quarter 20
- Provide $11.4 million in USDA funding and up to a 25% match in cost share to commercial and Tribal producers. Completed by Quarter 20

GHG Benefits (Metric tons C02e reduced/sequestered)

Because the carbon benefits in forests overall (and as related to the specific climate-smart forest practices to be implemented through this project) take longer than the five-year project term to accrue, NEFF will work with AFF to proactively lay the basis for how long-term verification could

be accomplished if USDA so desires. Verification beyond the grant period would require remeasuring the carbon stored in the forest areas treated with the practices specified in comparison to the untreated areas around them. It would also require documenting the wood harvested since treatment and its end use. The combination of these two datasets for treated and untreated areas would allow verifying the carbon benefits that have accrued over any given time span.

Year 1: Quarters 1-2-3-4:
Year 2: Quarters 5-6-7-8:
Year 3: Quarters 9-10-11-12:
Year 4: Quarters: 13-14-15-16:
Year 5: Quarters 17-18-19-20:

- GHG Benefits to be delivered by Quarter 20:

Based on an initial rough draft carbon impact analysis, carbon benefits of approximately 3 $MTCO_2e$ could accrue over the entirety of the life of the practices (which, depending upon the practice, varies from 5 to 75 years). Acres treated include approximately 66,000 acres that will be incentivized through landowners and approximately 260,000 that will be incentivized through loggers. *(Note: This rough carbon impact analysis is only provided for illustrative purposes and while directionally correct, it is only preliminary and requires additional work on data inputs, an analysis of leakage, and other issues as the project proceeds. (The term "leakage" refers to when harvesting of timber is avoided on one property, avoiding pushing that demand elsewhere.) A full carbon impact analysis will be designed and conducted as a key component of the 5-year pilot project itself.)*

Number new marketing channels established &/or expanded

Year 1: Quarters 1-2-3-4:

- New marketing channels established – 4-6 Affordable Housing Agencies through project region. Ongoing through Quarter 4
- 2 marketing channels expanded: Woodlands Partnership, FFCP. Ongoing through Quarter 4

Year 2: Quarters 5-6-7-8:

- New marketing channels established – 4-6 Affordable Housing Agencies through project region. Ongoing through Quarter 8
- 2 marketing channels expanded: Woodlands Partnership, FFCP. Ongoing through Quarter 8
- 3 new marketing channels established through small producer pilots. Ongoing through Quarter 8

Year 3: Quarters 9-10-11-12:

- New mass timber marketing channels established – Mass timber sector participants via dissemination of mass timber technical guidance and design framework focused on the affordable housing sector. Ongoing through Quarter 12
- 2 marketing channels expanded: Woodlands Partnership, FFCP. Ongoing through Quarter 12
- 3 new marketing channels established through small producer pilots. Ongoing through Quarter 12

Year 4: Quarters: 13-14-15-16:

- New marketing channels established – Mass timber sector participants via dissemination of mass timber technical guidance and design framework focused on the affordable housing sector. Ongoing through Quarter 12

- New marketing channels established – Architects, builders via dissemination of mass timber case study and related outreach. Ongoing through Quarter 16
- 3 new marketing channels established through small producer pilots. Ongoing through Quarter 16

Year 5: Quarters 17-18-19-20:
- New marketing channels established – Architects, builders via dissemination of mass timber case study and mass timber affordable housing prototype through conferences and related outreach. Completed by Quarter 20

Number of measurement tools utilized

Year 1: Quarters 1-2-3-4:
- Mathematical modeling – will be used to quantify GHG reductions for all practices being considered.

Year 2: Quarters 5-6-7-8:
- Mathematical modeling – will be used to quantify GHG reductions for all practices being considered. Ongoing through Quarter 8
- Baseline determination - Baseline conditions will be determined for all forestlands to be enrolled in the program. Ongoing through Quarter 8
- Harvest tracking - Wood harvested from lands enrolled in this program will be documented and tracked. Reduced impact logging will be verified. Ongoing through Quarter 8

Year 3: Quarters 9-10-11-12:
- GHG Impact modeling - Information on GHG benefits will be refined as new information becomes available. Ongoing through Quarter 12
- Mathematical modeling – will be used to quantify GHG reductions for all practices being considered. Ongoing through Quarter 12
- Baseline determination - Baseline conditions will be determined for all forestlands to be enrolled in the program. Ongoing through Quarter 12
- Harvest tracking - Wood harvested from lands enrolled in this program will be documented and tracked. Reduced impact logging will be verified. Ongoing through Quarter 12

Year 4: Quarters: 13-14-15-16:
- GHG Impact modeling - Information on GHG benefits will be refined as new information becomes available. Ongoing through Quarter 16
- Mathematical modeling – will be used to quantify GHG reductions for all practices being considered. Ongoing through Quarter 16
- Baseline determination - Baseline conditions will be determined for all forestlands to be enrolled in the program. Ongoing through Quarter 16
- Harvest tracking - Wood harvested from lands enrolled in this program will be documented and tracked. Reduced impact logging will be verified. Ongoing through Quarter 16

Year 5: Quarters 17-18-19-20:
- GHG Impact modeling - Information on GHG benefits will be refined as new information becomes available. Completed by Quarter 20
- Mathematical modeling – will be used to quantify GHG reductions for all practices being considered. Completed by Quarter 20
- Baseline determination - Baseline conditions will be determined for all forestlands to be enrolled in the program. Completed by Quarter 20

- Harvest tracking - Wood harvested from lands enrolled in this program will be documented and tracked. Reduced impact logging will be verified. Completed by Quarter 20

N/A: Number of head involved

B. Other Required Benchmarks/Milestones that may be quantitative or qualitative

Outreach, training or other technical assistance

(Embedded in sections below)

Loggers

- Add climate-smart training credential & curriculum to Master Logger Certification Program and publicize, enroll and conduct trainings
  - Year 1: Quarters 1-2-3-4:
    - Credentials designed and added. Ongoing through Quarter 4
  - Year 2: Quarters 5-6-7-8:
    - Credentials designed and added. Completed by Quarter 6
    - Enroll and conduct first training course. Completed by Quarter 8
  - Year 3: Quarters 9-10-11-12:
    - Enroll and conduct second training course. Completed by Quarter 12
  - Year 4: Quarters: 13-14-15-16:
    - Enroll and conduct third training course. Completed by Quarter 16
  - Year 5: Quarters 17-18-19-20:
    - Synthesize and report on results. Completion by Quarter 20.

- Incentivize implementation of climate smart forest practices by qualifying loggers on economically viable harvests including assistance with implementation, inspection, and reporting
  - Year 1: Quarters 1-2-3-4:
    - *(No logger engagement in year one as landowner engagement is initiated)*
  - Year 2: Quarters 5-6-7-8:
    - Conduct logger engagement and practice implementation. Ongoing through Quarter 8
  - Year 3: Quarters 9-10-11-12:
    - Conduct logger engagement and practice implementation. Ongoing through Quarter 12
  - Year 4: Quarters: 13-14-15-16:
    - Conduct logger engagement and practice implementation. Ongoing through Quarter 16
  - Year 5: Quarters 17-18-19-20:
    - Conduct logger engagement and practice implementation. Completion by Quarter 18
    - Synthesize and report on results. Completion by Quarter 20.

- Incentivize climate smart forest practices by qualifying loggers on economically unfeasible overstocked stands to increase climate resilience, including assistance with implementation, inspection, and reporting
  - Year 1: Quarters 1-2-3-4:
  - Year 2: Quarters 5-6-7-8:

- Conduct logger engagement and practice implementation. Ongoing through Quarter 8

Year 3: Quarters 9-10-11-12:
- Conduct logger engagement and practice implementation. Ongoing through Quarter 12

Year 4: Quarters: 13-14-15-16:
- Conduct logger engagement and practice implementation. Ongoing through Quarter 16

Year 5: Quarters 17-18-19-20:
- Conduct logger engagement and practice implementation. Completion by Quarter 18
- Synthesize and report on results. Completion by Quarter 20.

Foresters

- Organize and host forester training workshops

Year 1: Quarters 1-2-3-4:
- *(No workshops in year 1 as qualifying forest practice design is in process)*

Year 2: Quarters 5-6-7-8:
- Design workshop curriculum & materials. Completion by Quarter 8
- Enroll and conduct training workshops. Ongoing through Quarter 8

Year 3: Quarters 9-10-11-12:
- Enroll and conduct training workshops. Ongoing through Quarter 12

Year 4: Quarters: 13-14-15-16:
- Enroll and conduct training workshops. Ongoing through Quarter 16

Year 5: Quarters 17-18-19-20:
- Evaluate workshop program and participation

- Develop climate-smart practice plans for qualifying forest practices under this project with landowners and loggers

Year 1: Quarters 1-2-3-4:
- Define qualifying climate smart forest practices. Completion Quarter 4

Year 2: Quarters 5-6-7-8:
- Develop climate smart practice plans with producers & loggers. Ongoing through Quarter 8

Year 3: Quarters 9-10-11-12:
- Develop climate smart practice plans with producers & loggers. Ongoing through Quarter 12

Year 4: Quarters: 13-14-15-16:
- Develop climate smart practice plans with producers & loggers. Ongoing through Quarter 16

Year 5: Quarters 17-18-19-20:
- Develop final group of climate smart practice plans with producers & loggers. Completion Quarter 18

- Oversee implementation of defined climate-smart forest practices

Year 1: Quarters 1-2-3-4:

Year 2: Quarters 5-6-7-8:

- Provide TA to loggers & Landowners for climate smart forest practice implementation. Ongoing through Quarter 8

Year 3: Quarters 9-10-11-12:
- Provide TA to loggers & Landowners for climate smart forest practice implementation. Ongoing through Quarter 12

Year 4: Quarters: 13-14-15-16:
- Provide TA to loggers & Landowners for climate smart forest practice implementation. Ongoing through Quarter 16

Year 5: Quarters 17-18-19-20:
- Provide TA to loggers & Landowners for climate smart forest practice implementation. Completion Quarter 20

- Certify and document practice implementation and provide consolidated progress reports across participating landownerships

Year 1: Quarters 1-2-3-4:
- *(No practice implementation in year 1)*

Year 2: Quarters 5-6-7-8:
- Certify & document practice implementation. Ongoing through Quarter 8

Year 3: Quarters 9-10-11-12:
- Certify & document practice implementation. Ongoing through Quarter 12

Year 4: Quarters: 13-14-15-16:
- Certify & document practice implementation. Ongoing through Quarter 16

Year 5: Quarters 17-18-19-20:
- Certify & document practice implementation. Completion by Quarter 18
- Consolidated report on practice implementation. Completion by Quarter 20

Non-commercial smaller forest landowner/producer enrollment

- Refine qualifying climate smart forestry practices

Year 1: Quarters 1-2-3-4:
- Review/refine qualifying climate smart forest practices. Completion by Quarter 4

Year 2: Quarters 5-6-7-8:
- Additional refinements as/if needed. Completion by Quarter 8

Year 3: Quarters 9-10-11-12:

Year 4: Quarters: 13-14-15-16:

Year 5: Quarters 17-18-19-20:

- Develop marketing materials

Year 1: Quarters 1-2-3-4:
- Develop marketing and outreach channels. Ongoing through Quarter 4
- Deploy marketing strategies in targeted geographies. Ongoing through Quarter 4

Year 2: Quarters 5-6-7-8:
- Develop marketing and outreach channels. Ongoing through Quarter 8
- Deploy marketing strategies in targeted geographies. Ongoing through Quarter 8

Year 3: Quarters 9-10-11-12:
- Develop marketing and outreach channels. Completion by Quarter 12
- Deploy marketing strategies in targeted geographies. Ongoing through Quarter 12

Year 4: Quarters: 13-14-15-16:

- Deploy marketing strategies in targeted geographies. Completed by Quarter 16

Year 5: Quarters 17-18-19-20:

- Evaluate and synthesize results. Completion by Quarter 20.

- Conduct small producer outreach, enrollment & establish management plans (including payment of incentives)

Year 1: Quarters 1-2-3-4:

- Expand program into New Hampshire and Maine. Ongoing through Quarter 4
- Outreach & enrollment of small producers in program. Ongoing through Quarter 4

Year 2: Quarters 5-6-7-8:

- Expand program into New Hampshire and Maine. Completion by Quarter 8
- Outreach & enrollment of small producers in program. Ongoing through Quarter 8

Year 3: Quarters 9-10-11-12:

- Outreach & enrollment of small producers in program. Ongoing through Quarter 12

Year 4: Quarters: 13-14-15-16:

- Outreach & enrollment of small producers in program. Completion by Quarter 16
- Confirm contract compliance. Ongoing through quarter 16

Year 5: Quarters 17-18-19-20:

- Confirm contract compliance. Completion by Quarter 20
- Synthesize and report on results. Completion by Quarter 20.

- Conduct 3 mini outreach pilots (and possibly a 4th) for small producers to support innovative approaches for underserved producers, local "wood baskets"

Year 1: Quarters 1-2-3-4:

- Launch application process for 3 small producer outreach pilots. Ongoing through Quarter 4.

Year 2: Quarters 5-6-7-8:

- Select 3 small producer outreach pilots. Completion by Quarter 8
- Launch small producer pilots. Ongoing through Quarter 8

Year 3: Quarters 9-10-11-12:

- Conduct small producer pilots. Ongoing through Quarter 12

Year 4: Quarters: 13-14-15-16:

- Conduct small producer pilots. Ongoing through Quarter 16

Year 5: Quarters 17-18-19-20:

- Completion of small producer pilots. Completion by Quarter 18
- Evaluate and synthesize results. Completion by Quarter 20

Commercial forestland & Tribal owners/producers

- Address big picture design issues (e.g., how to prevent leakage, approach to paying for practices through fixed payments, auction, etc.), determine the carbon benefits of qualifying practices and the expected magnitude of GHG reductions.

Year 1: Quarters 1-2-3-4:

- Define approach to big picture design issues (as noted above). Ongoing through Quarter 4

Year 2: Quarters 5-6-7-8:

- Define approach to big picture design issues (as noted above). Completion by Quarter 8

Year 3: Quarters 9-10-11-12:

- Refine/adjust program design issues (leakage, practice payment mechanisms, anticipated carbon outcomes) as needed. Completion by Quarter 12

Year 4: Quarters: 13-14-15-16:

Year 5: Quarters 17-18-19-20:

- Refine qualifying climate-smart forestry practices

Year 1: Quarters 1-2-3-4:

- Initiate refining qualifying forest practices for commercial & Tribal landowners. Ongoing through Quarter 4

Year 2: Quarters 5-6-7-8:

- Continue refining qualifying forest practices for commercial & Tribal landowners. Completion by Quarter 8

Year 3: Quarters 9-10-11-12:

- Make adjustments to practices as experience and new information becomes available. Ongoing through Quarter 12

Year 4: Quarters: 13-14-15-16:

- Make adjustments to practices as experience and new information becomes available. Completed by Quarter 16

Year 5: Quarters 17-18-19-20

- Design and structure incentive program

Year 1: Quarters 1-2-3-4:

- Initiate design of incentive program including structure, delivery mechanism and contractual arrangements for commercial landowners and Tribal lands. Ongoing through Quarter 4

Year 2: Quarters 5-6-7-8:

- Continue designing incentive program including structure, delivery mechanism for commercial landowners and Tribal lands. Completion by Quarter 8.

Year 3: Quarters 9-10-11-12:

- Refine incentive program structure, delivery mechanism *if needed*. Completed by Quarter 12.

Year 4: Quarters: 13-14-15-16:

Year 5: Quarters 17-18-19-20:

- Solicit and select projects on commercial and Tribal forestlands

Year 1: Quarters 1-2-3-4:

- *No project solicitation until draft program design and structure in place*

Year 2: Quarters 5-6-7-8:

- Release program description and solicit first round of projects. Ongoing through Quarter 8

Year 3: Quarters 9-10-11-12:

- Review first round of project proposals and select first cohort to fund. Completion by Quarter 12

- Release program description and solicit second round of projects. Ongoing through Quarter 12

Year 4: Quarters: 13-14-15-16:
- Review second round of project proposals and select second cohort to fund. Completion by Quarter 16

Year 5: Quarters 17-18-19-20:
- Synthesize and report results. Completion by Quarter 20

- Implement climate-smart forest practices program (contracting with producers, payment of incentives, assistance with implementation, inspection, and reporting)

Year 1: Quarters 1-2-3-4:
- *No commercial landowner implementation during early project design phase*

Year 2: Quarters 5-6-7-8:
- *No project contracting etc. during first round of solicitations to commercial and Tribal producers*

Year 3: Quarters 9-10-11-12:
- Commercial and Tribal project contracting, payment of incentives, assistance with implementation, inspection, and reporting). Ongoing through Quarter 12

Year 4: Quarters: 13-14-15-16:
- Commercial and Tribal project contracting, payment of incentives, assistance with implementation, inspection, and reporting). Ongoing through Quarter 16

Year 5: Quarters 17-18-19-20:
- Commercial and Tribal project contracting, payment of incentives, assistance with implementation, inspection, and reporting). Completion by Quarter 20
- Synthesize and report on results. Completion Quarter 20

MMRV and supply chain traceability attributes

- Design & Implement Carbon Impact Assessment (in-forest & in-products)

Year 1: Quarters 1-2-3-4:
- Design and conduct carbon impact modeling for small landowners. Ongoing through Quarter 4

Year 2: Quarters 5-6-7-8:
- Design and conduct carbon impact modeling for small landowners. Ongoing through Quarter 8
- Establish baselines, develop monitoring protocol for commercial landowners. Ongoing through Quarter 8

Year 3: Quarters 9-10-11-12:
- Design and conduct carbon impact modeling for small landowners. Ongoing through Quarter 12
- Establish baselines, develop monitoring protocol for commercial landowners. Completion by Quarter 12
- Identify and develop monitoring plots on commercial forestlands. Ongoing through Quarter 12

Year 4: Quarters: 13-14-15-16:
- Design and conduct carbon impact modeling for small landowners. Ongoing through Quarter 16
- Identify and develop monitoring plots on commercial forestlands. Ongoing through Quarter 16

Year 5: Quarters 17-18-19-20:

- Design and conduct carbon impact modeling for small landowners. Completion by Quarter 20
- Identify and develop monitoring plots on commercial forestlands. Completion by through Quarter 20

- Economic and social impact assessment methodology
  - Year 1: Quarters 1-2-3-4:
    - Determine analytic design and structure, e.g., needed data, analytic approach, guidelines, structure. Ongoing through Quarter 4
    - Data collection. Ongoing through Quarter 4
  - Year 2: Quarters 5-6-7-8:
    - Determine analytic design and structure, e.g., needed data, analytic approach, guidelines, structure. Completed Quarter 8
    - Data collection. Ongoing through Quarter 8
  - Year 3: Quarters 9-10-11-12:
    - Data collection. Ongoing through Quarter 12
    - Initiate and conduct analysis. Ongoing through Quarter 12
  - Year 4: Quarters: 13-14-15-16:
    - Data collection. Ongoing through Quarter 16
    - Initiate and conduct analysis. Ongoing through Quarter 16
  - Year 5: Quarters 17-18-19-20:
    - Data collection. Completion Quarter 20.
    - Complete analysis and report on results (to include costs for practices, costs for landowners, costs per ton of carbon, social costs and benefits, recommendations for follow-up). Completed Quarter 20.

- Inspect practices completed for adherence to specifications, quantify results
  - Year 1: Quarters 1-2-3-4:
  - Year 2: Quarters 5-6-7-8:
  - Year 3: Quarters 9-10-11-12:
    - Conduct inspections. Ongoing through Quarter 12
  - Year 4: Quarters: 13-14-15-16:
    - Conduct inspections. Ongoing through Quarter 16
  - Year 5: Quarters 17-18-19-20:
    - Conduct inspections. Ongoing through Quarter 20
    - Complete inspections and synthesize results. Completed Quarter 20

- Create the baseline for future monitoring of carbon benefits using AFF's Monitoring and Methodology
  - Year 1: Quarters 1-2-3-4:
    - Refine FFCP monitoring methodology to be effective for this project. Ongoing through Quarter 4
  - Year 2: Quarters 5-6-7-8:
    - Refine FFCP monitoring methodology to be effective for this project. Completion by Quarter 6

- Collect information needed for baseline as projects are initiated. Ongoing through Quarter 8

Year 3: Quarters 9-10-11-12:

- Collect information needed for baseline as projects are initiated. Ongoing through Quarter 12

Year 4: Quarters: 13-14-15-16:

- Collect information needed for baseline as projects are initiated. Ongoing through Quarter 16

Year 5: Quarters 17-18-19-20:

- Collect information needed for baseline as projects are initiated. Completed by Quarter 20
- Synthesize baseline monitoring information and report on results as basis for future measurements. Completed by Quarter 20

- Development of climate smart wood sourcing guidelines

Year 1: Quarters 1-2-3-4:
Year 2: Quarters 5-6-7-8:
Year 3: Quarters 9-10-11-12:
Year 4: Quarters: 13-14-15-16:
Year 5: Quarters 17-18-19-20:

Measurements of work related to marketing of commodities

- **Estimate the potential for mass timber technologies to meet future multi-family affordable housing needs in Northeast US through 2040.**

Year 1: Quarters 1-2-3-4:

- Data collection and analysis of affordable housing needs and mass timber potential. Ongoing through Quarter 4

Year 2: Quarters 5-6-7-8:

- Data collection, analysis, and report on affordable housing needs and mass timber potential. Completed by Quarter 8

Year 3: Quarters 9-10-11-12:

- Update and refine Report on affordable housing market and mass timber potential. Ongoing through Quarter 12

Year 4: Quarters: 13-14-15-16:

- Update and refine Report on affordable housing market and mass timber potential. Ongoing through Quarter 16

Year 5: Quarters 17-18-19-20:

- Finalize updated Report on affordable housing market and mass timber potential. Completed by Quarter 20.

- **Create a case study of converting multi-family affordable housing from traditional building materials to mass timber and develop a mass timber prototype for the multi-family housing sector.**

Year 1: Quarters 1-2-3-4:

- Research and develop mass timber multi-family affordable housing case study. Ongoing through Quarter 4

- Initial research and design development for mass timber affordable housing prototype. Ongoing through Quarter 4

Year 2: Quarters 5-6-7-8:

- Research and develop mass timber multi-family affordable housing case study. Ongoing through Quarter 8
- Provide construction documents and test mock-up mass timber assemblies for design prototype.
  Ongoing through Quarter 8

Year 3: Quarters 9-10-11-12:

- Complete report on mass timber multi-family affordable housing case study. Completion by Quarter 12.
- Prototype new mass timber design and draft a report that assesses its applicability for similar scale affordable housing. Continued through Quarter 12

Year 4: Quarters: 13-14-15-16:

- Update report on mass timber multi-family affordable housing case study with lessons learned from pilot project. Completion by Quarter 16.
- Produce report on mass timber prototype for affordable housing; update report with supplemental information from pilot construction project. Completion by Quarter 16

Year 5: Quarters 17-18-19-20:

- Update mass timber prototype report with supplemental information from pilot construction project. Completion by Quarter 20

- Synthesis of mass timber affordable housing prototype report and comparative case study to present at conferences/events for sector development. Completed by Quarter 20

- **Design and implementation of outreach program (and outreach materials) to affordable housing agencies, building sector professionals (architects, engineers, etc.), and potential developers across New England re: mass timber construction**

Year 1: Quarters 1-2-3-4:

- Draft outreach plan to reach relevant affordable housing and building sector stakeholders.
  Ongoing through Quarter 4

Year 2: Quarters 5-6-7-8:

- Update draft outreach plan and develop informational package about applicability of mass timber for meeting affordable housing design and market needs, along with accompanying outreach materials. Ongoing through Quarter 8

Year 3: Quarters 9-10-11-12:

- Distribute informational package about applicability of mass timber for meeting affordable housing design and market needs. Ongoing through Quarter 12

Year 4: Quarters: 13-14-15-16:

- Share research/technical findings from mass timber prototyping effort and distribute informational package about applicability of mass timber for meeting affordable housing design and market needs. Ongoing through Quarter 16

Year 5: Quarters 17-18-19-20:

- Share research/technical findings from mass timber prototyping effort and distribute informational package about applicability of mass timber for meeting affordable housing design and market needs. Completed by Quarter 20.

- **Create a mass timber technical guidance and design framework focused on the affordable housing sector**
  Year 1: Quarters 1-2-3-4:
  - Research, analysis, and case study collection. Ongoing through Quarter 4

  Year 2: Quarters 5-6-7-8:
  - Develop technical guidance and design framework and incorporate draft climate-smart sourcing guidance. Ongoing through Quarter 8
  - Plan outreach events to disseminate guidance document and educate industry professionals. Ongoing through Quarter 8

  Year 3: Quarters 9-10-11-12:
  - Update and refine technical guidance and design framework as needed based on input from other pilot project components. Ongoing through Quarter 12
  - Host outreach event(s) to disseminate guidance document and educate relevant housing and building sector professionals about value of mass timber for affordable housing in the region. Ongoing through Quarter 12

  Year 4: Quarters: 13-14-15-16:
  - Host outreach event(s) to disseminate guidance document and educate relevant housing and building sector professionals about value of mass timber for affordable housing in the region. Ongoing through Quarter 16

  Year 5: Quarters 17-18-19-20:
  - Host outreach event(s) to disseminate guidance document and educate relevant housing and building sector professionals about value of mass timber for affordable housing in the region. Completed by Quarter 20

- **Development of climate-smart wood sourcing guidelines**
  Year 1: Quarters 1-2-3-4:
  - Convene expert advisors and project partners to develop initial criteria for defining climate-smart wood products. Ongoing through Quarter 4

  Year 2: Quarters 5-6-7-8:
  - Develop draft climate-smart wood sourcing guidelines. On-going through Quarter 8.

  Year 3: Quarters 9-10-11-12:
  - Refine sourcing guidelines based on partner feedback and testing via pilot projects. Ongoing through Quarter 12

  Year 4: Quarters: 13-14-15-16:
  - Refine sourcing guidelines based on partner feedback and testing via pilot projects. Completed by Quarter 14
  - Distribute and present final guidelines at outreach events. Completed Quarter 16.

  Year 5: Quarters 17-18-19-20:
  - Distribute climate-smart wood sourcing guidelines at outreach events. Completed by Quarter 20.

- Demonstrated engagement of major partners

Included in Benchmarks above

- Climate smart technologies employed (if applicable)
  Climate smart forest practices and related logging technologies included in Benchmarks & Milestones above

NEFF (Prime Recipient) Project Staffing

- NEFF CSC Team Staff activities to achieve above Benchmarks & Milestones (to be billed on accrual basis)
  - Year 1: Quarters 1-2-3-4:
    - NEFF project team work to implement benchmarks across all project elements. Ongoing through Quarter 4
  - Year 2: Quarters 5-6-7-8:
    - NEFF project team work to implement benchmarks across all project elements. Ongoing through Quarter 8
  - Year 3: Quarters 9-10-11-12:
    - NEFF project team work to implement benchmarks across all project elements. Ongoing through Quarter 12
  - Year 4: Quarters: 13-14-15-16:
    - NEFF project team work to implement benchmarks across all project elements. Ongoing through Quarter 16
  - Year 5: Quarters 17-18-19-20:
    - NEFF project team work to implement benchmarks across all project elements. Completion Quarter 20.

Appendix I

New England Climate Smart Forest Partnership Project

Climate-Smart Practices and Limitations

New England Forestry Foundation, USDA Climate Smart Commodities Program

New England Climate Smart Forest Partnership Project – Climate-Smart Practices and Limitations
New England Forestry Foundation, USDA Climate Smart Commodities Program

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

Notes:

- *All practices applied under this grant will follow NRCS practice standards.*
- *In addition, based on consultation with Landowners, Loggers, and Foresters, as well as the experience gained through this project, NEFF and its partners are likely to identify other climate smart practices that would be climate beneficial. When such practices are identified, NRCS will be notified and a grant modification will be requested if required.*
- *While this table is based on Maine NRCS standards, the NRCS codes used are national standards and therefore apply to the entire project region. Any state-specific variances in standards will be addressed to fit within the practices as defined below.*

NRCS Practice (Name and Code)	**Scenario**	**NEFF description of activity**
Tree and Shrub. Planting (612) May be used with supporting practices including Obstruction Removal (500), Tree/Shrub Site Preparation (490), Brush Management (314), Early Successional Habitat Management (647)	Potential Scenarios under this practice: 1) Direct seeding hardwood 2) Conifer seedling 3)Mixed hardwood and softwood 4)Hardwood bareroot	*Planting to improve species composition, including but not limited to areas clear cut to replace unproductive stands or understocked with species best suited to the site*
Forest Stand Improvement (666) May be used with supporting practices including Obstruction Removal (500), Forest Trails and Landings (655), Access Control (472), Brush Management (314), Upland Wildlife Habitat Management (645), Early Successional Habitat Management (647)	Potential Scenarios under this practice: 1) Pre-Commercial Thinning – Hardwood 2) Pre-Commercial Thinning - Softwood	*Pre-commercial thinning for a variety of purposes including but not limited to favoring species composition best suited to the site, improving growth rates, improving future forest health or stand conditions, etc.*
Forest Stand Improvement (666) May be used with supporting practices including Obstruction Removal (500), Forest Trails and Landings (655), Access Control (472), Brush Management (314), Upland Wildlife Habitat	Potential Scenarios under this practice include early commercial thinning for a variety of purposes including but noted limited to: 1) Thinning for Wildlife and Forest Health 2) Competition Control Methods can include harvesting trees or use of herbicides	*Early commercial thinning to improve production of CSC, or management, to improve forest resilience, or adaptation to future climate conditions, or to keep legacy trees with wildlife value*

Management (645), Early Successional Habitat Management (647)	including but not limited to Basal Stem Treatment	
Forest Stand Improvement (666) May be used with supporting practices including Obstruction Removal (500), Forest Trails and Landings (655), Access Control (472), Brush Management, Upland Wildlife Habitat Management (645), Early Successional Habitat Management (647)	Mast/Crop Tree Release	*Crop tree release, including, but not limited to releasing canoe-quality white birch*
Pest Management (CPS 595) May be used with supporting practices including Obstruction Removal (500), Brush Management (314), Upland Wildlife Habitat Management (645), Early Successional Habitat Management (647), Forest Stand Improvement (666), Tree/Shrub Establishment (490)	Insect and Disease Control	*Activities include but are not limited to pesticide treatments to maintain seed trees threatened by insect or disease outbreaks eg brown ash needed by Native Americans for traditional uses*
Forest Stand Improvement (666) May be used with supporting practices including Obstruction Removal (500), Forest Trails and Landings (655), Access Control (472), Brush Management (314), Upland Wildlife Habitat Management (645), Early Successional Habitat Management (647)	Thinning For Wildlife and Forest Health	*Keeping scattered older trees as part of the residual stand in stands larger than those eligible for early commercial thinning. Or management, including but not limited to thinning, to improve forest resilience and adaptation to future climatic conditions*
Restoration of Rare and Declining Natural Communities (643) or Forest Stand Improvement (666) And if Conservation Practices are not suitable, then the following NRCS Enhancements may be considered: Forest Songbird Habitat Maintenance (E666R) or Summer Roosting Habitat for Forest-dwelling Bats (E666P) May be used with supporting practices including	Under Forest Stand Improvement practice, the scenario best fit for this NEFF objective is Thinning for Wildlife as these stands have significant wildlife habitat value and in combination with other silvicultural practices will increase carbon sequestration in the forest landscape (see recent report from FCCL for more on this topic) The stated goal and intended use of the NRCS Practice Restoration of Rare and Declining Natural Communities is inclusive of the stated NEFF goal	Maintaining heavily stocked stands, including, but not limited to old-growth *including management with very light harvesting using single tree selection silvicultural techniques*

Obstruction Removal (500), Forest Trails and Landings (655), Access Control (472), Brush Management (314), Upland Wildlife Habitat Management (645), Early Successional Habitat Management (647)		

Appendix I: Benchmarks & Milestones

(Also provided in Project Narrative)

Benchmarks & Milestones

All applicants are expected to provide quarterly benchmarks. Benchmarks will be considered interchangeably with milestones for the purposes of these discussions and the progress reports expected of grantees.

Benchmarks indicted below are provided with the following characteristics:

- Benchmarks indicate estimated completion, but all benchmarks will be subject to complex project interactions and consequently, each benchmark also allows for the possibility of work continuing for up to an additional 4 quarters of the project period beyond stated benchmarks.
- Payments for staffing and program costs associated with benchmarks will be on an accrual basis with quarterly payments to be made during appropriate quarters to cover staff and program costs for these activities.
- All work to be conducted by sub-awardees will be on an accrual basis, where the project-related contract signed between NEFF and each sub-awardee constitutes 'an obligation to pay' and will therefore be billed on an accrual basis.
- Payments for specific contracted items (such as commissioned studies) or the actual incentive payments will be invoiced to USDA on a cash basis, e.g. requested as work products are delivered based on project-specific work plans. These activities will be billable as work products are completed.

A. Required Quantitative Targets by Quarter (Cumulative) – some initial quarters may be zero:

Note: Quantitative quarterly targets for Benchmarks are provided as estimates and these are expected to vary through project implementation.

Number of producers involved

Year 1: Quarters 1-2-3-4:

- Enrollment of producers will follow on program design and producer outreach

- Estimated Quantitative Target: 0 producers by Quarter 4.

Year 2: Quarters 5-6-7-8:

- Enrollment of smaller producers ongoing through Quarter 8. Estimated Quantitative Target: 50 small producers by Quarter 8.

- Enrollment of commercial and Tribal producers will follow on program design and producer outreach. Estimated Quantitative Target: 0 large producers by Quarter 8.

Year 3: Quarters 9-10-11-12:

- Enrollment of smaller producers ongoing through Quarter 12. Estimated Quantitative Target: 50 additional small producers by Quarter 12.
- Enrollment of commercial and Tribal producers ongoing through Quarter 12. Estimated Quantitative Target: 2 large producers by Quarter 12

Year 4: Quarters: 13-14-15-16:

- Estimated Quantitative Target: 58 additional small producers by Quarter 16 for a total enrollment of 158 landowners in the small landowner portion of the project program. Completed by Quarter 16
- Enrollment of commercial and Tribal producers ongoing through Quarter 16. Estimated Quantitative Target: an additional 4-6 large producers by Quarter 16

Year 5: Quarters 17-18-19-20:
- Enrollment of a total of 4-8 Commercial producers and 2 Tribal producers. Completed by Quarter 20

Number of underserved producers involved

See Number of producers involved as noted above.

All producers served through this program are 'underserved' as per determination by the Northern Border Regional Commission[1] which was formed by Congress in 2008 to help alleviate economic distress in the hard-hit northern counties of Maine, New Hampshire, Vermont and New York. Bordering Canada, these counties generally have higher levels of unemployment, population loss, and lower incomes.

The NBRC Annual Economic & Demographic Research for Fiscal Year 2022[2] determined that all of the counties in northern forested regions of Maine, New Hampshire and Vermont meet the criteria for 'distressed' as per the federal criteria for 'distress' (Federal law (40 U.S.C., Subtitle V, §15702) which states that, 'distressed' counties are those that, "have high rates of poverty, unemployment, or outmigration" and "are the most severely and persistently economic distressed and underdeveloped.")

Number of acres involved

Year 1: Quarters 1-2-3-4:
- *Enrollment of acres will follow on program design and producer outreach*
- *Estimated Quantitative Target: 0 acres involved by Quarter 4.*

Year 2: Quarters 5-6-7-8:
- Enrollment of small producers, commercial producers and Tribal producers. Ongoing through Quarter 8.
- Estimated quantitative target: 6,000 acres of small producers involved by Quarter 8

Year 3: Quarters 9-10-11-12:
- Enrollment of small producers, commercial producers and Tribal producers. Ongoing through Quarter 12.
- Estimated quantitative target: an additional 12,000 acres of small producers involved by Quarter 12 and 15,000 acres of commercial or Tribal producers involved by Quarter 12.

Year 4: Quarters: 13-14-15-16:
- Estimated quantitative target: an additional 7,000 acres of small producers involved by Quarter 16 and an additional 25,000 acres of commercial or Tribal producers involved by Quarter 16.
- Enrollment of 26,000 aces (approx.) of small producer acres in the program by Quarter 16 and 40,000 acres of commercial or Tribal producers involved by Quarter 16.
- Estimated quantitative target

[1] https://www.nbrc.gov/content/northern-border-region

[2] https://www.nbrc.gov/userfiles/files/Announcements/Distress%20Criteria/NBRC-EconomicDemographicResearch-2022-FINAL.pdf

Year 5: Quarters 17-18-19-20:

- Projects completed on 40,000 acres (approx.) of commercial and Tribal lands and 26,000 acres (approx.) of small producers lands in the program

Dollars provided to producers

Year 1: Quarters 1-2-3-4:

- *Payments to producers will follow on program design and producer outreach*
- *$0 dollars provided to producers by Quarter 4*

Year 2: Quarters 5-6-7-8:

- Approximately $288,000 USDA incentive funds provided to small producers by Quarter 8
- *$0 dollars provided to commercial or Tribal producers by Quarter 8.*

Year 3: Quarters 9-10-11-12:

- Approximately an additional $576,000 USDA incentive funds provided to small producers by Quarter 12
- Approximately $4 million provided to commercial or Tribal producers by Quarter 12

Year 4: Quarters: 13-14-15-16:

- Approximately an additional $336,000 USDA incentive funds provided to small producers by Quarter 16
- Approximately an additional $6 million provided to commercial or Tribal producers by Quarter 16

Year 5: Quarters 17-18-19-20:

- Approximately an additional $2 million provided to commercial or Tribal producers by Quarter 20

Total:

- Provide $ 1.2 million in USDA funding and $849,460 in matching funds to small producers. Completed by Quarter 20
- Provide $11.4 million in USDA funding and up to a 25% match in cost share to commercial and Tribal producers. Completed by Quarter 20

GHG Benefits (Metric tons C02e reduced/sequestered)

Because the carbon benefits in forests overall (and as related to the specific climate-smart forest practices to be implemented through this project) take longer than the five-year project term to accrue, NEFF will work with AFF to proactively lay the basis for how long-term verification could be accomplished if USDA so desires. Verification beyond the grant period would require remeasuring the carbon stored in the forest areas treated with the practices specified in comparison to the untreated areas around them. It would also require documenting the wood harvested since treatment and its end use. The combination of these two datasets for treated and untreated areas would allow verifying the carbon benefits that have accrued over any given time span.

Year 1: Quarters 1-2-3-4:

Year 2: Quarters 5-6-7-8:

Year 3: Quarters 9-10-11-12:

Year 4: Quarters: 13-14-15-16:

Year 5: Quarters 17-18-19-20:

- GHG Benefits to be delivered by Quarter 20:

Based on an initial rough draft carbon impact analysis, carbon benefits of approximately 3 $MTCO_2e$ could accrue over the entirety of the life of the practices (which, depending upon the practice, varies from 5 to 75 years). Acres treated include approximately 66,000 acres that will be incentivized through landowners and approximately 260,000 that will be incentivized through loggers. *(Note: This rough carbon impact analysis is only provided for illustrative purposes and while directionally correct, it is only preliminary and requires additional work on data inputs, an analysis of leakage, and other issues as the project proceeds. (The term "leakage" refers to when harvesting of timber is avoided on one property, avoiding pushing that demand elsewhere.) A full carbon impact analysis will be designed and conducted as a key component of the 5-year pilot project itself.)*

Number new marketing channels established &/or expanded

Year 1: Quarters 1-2-3-4:

- New marketing channels established – 4-6 Affordable Housing Agencies through project region. Ongoing through Quarter 4
- 2 marketing channels expanded: Woodlands Partnership, FFCP. Ongoing through Quarter 4

Year 2: Quarters 5-6-7-8:

- New marketing channels established – 4-6 Affordable Housing Agencies through project region. Ongoing through Quarter 8
- 2 marketing channels expanded: Woodlands Partnership, FFCP. Ongoing through Quarter 8
- 3 new marketing channels established through small producer pilots. Ongoing through Quarter 8

Year 3: Quarters 9-10-11-12:

- New mass timber marketing channels established – Mass timber sector participants via dissemination of mass timber technical guidance and design framework focused on the affordable housing sector. Ongoing through Quarter 12
- 2 marketing channels expanded: Woodlands Partnership, FFCP. Ongoing through Quarter 12
- 3 new marketing channels established through small producer pilots. Ongoing through Quarter 12

Year 4: Quarters: 13-14-15-16:

- New marketing channels established – Mass timber sector participants via dissemination of mass timber technical guidance and design framework focused on the affordable housing sector. Ongoing through Quarter 12
- New marketing channels established – Architects, builders via dissemination of mass timber case study and related outreach. Ongoing through Quarter 16
- 3 new marketing channels established through small producer pilots. Ongoing through Quarter 16

Year 5: Quarters 17-18-19-20:

- New marketing channels established – Architects, builders via dissemination of mass timber case study and mass timber affordable housing prototype through conferences and related outreach. Completed by Quarter 20

Number of measurement tools utilized

Year 1: Quarters 1-2-3-4:

- Mathematical modeling – will be used to quantify GHG reductions for all practices being considered.

Year 2: Quarters 5-6-7-8:

- Mathematical modeling – will be used to quantify GHG reductions for all practices being considered. Ongoing through Quarter 8
- Baseline determination - Baseline conditions will be determined for all forestlands to be enrolled in the program. Ongoing through Quarter 8
- Harvest tracking - Wood harvested from lands enrolled in this program will be documented and tracked. Reduced impact logging will be verified. Ongoing through Quarter 8

Year 3: Quarters 9-10-11-12:

- GHG Impact modeling - Information on GHG benefits will be refined as new information becomes available. Ongoing through Quarter 12
- Mathematical modeling – will be used to quantify GHG reductions for all practices being considered. Ongoing through Quarter 12
- Baseline determination - Baseline conditions will be determined for all forestlands to be enrolled in the program. Ongoing through Quarter 12
- Harvest tracking - Wood harvested from lands enrolled in this program will be documented and tracked. Reduced impact logging will be verified. Ongoing through Quarter 12

Year 4: Quarters: 13-14-15-16:

- GHG Impact modeling - Information on GHG benefits will be refined as new information becomes available. Ongoing through Quarter 16
- Mathematical modeling – will be used to quantify GHG reductions for all practices being considered. Ongoing through Quarter 16
- Baseline determination - Baseline conditions will be determined for all forestlands to be enrolled in the program. Ongoing through Quarter 16
- Harvest tracking - Wood harvested from lands enrolled in this program will be documented and tracked. Reduced impact logging will be verified. Ongoing through Quarter 16

Year 5: Quarters 17-18-19-20:

- GHG Impact modeling - Information on GHG benefits will be refined as new information becomes available. Completed by Quarter 20
- Mathematical modeling – will be used to quantify GHG reductions for all practices being considered. Completed by Quarter 20
- Baseline determination - Baseline conditions will be determined for all forestlands to be enrolled in the program. Completed by Quarter 20
- Harvest tracking - Wood harvested from lands enrolled in this program will be documented and tracked. Reduced impact logging will be verified. Completed by Quarter 20

N/A: Number of head involved

B. Other Required Benchmarks/Milestones that may be quantitative or qualitative

Outreach, training or other technical assistance

(Embedded in sections below)

Loggers

- Add climate-smart training credential & curriculum to Master Logger Certification Program and publicize, enroll and conduct trainings
  - Year 1: Quarters 1-2-3-4:
    - Credentials designed and added. Ongoing through Quarter 4
  - Year 2: Quarters 5-6-7-8:
    - Credentials designed and added. Completed by Quarter 6
    - Enroll and conduct first training course. Completed by Quarter 8
  - Year 3: Quarters 9-10-11-12:
    - Enroll and conduct second training course. Completed by Quarter 12
  - Year 4: Quarters: 13-14-15-16:
    - Enroll and conduct third training course. Completed by Quarter 16
  - Year 5: Quarters 17-18-19-20:
    - Synthesize and report on results. Completion by Quarter 20.

- Incentivize implementation of climate smart forest practices by qualifying loggers on economically viable harvests including assistance with implementation, inspection, and reporting
  - Year 1: Quarters 1-2-3-4:
    - *(No logger engagement in year one as landowner engagement is initiated)*
  - Year 2: Quarters 5-6-7-8:
    - Conduct logger engagement and practice implementation. Ongoing through Quarter 8
  - Year 3: Quarters 9-10-11-12:
    - Conduct logger engagement and practice implementation. Ongoing through Quarter 12
  - Year 4: Quarters: 13-14-15-16:
    - Conduct logger engagement and practice implementation. Ongoing through Quarter 16
  - Year 5: Quarters 17-18-19-20:
    - Conduct logger engagement and practice implementation. Completion by Quarter 18
    - Synthesize and report on results. Completion by Quarter 20.

- Incentivize climate smart forest practices by qualifying loggers on economically unfeasible overstocked stands to increase climate resilience, including assistance with implementation, inspection, and reporting
  - Year 1: Quarters 1-2-3-4:
  - Year 2: Quarters 5-6-7-8:
    - Conduct logger engagement and practice implementation. Ongoing through Quarter 8
  - Year 3: Quarters 9-10-11-12:
    - Conduct logger engagement and practice implementation. Ongoing through Quarter 12
  - Year 4: Quarters: 13-14-15-16:
    - Conduct logger engagement and practice implementation. Ongoing through Quarter 16
  - Year 5: Quarters 17-18-19-20:

- Conduct logger engagement and practice implementation. Completion by Quarter 18
- Synthesize and report on results. Completion by Quarter 20.

Foresters

- Organize and host forester training workshops
  - Year 1: Quarters 1-2-3-4:
    - *(No workshops in year 1 as qualifying forest practice design is in process)*
  - Year 2: Quarters 5-6-7-8:
    - Design workshop curriculum & materials. Completion by Quarter 8
    - Enroll and conduct training workshops. Ongoing through Quarter 8
  - Year 3: Quarters 9-10-11-12:
    - Enroll and conduct training workshops. Ongoing through Quarter 12
  - Year 4: Quarters: 13-14-15-16:
    - Enroll and conduct training workshops. Ongoing through Quarter 16
  - Year 5: Quarters 17-18-19-20:
    - Evaluate workshop program and participation

- Develop climate-smart practice plans for qualifying forest practices under this project with landowners and loggers
  - Year 1: Quarters 1-2-3-4:
    - Define qualifying climate smart forest practices. Completion Quarter 4
  - Year 2: Quarters 5-6-7-8:
    - Develop climate smart practice plans with producers & loggers. Ongoing through Quarter 8
  - Year 3: Quarters 9-10-11-12:
    - Develop climate smart practice plans with producers & loggers. Ongoing through Quarter 12
  - Year 4: Quarters: 13-14-15-16:
    - Develop climate smart practice plans with producers & loggers. Ongoing through Quarter 16
  - Year 5: Quarters 17-18-19-20:
    - Develop final group of climate smart practice plans with producers & loggers. Completion Quarter 18

- Oversee implementation of defined climate-smart forest practices
  - Year 1: Quarters 1-2-3-4:
  - Year 2: Quarters 5-6-7-8:
    - Provide TA to loggers & Landowners for climate smart forest practice implementation. Ongoing through Quarter 8
  - Year 3: Quarters 9-10-11-12:
    - Provide TA to loggers & Landowners for climate smart forest practice implementation. Ongoing through Quarter 12
  - Year 4: Quarters: 13-14-15-16:
    - Provide TA to loggers & Landowners for climate smart forest practice implementation. Ongoing through Quarter 16
  - Year 5: Quarters 17-18-19-20:

- Provide TA to loggers & Landowners for climate smart forest practice implementation. Completion Quarter 20

- Certify and document practice implementation and provide consolidated progress reports across participating landownerships
  - Year 1: Quarters 1-2-3-4:
    - *(No practice implementation in year 1)*
  - Year 2: Quarters 5-6-7-8:
    - Certify & document practice implementation. Ongoing through Quarter 8
  - Year 3: Quarters 9-10-11-12:
    - Certify & document practice implementation. Ongoing through Quarter 12
  - Year 4: Quarters: 13-14-15-16:
    - Certify & document practice implementation. Ongoing through Quarter 16
  - Year 5: Quarters 17-18-19-20:
    - Certify & document practice implementation. Completion by Quarter 18
    - Consolidated report on practice implementation. Completion by Quarter 20

Non-commercial smaller forest landowner/producer enrollment

- Refine qualifying climate smart forestry practices
  - Year 1: Quarters 1-2-3-4:
    - Review/refine qualifying climate smart forest practices. Completion by Quarter 4
  - Year 2: Quarters 5-6-7-8:
    - Additional refinements as/if needed. Completion by Quarter 8
  - Year 3: Quarters 9-10-11-12:
  - Year 4: Quarters: 13-14-15-16:
  - Year 5: Quarters 17-18-19-20:

- Develop marketing materials
  - Year 1: Quarters 1-2-3-4:
    - Develop marketing and outreach channels. Ongoing through Quarter 4
    - Deploy marketing strategies in targeted geographies. Ongoing through Quarter 4
  - Year 2: Quarters 5-6-7-8:
    - Develop marketing and outreach channels. Ongoing through Quarter 8
    - Deploy marketing strategies in targeted geographies. Ongoing through Quarter 8
  - Year 3: Quarters 9-10-11-12:
    - Develop marketing and outreach channels. Completion by Quarter 12
    - Deploy marketing strategies in targeted geographies. Ongoing through Quarter 12
  - Year 4: Quarters: 13-14-15-16:
    - Deploy marketing strategies in targeted geographies. Completed by Quarter 16
  - Year 5: Quarters 17-18-19-20:
    - Evaluate and synthesize results. Completion by Quarter 20.

- Conduct small producer outreach, enrollment & establish management plans (including payment of incentives)
  - Year 1: Quarters 1-2-3-4:
    - Expand program into New Hampshire and Maine. Ongoing through Quarter 4
    - Outreach & enrollment of small producers in program. Ongoing through Quarter 4

Year 2: Quarters 5-6-7-8:
- Expand program into New Hampshire and Maine. Completion by Quarter 8
- Outreach & enrollment of small producers in program. Ongoing through Quarter 8

Year 3: Quarters 9-10-11-12:
- Outreach & enrollment of small producers in program. Ongoing through Quarter 12

Year 4: Quarters: 13-14-15-16:
- Outreach & enrollment of small producers in program. Completion by Quarter 16
- Confirm contract compliance. Ongoing through quarter 16

Year 5: Quarters 17-18-19-20:
- Confirm contract compliance. Completion by Quarter 20
- Synthesize and report on results. Completion by Quarter 20.

- Conduct 3 mini outreach pilots (and possibly a 4th) for small producers to support innovative approaches for underserved producers, local "wood baskets"

Year 1: Quarters 1-2-3-4:
- Launch application process for 3 small producer outreach pilots. Ongoing through Quarter 4.

Year 2: Quarters 5-6-7-8:
- Select 3 small producer outreach pilots. Completion by Quarter 8
- Launch small producer pilots. Ongoing through Quarter 8

Year 3: Quarters 9-10-11-12:
- Conduct small producer pilots. Ongoing through Quarter 12

Year 4: Quarters: 13-14-15-16:
- Conduct small producer pilots. Ongoing through Quarter 16

Year 5: Quarters 17-18-19-20:
- Completion of small producer pilots. Completion by Quarter 18
- Evaluate and synthesize results. Completion by Quarter 20

Commercial forestland & Tribal owners/producers

- Address big picture design issues (e.g., how to prevent leakage, approach to paying for practices through fixed payments, auction, etc.), determine the carbon benefits of qualifying practices and the expected magnitude of GHG reductions.

Year 1: Quarters 1-2-3-4:
- Define approach to big picture design issues (as noted above). Ongoing through Quarter 4

Year 2: Quarters 5-6-7-8:
- Define approach to big picture design issues (as noted above). Completion by Quarter 8

Year 3: Quarters 9-10-11-12:
- Refine/adjust program design issues (leakage, practice payment mechanisms, anticipated carbon outcomes) as needed. Completion by Quarter 12

Year 4: Quarters: 13-14-15-16:

Year 5: Quarters 17-18-19-20:

- Refine qualifying climate-smart forestry practices

Year 1: Quarters 1-2-3-4:

- Initiate refining qualifying forest practices for commercial & Tribal landowners. Ongoing through Quarter 4

Year 2: Quarters 5-6-7-8:

- Continue refining qualifying forest practices for commercial & Tribal landowners. Completion by Quarter 8

Year 3: Quarters 9-10-11-12:

- Make adjustments to practices as experience and new information becomes available. Ongoing through Quarter 12

Year 4: Quarters: 13-14-15-16:

- Make adjustments to practices as experience and new information becomes available. Completed by Quarter 16

Year 5: Quarters 17-18-19-20

- Design and structure incentive program

Year 1: Quarters 1-2-3-4:

- Initiate design of incentive program including structure, delivery mechanism and contractual arrangements for commercial landowners and Tribal lands. Ongoing through Quarter 4

Year 2: Quarters 5-6-7-8:

- Continue designing incentive program including structure, delivery mechanism for commercial landowners and Tribal lands. Completion by Quarter 8.

Year 3: Quarters 9-10-11-12:

- Refine incentive program structure, delivery mechanism *if needed.* Completed by Quarter 12.

Year 4: Quarters: 13-14-15-16:

Year 5: Quarters 17-18-19-20:

- Solicit and select projects on commercial and Tribal forestlands

Year 1: Quarters 1-2-3-4:

- *No project solicitation until draft program design and structure in place*

Year 2: Quarters 5-6-7-8:

- Release program description and solicit first round of projects. Ongoing through Quarter 8

Year 3: Quarters 9-10-11-12:

- Review first round of project proposals and select first cohort to fund. Completion by Quarter 12
- Release program description and solicit second round of projects. Ongoing through Quarter 12

Year 4: Quarters: 13-14-15-16:

- Review second round of project proposals and select second cohort to fund. Completion by Quarter 16

Year 5: Quarters 17-18-19-20:

- Synthesize and report results. Completion by Quarter 20

- Implement climate-smart forest practices program (contracting with producers, payment of incentives, assistance with implementation, inspection, and reporting)

Year 1: Quarters 1-2-3-4:

- *No commercial landowner implementation during early project design phase*

Year 2: Quarters 5-6-7-8:

- *No project contracting etc. during first round of solicitations to commercial and Tribal producers*

Year 3: Quarters 9-10-11-12:

- Commercial and Tribal project contracting, payment of incentives, assistance with implementation, inspection, and reporting). Ongoing through Quarter 12

Year 4: Quarters: 13-14-15-16:

- Commercial and Tribal project contracting, payment of incentives, assistance with implementation, inspection, and reporting). Ongoing through Quarter 16

Year 5: Quarters 17-18-19-20:

- Commercial and Tribal project contracting, payment of incentives, assistance with implementation, inspection, and reporting). Completion by Quarter 20
- Synthesize and report on results. Completion Quarter 20

MMRV and supply chain traceability attributes

- Design & Implement Carbon Impact Assessment (in-forest & in-products)

Year 1: Quarters 1-2-3-4:

- Design and conduct carbon impact modeling for small landowners. Ongoing through Quarter 4

Year 2: Quarters 5-6-7-8:

- Design and conduct carbon impact modeling for small landowners. Ongoing through Quarter 8
- Establish baselines, develop monitoring protocol for commercial landowners. Ongoing through Quarter 8

Year 3: Quarters 9-10-11-12:

- Design and conduct carbon impact modeling for small landowners. Ongoing through Quarter 12
- Establish baselines, develop monitoring protocol for commercial landowners. Completion by Quarter 12
- Identify and develop monitoring plots on commercial forestlands. Ongoing through Quarter 12

Year 4: Quarters: 13-14-15-16:

- Design and conduct carbon impact modeling for small landowners. Ongoing through Quarter 16
- Identify and develop monitoring plots on commercial forestlands. Ongoing through Quarter 16

Year 5: Quarters 17-18-19-20:

- Design and conduct carbon impact modeling for small landowners. Completion by Quarter 20
- Identify and develop monitoring plots on commercial forestlands. Completion by through Quarter 20

- Economic and social impact assessment methodology

Year 1: Quarters 1-2-3-4:

- Determine analytic design and structure, e.g., needed data, analytic approach, guidelines, structure. Ongoing through Quarter 4
- Data collection. Ongoing through Quarter 4

Year 2: Quarters 5-6-7-8:

- Determine analytic design and structure, e.g., needed data, analytic approach, guidelines, structure. Completed Quarter 8
- Data collection. Ongoing through Quarter 8

Year 3: Quarters 9-10-11-12:
- Data collection. Ongoing through Quarter 12
- Initiate and conduct analysis. Ongoing through Quarter 12

Year 4: Quarters: 13-14-15-16:
- Data collection. Ongoing through Quarter 16
- Initiate and conduct analysis. Ongoing through Quarter 16

Year 5: Quarters 17-18-19-20:
- Data collection. Completion Quarter 20.
- Complete analysis and report on results (to include costs for practices, costs for landowners, costs per ton of carbon, social costs and benefits, recommendations for follow-up). Completed Quarter 20.

- Inspect practices completed for adherence to specifications, quantify results

Year 1: Quarters 1-2-3-4:
Year 2: Quarters 5-6-7-8:
Year 3: Quarters 9-10-11-12:
- Conduct inspections. Ongoing through Quarter 12

Year 4: Quarters: 13-14-15-16:
- Conduct inspections. Ongoing through Quarter 16

Year 5: Quarters 17-18-19-20:
- Conduct inspections. Ongoing through Quarter 20
- Complete inspections and synthesize results. Completed Quarter 20

- Create the baseline for future monitoring of carbon benefits using AFF's Monitoring and Methodology

Year 1: Quarters 1-2-3-4:
- Refine FFCP monitoring methodology to be effective for this project. Ongoing through Quarter 4

Year 2: Quarters 5-6-7-8:
- Refine FFCP monitoring methodology to be effective for this project. Completion by Quarter 6
- Collect information needed for baseline as projects are initiated. Ongoing through Quarter 8

Year 3: Quarters 9-10-11-12:
- Collect information needed for baseline as projects are initiated. Ongoing through Quarter 12

Year 4: Quarters: 13-14-15-16:
- Collect information needed for baseline as projects are initiated. Ongoing through Quarter 16

Year 5: Quarters 17-18-19-20:
- Collect information needed for baseline as projects are initiated. Completed by Quarter 20

- Synthesize baseline monitoring information and report on results as basis for future measurements. Completed by Quarter 20

- Development of climate smart wood sourcing guidelines
  Year 1: Quarters 1-2-3-4:
  Year 2: Quarters 5-6-7-8:
  Year 3: Quarters 9-10-11-12:
  Year 4: Quarters: 13-14-15-16:
  Year 5: Quarters 17-18-19-20:

Measurements of work related to marketing of commodities

- **Estimate the potential for mass timber technologies to meet future multi-family affordable housing needs in Northeast US through 2040.**
  Year 1: Quarters 1-2-3-4:
  - Data collection and analysis of affordable housing needs and mass timber potential. Ongoing through Quarter 4

  Year 2: Quarters 5-6-7-8:
  - Data collection, analysis, and report on affordable housing needs and mass timber potential. Completed by Quarter 8

  Year 3: Quarters 9-10-11-12:
  - Update and refine Report on affordable housing market and mass timber potential. Ongoing through Quarter 12

  Year 4: Quarters: 13-14-15-16:
  - Update and refine Report on affordable housing market and mass timber potential. Ongoing through Quarter 16

  Year 5: Quarters 17-18-19-20:
  - Finalize updated Report on affordable housing market and mass timber potential. Completed by Quarter 20.

- **Create a case study of converting multi-family affordable housing from traditional building materials to mass timber and develop a mass timber prototype for the multi-family housing sector.**
  Year 1: Quarters 1-2-3-4:
  - Research and develop mass timber multi-family affordable housing case study. Ongoing through Quarter 4
  - Initial research and design development for mass timber affordable housing prototype. Ongoing through Quarter 4

  Year 2: Quarters 5-6-7-8:
  - Research and develop mass timber multi-family affordable housing case study. Ongoing through Quarter 8
  - Provide construction documents and test mock-up mass timber assemblies for design prototype.
    Ongoing through Quarter 8

  Year 3: Quarters 9-10-11-12:
  - Complete report on mass timber multi-family affordable housing case study. Completion by Quarter 12.

- Prototype new mass timber design and draft a report that assesses its applicability for similar scale affordable housing. Continued through Quarter 12

Year 4: Quarters: 13-14-15-16:

- Update report on mass timber multi-family affordable housing case study with lessons learned from pilot project. Completion by Quarter 16.
- Produce report on mass timber prototype for affordable housing; update report with supplemental information from pilot construction project. Completion by Quarter 16

Year 5: Quarters 17-18-19-20:

- Update mass timber prototype report with supplemental information from pilot construction project. Completion by Quarter 20

- Synthesis of mass timber affordable housing prototype report and comparative case study to present at conferences/events for sector development. Completed by Quarter 20

- **Design and implementation of outreach program (and outreach materials) to affordable housing agencies, building sector professionals (architects, engineers, etc.), and potential developers across New England re: mass timber construction**

Year 1: Quarters 1-2-3-4:

- Draft outreach plan to reach relevant affordable housing and building sector stakeholders.
  Ongoing through Quarter 4

Year 2: Quarters 5-6-7-8:

- Update draft outreach plan and develop informational package about applicability of mass timber for meeting affordable housing design and market needs, along with accompanying outreach materials. Ongoing through Quarter 8

Year 3: Quarters 9-10-11-12:

- Distribute informational package about applicability of mass timber for meeting affordable housing design and market needs. Ongoing through Quarter 12

Year 4: Quarters: 13-14-15-16:

- Share research/technical findings from mass timber prototyping effort and distribute informational package about applicability of mass timber for meeting affordable housing design and market needs. Ongoing through Quarter 16

Year 5: Quarters 17-18-19-20:

- Share research/technical findings from mass timber prototyping effort and distribute informational package about applicability of mass timber for meeting affordable housing design and market needs. Completed by Quarter 20.

- **Create a mass timber technical guidance and design framework focused on the affordable housing sector**

Year 1: Quarters 1-2-3-4:

- Research, analysis, and case study collection. Ongoing through Quarter 4

Year 2: Quarters 5-6-7-8:

- Develop technical guidance and design framework and incorporate draft climate-smart sourcing guidance. Ongoing through Quarter 8
- Plan outreach events to disseminate guidance document and educate industry professionals. Ongoing through Quarter 8

Year 3: Quarters 9-10-11-12:
- Update and refine technical guidance and design framework as needed based on input from other pilot project components. Ongoing through Quarter 12
- Host outreach event(s) to disseminate guidance document and educate relevant housing and building sector professionals about value of mass timber for affordable housing in the region. Ongoing through Quarter 12

Year 4: Quarters: 13-14-15-16:
- Host outreach event(s) to disseminate guidance document and educate relevant housing and building sector professionals about value of mass timber for affordable housing in the region. Ongoing through Quarter 16

Year 5: Quarters 17-18-19-20:
- Host outreach event(s) to disseminate guidance document and educate relevant housing and building sector professionals about value of mass timber for affordable housing in the region. Completed by Quarter 20

- **Development of climate-smart wood sourcing guidelines**

Year 1: Quarters 1-2-3-4:
- Convene expert advisors and project partners to develop initial criteria for defining climate-smart wood products. Ongoing through Quarter 4

Year 2: Quarters 5-6-7-8:
- Develop draft climate-smart wood sourcing guidelines. On-going through Quarter 8.

Year 3: Quarters 9-10-11-12:
- Refine sourcing guidelines based on partner feedback and testing via pilot projects. Ongoing through Quarter 12

Year 4: Quarters: 13-14-15-16:
- Refine sourcing guidelines based on partner feedback and testing via pilot projects. Completed by Quarter 14
- Distribute and present final guidelines at outreach events. Completed Quarter 16.

Year 5: Quarters 17-18-19-20:
- Distribute climate-smart wood sourcing guidelines at outreach events. Completed by Quarter 20.

- Demonstrated engagement of major partners
  Included in Benchmarks above
- Climate smart technologies employed (if applicable)
  Climate smart forest practices and related logging technologies included in Benchmarks & Milestones above

NEFF (Prime Recipient) Project Staffing

- NEFF CSC Team Staff activities to achieve above Benchmarks & Milestones (to be billed on accrual basis)

Year 1: Quarters 1-2-3-4:
- NEFF project team work to implement benchmarks across all project elements. Ongoing through Quarter 4

Year 2: Quarters 5-6-7-8:
- NEFF project team work to implement benchmarks across all project elements. Ongoing through Quarter 8

Year 3: Quarters 9-10-11-12:

- NEFF project team work to implement benchmarks across all project elements. Ongoing through Quarter 12

Year 4: Quarters: 13-14-15-16:

- NEFF project team work to implement benchmarks across all project elements. Ongoing through Quarter 16

Year 5: Quarters 17-18-19-20:

- NEFF project team work to implement benchmarks across all project elements. Completion Quarter 20.

Climate-Smart Practices and Limitations

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

NRCS Practice Code (if applicable)	Practice Name
314	Brush Management
472	Access Control
490	Tree/Shrub Site Preparation
500	Obstruction Removal
595	Pest Management
612	Tree and Shrub Planting
643	Restoration of Rare and Declining Natural Communities
645	Upland Wildlife Habitat Management
647	Early Successional Habitat Management
655	Forest Trails and Landings
666	Forest Stand Improvement
E666R	Forest Songbird Habitat Maintenance
E666P	Summer Roosting Habitat for Forest-dwelling Bats

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

N/A

Partnerships for Climate-Smart Commodities Data Dictionary for Recipients

February 2023

Version 1.0

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."

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

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

Project Summary

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

Table 1. Project Summary elements

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

Partner Activities

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

Table 2. Partner Activities elements

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

Marketing Activities

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

Table 3. Marketing Activities elements

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

Producer Enrollment

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

Table 4. Producer Enrollment elements

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

Field Enrollment

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

Table 5. Field Enrollment elements

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

Farm Summary

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

Table 6. Farm Summary elements

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

Field Summary

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

Table 7. Field Summary elements

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

GHG Benefits - Alternate Modeled

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

Table 8. GHG Benefits – Alternate Modeled elements

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

GHG Benefits - Measured

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

Table 9. GHG Benefits - Measured data elements

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

Additional Environmental Benefits

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

Table 10. Additional Environmental Benefits elements

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

Supplemental Data Submission

Project MMRV Plan

Definition of MMRV elements:

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

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

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

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

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

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

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

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

Field modeled GHG benefit reports

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

Field direct measurement results

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

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

Data Descriptions

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

Unique IDs

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

Project Summary

Commodity type

Data element name: Commodity type

Reporting question: What climate-smart commodity types are produced by this project?

Description: Type of commodity incentivized by the project. These commodities include those for whom farmers are directly receiving incentives or other types of marketing support. See full list of commodity options in Appendix B. List one commodity per row.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values: FSA commodity list

Logic: None – all respond

Required: Yes

Data collection level: Project

Data collection frequency: Quarterly

Commodity sales

Data element name: Commodity sales

Reporting question: Did project activities result in sales this quarter of the commodity(ies) produced by this project?

Description: Indicator of sales of commodity(ies) related to project activities. If sales are reported, complete the *Marketing Activities* worksheet (Table 3) as part of the quarterly performance report.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Yes
- No

Logic: None – all respond

Required: Yes

Data collection level: Project

Data collection frequency: Quarterly

Farms enrolled

Data element name: Farms enrolled

Reporting question: Did the project enroll any producers or fields this quarter?

Description: Indicator that the project enrolled producers or fields. If enrollment activities occurred this quarter, complete the *Producer Enrollment* and *Field Enrollment* worksheets (Tables 4 and 5) as part of the quarterly performance report.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Yes
- No

Logic: None – all respond

Required: Yes

Data collection level: Project

Data collection frequency: Quarterly

GHG calculation methods

Data element name: GHG calculation methods

Reporting question: What methods is the project using to calculate GHG benefits?

Description: List the way(s) that GHG benefits are being measured and calculated by the project this quarter.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Models
- Direct field measurements
- Both

Logic: None – all respond

Required: Yes

Data collection level: Project

Data collection frequency: Quarterly

GHG cumulative calculation

Data element name: GHG cumulative calculation

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

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

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:
- Models
- Direct field measurements
- Both

Logic: None – all respond

Required: Yes

Data collection level: Project

Data collection frequency: Quarterly

Cumulative GHG benefits

Data element name: Cumulative GHG benefits

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

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

Data type: Decimal

Select multiple values: No

Measurement unit: Metric tons CO_2eq

Allowed values: 0-10,000,000

Logic: None – all respond

Required: Yes

Data collection level: Project

Data collection frequency: Quarterly

Cumulative carbon stock

Data element name: Cumulative carbon stock

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

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

Data type: Decimal

Select multiple values: No

Measurement unit: Metric tons CO_2eq

Allowed values: 0-10,000,000

Logic: None – all respond

Required: Yes

Data collection level: Project

Data collection frequency: Quarterly

Cumulative CO2 benefit

Data element name: Cumulative CO2 benefit

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

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

Data type: Decimal

Select multiple values: No

Measurement unit: Metric tons CO_2

Allowed values: 0-10,000,000

Logic: None – all respond

Required: Yes

Data collection level: Project

Data collection frequency: Quarterly

Cumulative CH4 benefit

Data element name: Cumulative CH4 benefit

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

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

Data type: Decimal

Select multiple values: No

Measurement unit: Metric tons CH4 reduced in CO_2eq

Allowed values: 0-10,000,000

Logic: None – all respond

Required: Yes

Data collection level: Project

Data collection frequency: Quarterly

Cumulative N20 benefit

Data element name: Cumulative N2O benefit

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

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

Data type: Decimal

Select multiple values: No

Measurement unit: Metric tons N2O reduced in CO_2eq

Allowed values: 0-10,000,000

Logic: None – all respond

Required: Yes

Data collection level: Project

Data collection frequency: Quarterly

Offsets produced

Data element name: Offsets produced

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

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

Data type: Decimal

Select multiple values: No

Measurement unit: Metric tons CO_2eq

Allowed values: 0-10,000,000

Logic: None – all respond

Required: Yes

Data collection level: Project

Data collection frequency: Quarterly

Offsets sale

Data element name: Offsets sale

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

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

Data type: Text

Select multiple values: NA

Measurement unit: Name

Allowed values: Text

Logic: Respond if >0 to 'Offsets produced'

Required: Yes

Data collection level: Project

Data collection frequency: Quarterly

Offsets price

Data element name: Offsets price

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

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

Data type: Decimal

Select multiple values: No

Measurement unit: Dollars per metric ton

Allowed values: 0-500

Logic: Respond if >0 to 'Offsets produced'

Required: Yes

Data collection level: Project

Data collection frequency: Quarterly

Insets produced

Data element name: Insets produced

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

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

Data type: Decimal

Select multiple values: No

Measurement unit: Metric tons CO_2eq

Allowed values: 0-10,000,000

Logic: None – all respond

Required: Yes

Data collection level: Project

Data collection frequency: Quarterly

Cost of on-farm TA

Data element name: Cost of on-farm TA

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

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

Data type: Decimal

Select multiple values: No

Measurement unit: Dollars

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

Logic: None – all respond

Required: Yes

Data collection level: Project

Data collection frequency: Quarterly

MMRV cost

Data element name: MMRV cost

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

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

Data type: Decimal

Select multiple values: No

Measurement unit: Dollars

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

Logic: None – all respond

Required: Yes

Data collection level: Project

Data collection frequency: Quarterly

GHG monitoring method

Data element name: GHG monitoring 1-5

Reporting question: How did the project monitor GHG benefits?

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

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

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

Logic: None – all respond

Required: Yes

Data collection level: Project

Data collection frequency: Quarterly

GHG reporting method

Data element name: GHG reporting 1-5

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

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

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

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

Logic: None – all respond

Required: Yes

Data collection level: Project

Data collection frequency: Quarterly

GHG verification method

Data element name: GHG verification method 1-5

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

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

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

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

Logic: None – all respond

Required: Yes

Data collection level: Project

Data collection frequency: Quarterly

Partner Activities

Unique IDs	
Partner ID	Unique Project ID for each partner

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

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

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

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

Partnership start date

Data element name: Partnership start date | **Reporting question:** When did the partnership start?

Description: Date that the partner organization and the recipient began formally partnering on the project

Data type: Date | **Select multiple values**: NA

Measurement unit: MM/DD/YYYY | **Allowed values:** 01/01/2023 – 12/31/2030

Logic: No response for recipient | **Required:** Yes

Data collection level: Partner | **Data collection frequency:** Partnership initiation

Partnership end date

Data element name: Partnership end date | **Reporting question:** When did the partnership end?

Description: Date that the partner organization and the recipient stopped formally partnering on the project

Data type: Date | **Select multiple values**: NA

Measurement unit: MM/DD/YYYY | **Allowed values:** 01/01/2023 – 12/31/2030

Logic: No response for recipient | **Required:** Yes

Data collection level: Partner | **Data collection frequency:** Partnership end quarter

New partnership

Data element name: New partnership | **Reporting question:** Is this a new partnership?

Description: A new partnership means that the recipient and the partner organization have not had a formal working relationship (under contract or on a grant) prior to the start of the project.

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

Measurement unit: Category | **Allowed values:**

- Yes
- No
- I don't know

Logic: No response for recipient | **Required:** Yes

Data collection level: Partner | **Data collection frequency:** Partnership initiation

Partner total requested

Data element name: Partner total requested | **Reporting question:** What is the total amount of funding the partner has requested to date from this project?

Description: Cumulative (total) amount of funds that the partner has requested reimbursement for from the recipient from the start of the partnership to the end of the reporting quarter. For each quarter's data entry, the value must be the sum of all previous entries plus the amount of funds requested in the reporting quarter. If there are no changes, report the value from the previous quarter.

Data type: Decimal | **Select multiple values**: NA

Measurement unit: Dollars | **Allowed values:** $0-$100,000,000

Logic: No response for recipient | **Required:** Yes

Data collection level: Partner | **Data collection frequency:** Quarterly

Total match contribution

Data element name: Total match contribution

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

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

Data type: Decimal

Select multiple values: NA

Measurement unit: Dollars

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

Logic: None – all respond

Required: Yes

Data collection level: Partner

Data collection frequency: Quarterly

Total match incentives

Data element name: Total match incentives

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

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

Data type: Decimal

Select multiple values: NA

Measurement unit: Dollars

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

Logic: None – all respond

Required: Yes

Data collection level: Partner

Data collection frequency: Quarterly

Match type

Data element name: Match type 1-3

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

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

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

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

Logic: None – all respond

Required: Yes

Data collection level: Partner

Data collection frequency: Quarterly

Match amount

Data element name: Match amount 1-3

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

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

Data type: Decimal

Select multiple values: NA

Measurement unit: Dollars

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

Logic: None – all respond

Required: Yes

Data collection level: Partner

Data collection frequency: Quarterly

Training type provided

Data element name: Training type 1-3 provided

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

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

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

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

Logic: None – all respond

Required: Yes

Data collection level: Partner

Data collection frequency: Quarterly

Activity by partner

Data element name: Activity 1-3 by partner

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

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

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

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

Logic: None – all respond

Required: Yes

Data collection level: Partner

Data collection frequency: Quarterly

Activity cost

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

Products supplied

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

Product source

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

Marketing Activities

Commodity type	
Data element name: Commodity type	**Reporting question:** What type of commodity is produced by the farmers enrolled in this project?
Description: List a single commodity produced or marketed through incentives from this project. If multiple commodities are produced by the project, use additional rows of the worksheet to report each commodity. Use the FSA commodity list in Appendix B and choose the commodity from the list.	
Data type: List	**Select multiple values**: No
Measurement unit: Category	**Allowed values:** FSA commodity list
Logic: None – all respond	**Required:** Yes
Data collection level: Project	**Data collection frequency:** Quarterly

Marketing channel type	
Data element name: Marketing channel type	**Reporting question:** What type of marketing channel is used to sell this commodity?
Description: List a single type of marketing channel used to sell the commodity produced by farmers enrolled in the project. If a single commodity is marketed through multiple channels, use additional rows of the worksheet to report each combination of commodity and marketing channel. If "other" is chosen, use the additional column to enter the other marketing channel type(s) as free text.	
Data type: List	**Select multiple values**: No
Measurement unit: Category	**Allowed values:** • Agricultural marketing board • Biorefinery • Commodity broker • Direct to consumer • Direct to institution • Direct to restaurant • Distributor (including grain elevators) • Food hub or cooperative • Food processor • Non-food byproducts processor • Retailer • USDA • Other (specify)
Logic: None – all respond	**Required:** Yes
Data collection level: Project	**Data collection frequency:** Quarterly

Number of buyers	
Data element name: Number of buyers	**Reporting question:** How many buyers are there in this marketing channel?
Description: List the number of individual firms or buyers in this marketing channel.	
Data type: Integer	**Select multiple values**: No
Measurement unit: Count	**Allowed values:** 1-500
Logic: None – all respond	**Required:** Yes
Data collection level: Project	**Data collection frequency:** Quarterly

Names of buyers

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

Marketing channel geography

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

Value sold

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

Volume sold

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

Volume sold unit

Data element name: Volume sold unit

Reporting question: What is the unit of volume?

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

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

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

Logic: None – all respond

Required: Yes

Data collection level: Project

Data collection frequency: Quarterly

Price premium

Data element name: Price premium

Reporting question: What price premium is received for the commodity sold in this marketing channel?

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

Data type: Decimal

Select multiple values: No

Measurement unit: Dollars

Allowed values: $0.01-$10,000

Logic: None – all respond

Required: Yes

Data collection level: Project

Data collection frequency: Quarterly

Price premium unit

Data element name: Price premium unit

Reporting question: What is the unit for the price premium?

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

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

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

Logic: None – all respond

Required: Yes

Data collection level: Project

Data collection frequency: Quarterly

Price premium to producer

Data element name: Price premium to producer

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

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

Data type: Decimal

Select multiple values: No

Measurement unit: Percent

Allowed values: 0-100

Logic: None – all respond

Required: Yes

Data collection level: Project

Data collection frequency: Quarterly

Product differentiation method

Data element name: Product differentiation method 1-3

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

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

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

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

Logic: None – all respond

Required: Yes

Data collection level: Project

Data collection frequency: Quarterly

Marketing method

Data element name: Marketing method 1-3

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

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

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

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

Logic: None – all respond

Required: Yes

Data collection level: Project

Data collection frequency: Quarterly

Marketing channel identification method

Data element name: Marketing channel identification method 1-3

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

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

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

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

Logic: None – all respond

Required: Yes

Data collection level: Project

Data collection frequency: Quarterly

Traceability method

Data element name: Traceability method 1-3

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

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

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

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

Logic: None – all respond

Required: Yes

Data collection level: Project

Data collection frequency: Quarterly

Producer Enrollment

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

Producer data change

Data element name: Producer data change

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

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

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Yes
- No

Logic: None – all respond

Required: Yes

Data collection level: Producer

Data collection frequency: Re-enrollment

Producer start date

Data element name: Producer start date

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

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

Data type: Date

Select multiple values: NA

Measurement unit: MM/DD/YYYY

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

Logic: None – all respond

Required: Yes

Data collection level: Producer

Data collection frequency: Initial enrollment

Producer name

Data element name: Producer name

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

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

Data type: Text

Select multiple values: NA

Measurement unit: NA

Allowed values: Text

Logic: None – all respond

Required: Yes

Data collection level: Producer

Data collection frequency: Initial enrollment

Underserved status

Data element name: Underserved status

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

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

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

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

Logic: None – all respond

Required: No

Data collection level: Producer

Data collection frequency: Initial enrollment

Total area

Data element name: Total area

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

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

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

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

Logic: None – all respond

Required: Yes

Data collection level: Producer

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

Total crop area

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

Total livestock area

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

Total forest area

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

Livestock type

Data element name: Livestock type 1-3

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

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

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

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

Logic: Respond if 'Total livestock area' >0

Required: Yes

Data collection level: Producer

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

Livestock head

Data element name: Livestock head 1-3

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

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

Data type: Integer

Select multiple values: NA

Measurement unit: Head count

Allowed values: 1-10,000,000

Logic: Respond if 'Total livestock area' >0

Required: Yes

Data collection level: Producer

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

Organic farm

Data element name: Organic farm

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

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

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Yes
- No
- I don't know

Logic: None – all respond

Required: No

Data collection level: Producer

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

Organic fields

Data element name: Organic fields

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

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

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Yes
- No
- I don't know

Logic: Respond if yes to 'Organic operation'

Required: No

Data collection level: Producer

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

Producer motivation

Data element name: Producer motivation

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

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

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

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

Logic: None – all respond

Required: Yes

Data collection level: Producer

Data collection frequency: Initial enrollment

Producer outreach

Data element name: Producer outreach 1-3

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

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

Data type: List

Select multiple values: Yes

Measurement unit: Category

Allowed values:

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

Logic: None – all respond

Required: Yes

Data collection level: Producer

Data collection frequency: Initial enrollment

CSAF experience

Data element name: CSAF experience

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

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

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Yes
- No
- I don't know

Logic: None – all respond

Required: Yes

Data collection level: Producer

Data collection frequency: Initial enrollment

CSAF federal funds

Data element name: CSAF federal funds

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

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

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Yes
- No
- I don't know

Logic: Respond if yes to 'CSAF experience'

Required: Yes

Data collection level: Producer

Data collection frequency: Initial enrollment

CSAF state or local funds

Data element name: CSAF state or local funds

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

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

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Yes
- No
- I don't know

Logic: Respond if yes to 'CSAF experience'

Required: Yes

Data collection level: Producer

Data collection frequency: Initial enrollment

CSAF nonprofit funds

Data element name: CSAF nonprofit funds

Reporting question: Were CSAF practices supported by nonprofit funds?

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

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Yes
- No
- I don't know

Logic: Respond if yes to 'CSAF experience'

Required: Yes

Data collection level: Producer

Data collection frequency: Initial enrollment

CSAF market incentives

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

Field Enrollment

Unique IDs

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

Field data change

Data element name: Field data change

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

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

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Yes
- No

Logic: None – all respond

Required: Yes

Data collection level: Field

Data collection frequency: Re-enrollment

Contract start date

Data element name: Contract start date

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

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

Data type: Date

Select multiple values: NA

Measurement unit: MM/DD/YYYY

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

Logic: None – all respond

Required: Yes

Data collection level: Field

Data collection frequency: Initial enrollment

Total field area

Data element name: Total field area

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

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

Data type: Decimal

Select multiple values: No

Measurement unit: Acres

Allowed values: .01-500

Logic: None – all respond

Required: Yes

Data collection level: Field

Data collection frequency: Initial enrollment

Commodity category

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

Commodity type

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

Baseline yield

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

Baseline yield unit

Data element name: Baseline yield unit

Reporting question: Baseline yield unit

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

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

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

Logic: None – all respond

Required: Yes

Data collection level: Field

Data collection frequency: Initial enrollment

Baseline yield location

Data element name: Baseline yield location

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

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

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Enrolled field
- Whole operation
- Other (specify)

Logic: None – all respond

Required: Yes

Data collection level: Field

Data collection frequency: Initial enrollment

Field land use

Data element name: Field land use

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

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

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

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

Logic: None – all respond

Required: Yes

Data collection level: Field

Data collection frequency: Initial enrollment

Field irrigated

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

Field tillage

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

Practice past extent - farm

Data element name: Practice past extent - farm

Reporting question: What percent of the farm has implemented this CSAF practice (combination) previously?

Description: Prior to enrollment, on what portion of the whole farm had this (these) CSAF practice(s) ever been used by the primary operator? If multiple practices are planned to be implemented in this field, enter the value that best corresponds to the farm's prior experience with the planned set of practices.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Never used
- Used on less than 25% of operation
- Used on 25-50% of operation
- Used on 51-75% of operation
- Used on more than 75% of operation

Logic: None – all respond

Required: Yes

Data collection level: Field

Data collection frequency: Initial enrollment

Field any CSAF practice

Data element name: Field any CSAF practice

Reporting question: What is this field's prior experience with CSAF practices?

Description: Prior to enrollment, have any CSAF practice or practices been used in this field in the past 3 years? CSAF practices are included in a list in Appendix A.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Yes
- No
- I don't know

Logic: None – all respond

Required: Yes

Data collection level: Field

Data collection frequency: Initial enrollment

Practice past use - this field

Data element name: Practice past use - this field

Reporting question: Have this CSAF practice (combination) been implemented previously in this field?

Description: Prior to enrollment, had this (these) CSAF practice(s) been used in this field in the in the past 3 years? Enter yes if all of the practices had been used previously in this field; enter some if multiple practices are being implemented and one or more, but not all of the practices had been used previously in this field; and enter no if none of the practices had been used previously in this field.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Yes
- Some
- No
- I don't know

Logic: None – all respond

Required: Yes

Data collection level: Field

Data collection frequency: Initial enrollment

Practice type

Data element name: Practice type 1-7

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

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

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values: See list in Appendix A

Logic: None – all respond

Required: Yes

Data collection level: Field

Data collection frequency: Initial enrollment

Practice standard

Data element name: Practice standard 1-7

Reporting question: What standard does the CSAF practice follow?

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

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- NRCS
- Other (specify)

Logic: None – all respond

Required: Yes

Data collection level: Field

Data collection frequency: Initial enrollment

Planned practice implementation year

Data element name: Practice 1-7 implementation year

Reporting question: What year is the CSAF practice planned to be implemented?

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

Data type: Integer

Select multiple values: No

Measurement unit: Year

Allowed values: 2022-2030

Logic: None – all respond

Required: Yes

Data collection level: Field

Data collection frequency: Initial enrollment

Practice extent

Data element name: Practice 1-7 extent

Reporting question: To what extent is the practice implemented?

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

Data type: Decimal

Select multiple values: No

Measurement unit: Extent

Allowed values: .01-100,000

Logic: None – all respond

Required: Yes

Data collection level: Field

Data collection frequency: Initial enrollment

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

CSAF Practice Sub-questions

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

Farm Summary

Unique IDs

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

Producer TA received

Data element name: Producer TA received 1-3

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

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

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

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

Logic: None – all respond

Required: Yes

Data collection level: Producer

Data collection frequency: Quarterly

Producer incentive amount

Data element name: Producer incentive amount

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

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

Data type: Decimal

Select multiple values: NA

Measurement unit: Dollars

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

Logic: None – all respond

Required: Yes

Data collection level: Producer

Data collection frequency: Quarterly

Incentive reason

Data element name: Incentive reason 1-4

Reporting question: Why were incentives provided to this producer?

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

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

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

Logic: None – all respond

Required: Yes

Data collection level: Producer

Data collection frequency: Quarterly

Incentive structure

Data element name: Incentive structure 1-4

Reporting question: What are the units for the financial incentives provided to this producer?

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

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

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

Logic: None – all respond

Required: Yes

Data collection level: Producer

Data collection frequency: Quarterly

Incentive type

Data element name: Incentive type 1-4

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

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

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

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

Logic: None – all respond

Required: Yes

Data collection level: Producer

Data collection frequency: Quarterly

Payment on enrollment

Data element name: Payment on enrollment

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

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

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Full payment
- Partial payment
- No payment

Logic: None – all respond

Required: Yes

Data collection level: Producer

Data collection frequency: Quarterly

Payment on implementation

Data element name: Payment on implementation

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

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

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Full payment
- Partial payment
- No payment

Logic: None – all respond

Required: Yes

Data collection level: Producer

Data collection frequency: Quarterly

Payment on harvest

Data element name: Payment on harvest

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

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

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Full payment
- Partial payment
- No payment

Logic: None – all respond

Required: Yes

Data collection level: Producer

Data collection frequency: Quarterly

Payment on MMRV

Data element name: Payment on MMRV

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

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

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Full payment
- Partial payment
- No payment

Logic: None – all respond

Required: Yes

Data collection level: Producer

Data collection frequency: Quarterly

Payment on sale

Data element name: Payment on sale

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

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

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Full payment
- Partial payment
- No payment

Logic: None – all respond

Required: Yes

Data collection level: Producer

Data collection frequency: Quarterly

Field Summary

Unique IDs

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

Commodity type

Data element name: Commodity type

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

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

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values: FSA commodity list

Logic: None – all respond

Required: Yes

Data collection level: Field

Data collection frequency: Quarterly

Practice type

Data element name: Field practice type 1-7

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

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

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values: See list in Appendix A

Logic: None – all respond

Required: Yes

Data collection level: Field

Data collection frequency: Quarterly

Date practice complete

Data element name: Date practice complete

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

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

Data type: Date

Select multiple values: No

Measurement unit: MM/DD/YYYY

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

Logic: None – all respond

Required: Yes

Data collection level: Field

Data collection frequency: Quarterly

Contract end date

Data element name: Contract end date

Reporting question: Contract end date

Description: End date listed on the contract that enrolls the field in the project. If contract end date changes, submit updated end date during the next quarter's reporting.

Data type: Date

Select multiple values: No

Measurement unit: MM/DD/YYYY

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

Logic: None – all respond

Required: Yes

Data collection level: Field

Data collection frequency: Quarterly

MMRV assistance provided

Data element name: MMRV assistance provided

Reporting question: Was MMRV assistance provided?

Description: Was any MMRV assistance provided to the primary operator for this field? MMRV assistance includes in-field support for the use of technologies, consultation on data collection and input, and other support related to MMRV. MMRV is defined a measurement (calculations or estimations of GHG emissions), monitoring (ongoing review and confirmation that the climate-smart practice has been implemented according to the agreed upon standard and documentation of any changes in the site, implementation, or GHG emissions impacts over time), reporting (documenting and sharing monitoring and measurement results with project partners, the recipient, and any third-party verification organization), and verification (independent confirmation that measurement, monitoring and reporting information are complete, accurate and reliable).

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Yes
- No
- I don't know

Logic: None – all respond

Required: Yes

Data collection level: Field

Data collection frequency: Quarterly

Marketing assistance provided

Data element name: Marketing assistance provided

Reporting question: Was marketing assistance provided?

Description: Was any marketing assistance provided to the primary operator for the commodity(ies) produced from this field? Marketing assistance includes guaranteeing the sale of the commodity(ies), providing a platform for the sale of the commodity(ies), providing a label, branding, or other support related to marketing.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Yes
- No
- I don't know

Logic: None – all respond

Required: Yes

Data collection level: Field

Data collection frequency: Quarterly

Incentive per acre or head

Data element name: Incentive per acre or head

Reporting question: Is this field receiving a per-acre or per-head incentive?

Description: Is this field receiving an incentive payment to implement a specific CSAF practice or set of practices on a per-acre or per-head (livestock) basis?

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Yes
- No
- I don't know

Logic: None – all respond

Required: Yes

Data collection level: Field

Data collection frequency: Quarterly

Field commodity value

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

Field commodity volume

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

Field commodity volume unit

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

Cost of implementation

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

Cost unit

Data element name: Cost unit

Reporting question: What is the unit for cost?

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

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

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

Logic: None – all respond

Required: Yes

Data collection level: Field

Data collection frequency: Quarterly

Cost coverage

Data element name: Cost coverage

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

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

Data type: Integer

Select multiple values: No

Measurement unit: Percent

Allowed values: 0-100

Logic: None – all respond

Required: Yes

Data collection level: Field

Data collection frequency: Quarterly

Field GHG monitoring

Data element name: Field GHG monitoring 1-3

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

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

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

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

Logic: None – all respond

Required: Yes

Data collection level: Field

Data collection frequency: Quarterly

Field GHG reporting

Data element name: Field GHG reporting 1-3

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

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

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

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

Logic: None – all respond

Required: Yes

Data collection level: Field

Data collection frequency: Quarterly

Field GHG verification

Data element name: Field GHG verification 1-3

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

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

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

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

Logic: None – all respond

Required: Yes

Data collection level: Field

Data collection frequency: Quarterly

Field GHG calculations

Data element name: Field GHG calculations

Reporting question: What methods are used to calculate GHG benefits in this field?

Description: List the method(s) used to calculate GHG benefits in this field. If yes to direct physical measurements, submit result reports (see *Supplemental Data Submission – Field direct GHG measurement results*).

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:
- Models
- Direct field measurements
- Both

Logic: None – all respond

Required: Yes

Data collection level: Field

Data collection frequency: Quarterly

Field official GHG calculation

Data element name: Field official GHG calculation

Reporting question: What method was used to calculate the official GHG benefits in this field?

Description: List the method used to calculate the official GHG benefits in this field that are reported as part of the project's aggregate impact.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:
- Models
- Direct field measurements

Logic: None – all respond

Required: Yes

Data collection level: Field

Data collection frequency: Quarterly

Field official GHG ER

Data element name: Field official GHG emission reductions

Reporting question: What are the estimated total GHG emission reductions (CO2eq) in this field?

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

Data type: Decimal

Select multiple values: No

Measurement unit: Metric tons CO_2eq

Allowed values: 0-10,000,000

Logic: None – all respond

Required: Yes

Data collection level: Field

Data collection frequency: Quarterly

Field official carbon stock

Data element name: Field official carbon stock

Reporting question: How much carbon has been sequestered in this field?

Description: Estimated total change in carbon stock based on practice implementation in this field. This data element can be reported in any quarter and is cumulative for the year. Conversion rate is one ton of carbon = 3.67 tons of CO_2eq.

Data type: Decimal

Select multiple values: No

Measurement unit: Metric tons CO_2eq

Allowed values: 0-10,000,000

Logic: None – all respond

Required: Yes

Data collection level: Field

Data collection frequency: Quarterly

Field official CO2 ER

Data element name: Field official CO2 emission reductions	**Reporting question:** What are the estimated total CO2 emission reductions in this field?
Description: Estimated total carbon dioxide emission reductions based on practice implementation in this field that are reported as part of the project's aggregate impact. This data element must be entered upon practice completion or annually, as appropriate.	
Data type: Decimal	**Select multiple values**: No
Measurement unit: Metric tons CO_2	**Allowed values:** 0-10,000,000
Logic: None – all respond	**Required:** Yes
Data collection level: Field	**Data collection frequency:** Quarterly

Field official CH4 ER

Data element name: Field official CH4 emission reductions	**Reporting question:** What are the estimated total CH4 emission reductions in this field?
Description: Estimated total methane emission reductions based on practice implementation in this field that are reported as part of the project's aggregate impact. This data element must be entered upon practice completion or annually, as appropriate. Conversion rate is one ton of CH_4 = 25 tons of CO_2eq.	
Data type: Decimal	**Select multiple values**: No
Measurement unit: Metric tons CH4 reduced in CO_2eq	**Allowed values:** 0-10,000,000
Logic: None – all respond	**Required:** Yes
Data collection level: Field	**Data collection frequency:** Quarterly

Field official N20 ER

Data element name: Field official N2O emission reductions	**Reporting question:** What are the estimated total N2O emission reductions in this field?
Description: Estimated total nitrous oxide emission reductions based on practice implementation in this field that are reported as part of the project's aggregate impact. This data element must be entered upon practice completion or annually, as appropriate. Conversion rate is one ton of N_2O = 298 tons of CO_2eq.	
Data type: Decimal	**Select multiple values**: No
Measurement unit: Metric tons N2O reduced in CO_2eq	**Allowed values:** 0-10,000,000
Logic: None – all respond	**Required:** Yes
Data collection level: Field	**Data collection frequency:** Quarterly

Field offsets produced

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

Field insets produced

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

Other field measurement

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

GHG Benefits - Alternate Modeled

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

Commodity type

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

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

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

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

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

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

Practice type

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

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

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

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

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

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

GHG model

Data element name: GHG model

Reporting question: What model was used for alternate calculation of GHG benefits?

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

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

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

Logic: None – all respond

Required: If project calculates GHG benefits using multiple methods

Data collection level: Field

Data collection frequency: Annual

Model start date

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

Model end date

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

Total GHG benefits estimated

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

Total carbon stock estimated

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

Total CO2 estimated

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

Total CH4 estimated

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

Total field N20 estimated

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

GHG Benefits - Measured

Unique IDs

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

GHG measurement method

Data element name: GHG measurement method

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

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

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

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

Logic: None – all respond

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

Data collection level: Field

Data collection frequency: Annual

Lab name

Data element name: Lab name

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

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

Data type: Text

Select multiple values: No

Measurement unit: NA

Allowed values: Free text

Logic: None – all respond

Required: If applicable

Data collection level: Field

Data collection frequency: Annual

Measurement start date

Data element name: Measurement start date

Reporting question: On what date did the measurement start?

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

Data type: Date

Select multiple values: No

Measurement unit: MM/DD/YYYY

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

Logic: None – all respond

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

Data collection level: Field

Data collection frequency: Annual

Measurement end date

Data element name: Measurement end date

Reporting question: On what date did the measurement end?

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

Data type: Date

Select multiple values: No

Measurement unit: MM/DD/YYYY

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

Logic: None – all respond

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

Data collection level: Field

Data collection frequency: Annual

Total CO2 reduction calculated

Data element name: Total CO2 reduction calculated

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

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

Data type: Decimal

Select multiple values: No

Measurement unit: Metric tons CO_2

Allowed values: 0-10,000,000

Logic: None – all respond

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

Data collection level: Field

Data collection frequency: Annual

Total field carbon stock measured

Data element name: Total field carbon stock measured

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

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

Data type: Decimal

Select multiple values: No

Measurement unit: Metric tons CO_2eq

Allowed values: 0-10,000,000

Logic: None – all respond

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

Data collection level: Field

Data collection frequency: Annual

Total CH4 reduction calculated

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

Total N20 reduction calculated

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

Soil sample result

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

Soil sample result unit

Data element name: Soil sample result unit

Reporting question: What is unit for the soil sample result?

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

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

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

Logic: None – all respond

Required: If a project conducts soil samples in this field

Data collection level: Field

Data collection frequency: Annual

Measurement type

Data element name: Measurement type

Reporting question: What type of analysis was conducted for this soil sample?

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

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

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

Logic: None – all respond

Required: If a project conducts soil samples in this field

Data collection level: Field

Data collection frequency: Annual

Additional Environmental Benefits

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

Environmental benefits

Data element name: Environmental benefits

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

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

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Yes
- No
- I don't know

Logic: None – all respond

Required: Yes

Data collection level: Field

Data collection frequency: Annual

Reduction in nitrogen loss

Data element name: Reduction in nitrogen loss

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

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

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Yes
- No
- I don't know

Logic: Respond if yes to 'Environmental benefits'

Required: Yes

Data collection level: Field

Data collection frequency: Annual

Reduction in nitrogen loss amount

Data element name: Reduction in nitrogen loss amount

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

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

Data type: Decimal

Select multiple values: No

Measurement unit: Amount

Allowed values: 0-1,000,000

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

Required: Yes

Data collection level: Field

Data collection frequency: Annual

Reduction in nitrogen loss amount unit

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

Reduction in nitrogen loss purpose

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

Reduction in phosphorus loss

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

Reduction in phosphorus loss amount

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

Reduction in phosphorus loss amount unit

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

Reduction in phosphorus loss purpose

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

Other water quality

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

Other water quality type

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

Other water quality amount

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

Other water quality amount unit

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

Other water quality purpose

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

Water quantity

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

Water quantity amount

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

Water quantity amount unit

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

Water quantity purpose

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

Reduced erosion

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

Reduced erosion amount

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

Reduced erosion amount unit

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

Reduced erosion purpose

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

Reduced energy use

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

Reduced energy use amount

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

Reduced energy use amount unit

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

Reduced energy use purpose

Data element name: Reduced energy use purpose

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

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

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

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

Logic: Respond if yes to 'Reduced energy use'

Required: Yes

Data collection level: Field

Data collection frequency: Annual

Avoided land conversion

Data element name: Avoided land conversion

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

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

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Yes
- No
- I don't know

Logic: Respond if yes to 'Environmental benefits'

Required: Yes

Data collection level: Field

Data collection frequency: Annual

Avoided land conversion amount

Data element name: Avoided land conversion amount

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

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

Data type: Decimal

Select multiple values: No

Measurement unit: Amount

Allowed values: 0-1,000,000

Logic: Respond if yes to 'Avoided land conversion'

Required: Yes

Data collection level: Field

Data collection frequency: Annual

Avoided land conversion amount unit

Data element name: Avoided land conversion unit

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

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

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Acres
- Other (specify)

Logic: Respond if yes to 'Avoided land conversion'

Required: Yes

Data collection level: Field

Data collection frequency: Annual

Avoided land conversion purpose

Data element name: Avoided land conversion purpose

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

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

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

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

Logic: Respond if yes to 'Avoided land conversion'

Required: Yes

Data collection level: Field

Data collection frequency: Annual

Improved wildlife habitat

Data element name: Improved wildlife habitat

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

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

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Yes
- No
- I don't know

Logic: Respond if yes to 'Environmental benefits'

Required: Yes

Data collection level: Field

Data collection frequency: Annual

Improved wildlife habitat amount

Data element name: Improved wildlife habitat amount

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

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

Data type: Decimal

Select multiple values: No

Measurement unit: Amount

Allowed values: 0-1,000,000

Logic: Respond if yes to 'Improved wildlife habitat'

Required: Yes

Data collection level: Field

Data collection frequency: Annual

Improved wildlife habitat amount unit

Data element name: Improved wildlife habitat unit

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

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

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Acres
- Linear feet
- Other (specify)

Logic: Respond if yes to 'Improved wildlife habitat'

Required: Yes

Data collection level: Field

Data collection frequency: Annual

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

CSAF Practice Sub-questions

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

Table 11. Follow-on questions for select CSAF practices

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

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

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

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

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

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

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

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

Appendix A: Climate-smart Agriculture and Forestry Practices

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

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

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

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

Appendix B: Commodity List

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

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

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

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

I. Overarching Statement

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

II. Eligibility and Highly Erodible Lands and Wetlands Compliance

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

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

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

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

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

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

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

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

III. Other Environmental and Cultural Resources Reviews

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

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

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

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

IV. Producer Benefits

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

V. Producer Data Protection and Disclosure

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

VI. Other Data and Reporting Requirements

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

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

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

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

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

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

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

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

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

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

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

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

VII. Competition and Anti-Competitive Practices

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

VIII. Suspension and Disbarment

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

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

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

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

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

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

X. Non-Disparagement

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