



TO: Greenhouse Gas Protocol (GHGP)

FROM: Ecosystem Service Market Consortium (ESMC)/Ecosystem Services Market Research Consortium (ESMRC)

SUBJECT: ESMC/ESMRC Responses to GHGP Survey on Need and Scope for Updates or Additional Guidance: Market-based Accounting Approaches Survey Memo

DATE: March 14, 2023

This document presents ESMC’s general comments and responses to relevant questions (specifically 11-27, 35-40, 45-47) from the “Greenhouse Gas Protocol Survey on Need and Scope for Updates or Additional Guidance - Market-based Accounting Approaches Survey”. The responses below were submitted to GHGP and serve to inform members and partners on ESMC’s position.

Introduction

Thank you, GHGP, for continued opportunity for input, and in particular, your exploration of how market-based accounting approaches for GHGP guidance can further enable achievement of corporate carbon and GHG targets in a rigorous yet scalable manner, particularly within scope 3 accounting and reporting, which is the focus of ESMC’s market-based program.

About ESMC/ESMRC

ESMC/ESMRC is a non-profit public private partnership operating a pre-competitive consortium that enables collective action across agricultural supply chains to reduce scope 3 supply chain carbon and GHG emissions on working agricultural lands. Our science-based and outcomes-based program adheres to globally accepted accounting and reporting standards for quantifying market-based GHG and other environmental outcomes. Our program is based on partnerships that work with farmers and ranchers to finance and enable changes to their production systems that are quantified and verified in ESMC’s program to generate GHG emissions reduction outcomes and soil carbon removal outcomes. ESMC’s non-profit structure and co-investment model allows it to minimize programmatic costs, thereby maximizing payments and value to farmers and ranchers, as well as those who invest in quantified and verified ecosystem services impacts.

ESMC’s 70+ members include stakeholders across the entire agricultural supply and value chain, including corporations, environmental and conservation NGOs, foundations, industry associations, land grant universities and government partners. Our non-profit program also includes ESMRC, the



innovation and R&D arm of ESMC that improves and enhances ESMC's market program operations and generates ongoing cost- and resource- efficiencies and innovations.

ESMC's Eco-Harvest program

ESMC's market program, Eco-Harvest, generates reportable verified outcomes that corporations in the agricultural supply chain can use to document and claim annual increases in soil carbon (aka carbon removals) or reductions in GHG emissions. The outcomes are tracked in Eco-Harvest as supply chain impact units (IU) or emissions factors (EF). Validation and verification via SustainCERT's VCI program assure ESMC and our market program participants of the credibility and fungibility of these IU's and EF's for use in scope 3 supply chain accounting and reporting.

ESMC/ESMRC is an active partner in the [Value Change Initiative](#) (VCI) and in VCI's Food and Agriculture Working group. VCI provides a critical space for sectorally aligned participants to contribute to the co-creation and testing of definitions, principles and criteria around solutions to enable and achieve actionable agricultural supply chain outcomes consistent with and aligned with GHG Protocol standards. We would like to recognize and acknowledge VCI's leadership role in this area and note that we also took advantage of some of VCI's responses to this survey in crafting our own responses, given how aligned we are with their programming and collaborative engagement approach.

Finally, as an organization that operates solely to enable collective achievement of accurate scope 3 supply chain emissions reductions and removals, ESMC is in every response speaking about agricultural decarbonization, as reflective of our programmatic infrastructure, consortium, non-profit collective enabling environment, etc.

We do not believe that our approach or program fits neatly into the referenced proposals, market instruments or methodologies, and hope that our responses below will further elucidate how and why, as well as provide a helpful roadmap to how scientifically rigorous market-based accounting can support scope 3 agricultural supply chain efforts.

General ESMC Comments (submitted as 48. *other feedback*)

Market-based mechanisms use carbon pricing and market dynamics to provide incentives to accelerate decarbonization of activities. Correctly designed market mechanisms and programs with shared, scalable programmatic infrastructure and collective engagement operations can also be powerful tools to:

- reduce individual organizational burden, resource allocation needs and financial investments to achieve desired outcomes. This in turn will enable organizations to dedicate more resources and investments in direct activities and investments to achieve greenhouse gas emissions and increase carbon removals to achieve Net Zero;
- allow organizations earlier in their journey to tap market programs and infrastructure to enable more rapid engagement in achieving decarbonization than if they plan, resource and generate outcomes solely on their own;



- leverage public and private resources to support broad sectoral collaborations that scale beneficial outcomes faster and further than if individual organizations are required to act alone.

ESMC’s market-based program operates exclusively in agricultural supply chains, and generates outcomes that meet the accounting and reporting requirements of organizations for whom agriculture is in their scope 3 supply chain. ESMC’s deliberate market design and programmatic approach reflects our belief that neither offsets nor insets, as currently defined and executed, will allow “us” (the US agricultural sector and or members and stakeholders in the agricultural supply chains and value chains) to achieve Net Zero in the timescales necessary to mitigate dangerous climate impacts.

Offsets allow emissions to increase elsewhere, and thus do not represent absolute emissions reductions or removals. Absolute emissions reductions and removals are needed to achieve Net Zero. Because offsets can also cross jurisdictional and sectoral boundaries, they do not allow adequate and necessary achievement of emissions reductions and appropriate tracking of these reductions by jurisdictions and sectors, hampering our ability to ensure every jurisdiction and every sector is decarbonizing at the appropriate speed and scale necessary. Additionally, our experience to date has highlighted that natural climate solutions from agriculture are in high demand by other sectors and have become a targeted source of offsets from non-agricultural sectors such as oil and gas and technology sectors. Offsets from agricultural sources that are sold to other sectors and jurisdictions undermine the ability of actors in the agricultural supply chain to achieve their targets and commitments to achieve Net Zero and to decarbonize. The accountable emissions reductions and/or removals represented by the offsets sold also now count towards other sectors and jurisdictions – not towards the agricultural sector, and not towards the jurisdictions in which they were achieved. Continued use of (agricultural) offsets thus do not allow us to achieve Net Zero; undermine agricultural supply chain actors’ investments, strategies and opportunities to meet goals and commitments regardless of their actions; and skew jurisdictional and sectoral accounting to reflect true emissions reductions and removals achieved by jurisdictions and sectors.

Insets, which are frequently defined as offsets achieved within an organization’s supply chain, carry the same problems that offset carry- if one strictly applies this definition. Notably, there does not seem to be a commonly accepted definition of insets. The troubling issues that may or may not accompany the use of insets thus defined include:

- Do insets allow emissions to increase elsewhere, as do offsets? Or, like scope 3 supply chain reductions or removals, must they be absolute? The latter safeguards are preferable and necessary to achieve Net Zero.
- Do insets cross sectoral or jurisdictional boundaries, as do offsets? If they must occur in an organizations’ supply chain, as per the definition, supply shed and sectoral boundaries should not be crossed, which is a preferable and necessary safeguard to achieve Net Zero.
- Do insets represent tonnes GHG reduced or removed from any source, as do offsets? Or, like scope 3 supply chain reductions or removals, must insets be linked to specific commodities and



supply sheds and reported as intensity-based metrics, like scope 3 supply chain reductions and removals, which is a preferable and necessary safeguard to achieve Net Zero.

Finally, we note that the complexities of agricultural production, sourcing and traceability makes the sector unique from other sectors. Due to these complexities, we believe that both intervention and project level accounting are useful and required in combination to not only inform organizational decision-making but also to guide accounting and reporting standards and requirements and the actions and investments of organizations for whom agricultural supply chains are critical to setting and achieving Net Zero targets.

Feedback form questions and ESMC responses

Purpose

11. Is the current GHG inventory accounting approach for scope 1 and scope 3 effective in producing an accurate, complete, consistent, relevant, and transparent account of a company's GHG emission and removals associated with its operations and value chain? Yes

12. Please explain: Yes, the accounting approaches create an effective framework for scope 3 accounting and reporting, but additional actionable guidance and evolution of accounting and reporting principles for the agricultural sector in particular are necessary to address the complexities of agricultural production, sourcing and markets. Interventions and project-level accounting are necessary to move achieve emissions reductions and removals in agriculture, but the overlay with GHGP Land Sector and Removals Guidance (LSRG) and such issues as crop-specific baselines, diverse cropping cycles, intercropping, and allocational approaches are just two instances of challenges in accounting and reporting that require additional implementable solutions.

Making Scope 3 accounting approaches more actionable can catalyze climate action. For example, providing impact accounting options for organizations that do not yet have full traceability of their supply chain could enable them to join an operational program to immediately invest in emissions reductions and removals and to begin the journey to increased traceability over time. We recognize that verifiable requirements are needed to improve the accuracy and integrity of scope 3 inventory accounting and reporting as sectors and strategies mature.

13. Do you think there is a need for market-based accounting approaches related to scope 1 reporting? Yes.

14. Please explain. Market-based accounting approaches related to scope 1, such as the use of offsets, can enable immediate emissions reductions while long-term capital investments and turnover allow Net Zero strategies to also be achieved by individual organizations. Done correctly, they can also contribute to appropriate infrastructure development and emissions reductions in developing country or countries in transition that are globally beneficial.



15. If yes, what would be the purpose or objectives for incorporating market-based accounting approaches in scope 1 GHG emission reporting? Please explain. ESMC believes scope 1 reporting should conceivably limit or omit the use of offsets that do not account for absolute emissions reductions or removals and that allow emissions to rise elsewhere. Further, at least in industrialized country settings, the ability of offsets to cross jurisdictional boundaries should be limited to cases where developing or middle-income countries benefit from investments from industrialized countries only. Finally, offsets should not cross sectoral boundaries, or should have limited criteria for doing so. Additionally, an organization's ability to use offsets in scope 1 should be linked to the financial investments and long-term strategies the organization is making to decarbonize their own scope 1 emissions and not allow investments in offsets to replace those investments. Otherwise, the use of offsets can deflect the investments required for organizations to decarbonize and achieve Net Zero in scientifically appropriate timeframes.

16. Do you think there is a need for market-based accounting approaches related to scope 3 GHG reporting? Yes

17. Please explain. Scope 3 GHG reporting can greatly benefit from well-designed market-based approaches that provide incentives to accelerate decarbonization of activities. Correctly designed market mechanisms and programs with shared, scalable programmatic infrastructure and collective engagement operations can also:

- reduce individual organizational burden, resource allocation needs and financial investments to achieve desired outcomes. This in turn will enable organizations to dedicate more resources and investments in direct activities and investments to achieve greenhouse gas emissions and increase carbon removals to achieve Net Zero;
- allow organizations earlier in their journey to tap market programs and infrastructure to enable more rapid engagement in achieving decarbonization than if they plan, resource and generate outcomes solely on their own; and
- leverage public and private resources to support broad sectoral collaborations that scale beneficial outcomes faster and further than if individual organizations are required to act alone.

18. If yes, what would be the purpose or objectives for incorporating market-based accounting approaches in scope 3 GHG emission reporting? Please explain.

Market-based accounting approaches in scope 3 GHG emissions reporting can incentivize collaboration, collective action, and shared investments, which in turn can enable faster action at larger scales. Market-based mechanisms that drive primary data collection where available and possible will improve overall scope 3 accounting and reporting outcomes by showing actual emissions factors that are linked to commodities and supply sheds.

In the agricultural sector in particular, business dynamics and market demands create annual and interannual volatility in quality, sourcing and availability of commodities. Collaborative market-based programs and methodologies allow co-investments in interventions that impact the scope 3 inventory of



companies sourcing from the same region or supply shed. Well-designed market programs and programmatic infrastructure can ensure the appropriate distribution of the right to claim is linked to investments and actions, which in turn will incentivize additional investments and actions.

Accounting Approach

19. Do you think that market-based accounting approaches ensure that emission reductions reporting in a company's GHG inventory correspond to a reduction in emissions in the atmosphere? Yes

20. Please explain. The ability to ensure that emissions reductions reporting in a company's GHG inventory correspond to reductions in emissions in the atmosphere will require appropriate safeguards. If scope 3 market mechanisms are used and appropriately quantified, verified and monitored to prevent inappropriate double-counted and free-riding- then yes, absolutely.

21. If yes, how do they ensure consistency between company and global emission reductions? Please explain. A currently non-existent global C ledger would support this ability best. In its absence, current GHG Protocol accounting and reporting that includes safeguards against inappropriate double-counting and improved accounting and reporting methodologies can incentivize action and act to track and monitor claims. Over time these systems can and will improve to the point where consistency between company and global emissions reductions will improve and create greater assurances. The inability to achieve that now, with certainty, should not limit action that can incentive necessary actions, investments and interventions now.

22. Could current or new market-based approaches be designed to ensure that emission reductions reported in a company's GHG inventory correspond to a reduction in emissions to the atmosphere? Yes

23. Please explain. Properly done, corporate GHG inventories and emissions reductions reported and claimed can and will reflect and correspond to reductions in emissions to the atmosphere. That is the purpose of corporate inventory setting and goals, commitments and interventions to achieve reductions. However, due to questions raised about offsets and insets (see also ESMC's general comments on this topic) we suggest that market-based approaches in scope 3 supply chain programs are the approaches most likely to achieve reductions in emissions to the atmosphere that correspond to reductions reported in a company's GHG inventory. If such reductions are appropriately quantified, verified and monitored and tracked to ensure no inappropriate double-counting occurs, the reductions should correspond – if not exactly, then increasingly over time as accounting and reporting approaches and methodologies improve and as global tracking mechanisms increasingly align.

24. If so, how? For which types of market instruments and approaches? Due to questions raised about offsets and insets (see ESMC's general comments on this topic) we suggest that market-based approaches in scope 3 supply chain programs are the approaches most likely to achieve reductions in emissions to the atmosphere that correspond to reductions reported in a company's GHG inventory. If such reductions are appropriately quantified, verified and monitored and tracked to ensure no inappropriate double-counting occurs, the reductions should correspond – if not exactly, then



increasingly over time as accounting and reporting approaches and methodologies improve and as global tracking mechanisms increasingly align. The means to ensure accuracy and correspondence is to ensure accounting and reporting is verified as being materially correct by appropriate bodies.

25. If market-based accounting approaches are used, what accounting methodology should be used to account for them (e.g. inventory method, project/intervention method, combination of the two methods, or other method)? Why? In the agricultural sector the complexities related to land use and crop and livestock production require that both inventory and project/intervention accounting methodologies are required in concert. Interventions and outcomes-based project accounting methodologies are required to ensure that the necessary strategies and systems changes are occurring to reduce greenhouse gas emissions and increase removals in ways that are intentional, quantified, monitored and verified. Without project and intervention accounting it is difficult to determine whether intentional interventions and outcomes are planned, executed, quantified and monitored to ensure corporations are moving towards and achieving Net Zero; and it is difficult to attribute them to the actions and investments of individual companies or those working collaboratively in concert. Inventory-based accounting in agriculture and land use is for the most part not granular enough to identify what changes are reducing GHG emissions and increasing removals with any level of certainty; allows for business-as-usual scenarios to continue; and removes important attribution to ensure corporates are investing in actionable outcomes that can be tracked. When interventions and project-level actions are undertaken, project/intervention accounting ensures proper quantification, tracking and attribution of the actions and the outcomes. The inability to attribute outcomes removes corporate-level impetus and need to act and invest, and thus undermines the intent of scope 3 accounting and reporting that requires corporates to transparently report.

26. If market-based accounting approaches are quantified using project/intervention methods relative to counterfactual baseline scenarios, can they be integrated into GHG inventory methods to calculate scope 1 and scope 3 emissions? Yes

27. Please explain your selection. You may enter brief comments here or submit a more detailed proposal using the proposal template. Because ESMC's program operates to achieve scope 3 agricultural supply chain reductions and removals, this response is limited to scope 3. Yes, properly designed market-based accounting approaches that use project/intervention methods relative to counterfactual baseline scenarios can be integrated into inventory methods to calculate scope 3 emissions. Project level accounting linked to primary data sources at the field and farm scale, and properly allocated to commodities on an intensity-based approach can replace emissions factors used in underlying corporate GHG inventories. Clearly defined boundaries determining the sources and sinks included in the resulting impact units, and assurances that they represent the volume of commodity to which they are attributed, and to the supply shed of origination, will allow appropriate integration into corporate inventories.

The benefit of project intervention methodologies, as used by ESMC, is that they promote intentional practice and systems changes known to increase soil carbon stocks (removals) and reduce GHG



emissions in a manner that is quantified annually, based on baseline and project or intervention accounting. Additionally, ESMC's approach for project intervention methodologies uses primary data from producers whenever possible, collected at the field scale.

Role in corporate GHG reporting

35. Please select which of the following options best represents how you think supply shed/value chain interventions should be accounted for within corporate GHG inventory reporting. Please select all that apply:

- e. Used to calculate scope 3 emissions

36. Please explain. Value chain interventions should be reported and integrated into scope 3 inventory and used to calculate scope 3 emissions. Scope 3 value chain interventions should not be accounted for separately but should be included in scope 3 reporting to strengthen and incentivize the improvements of accounting practices and to incentivize interventions. If value chain interventions can be appropriately reported in multiple companies' inventories and co-claiming can be supported companies will be incentivized to collaborate where their supply chains are linked, enabling greater shared action and thus achievement of desired outcomes.

Due to the market and sourcing dynamics of agriculture, these approaches can de-risk companies' investments in scope 3 interventions by sharing investments across collective sourcing regions while still using project/intervention accounting that is linked to supply sheds and commodities.

By enabling corporates to link causality of their actions to accounting and reporting that allows claims and progress to be portrayed, the process will incentivize continued and increased action rather than limiting or subduing action and necessary investments. This further incentivizes investments in improved data quality and traceability, leading to scale as more and more companies are incentivized to act, and solutions and investments increase.

37. Please select which of the following options best represents how you think mass-balance certification approaches should be accounted for within corporate GHG inventory reporting. Please select all that apply.

- e. used to calculate scope 3 emissions

38. Please explain. Mass-balance approaches should be included in scope 3 (option E) provided the right safeguards are included. Concretely, and in the context of imperfect traceability, causality is a crucial safeguard as it supports interventions and change driven by and attributable to individual companies or companies investing and acting collectively and with intentionality. Leveraging mass-balance certification approaches also can provide pathways to transition organizations early in the stages of interventions or for whom implementing intervention strategies are not clear. These emissions should be accounted for and used in reporting and claims to further incentivize accounting methodology improvements over



time. Appropriate safeguards that promote interventions and market-based mechanisms can enable scaled value chain emissions reductions and removals.

39. Please select which of the following options best represents how you think book-and-claim certification should be accounted for within corporate GHG inventory reporting. Please select all that apply.

b. Reported in a GHG inventory report, separately from scope 1 and/or scope 3 emissions, to provide transparency and context on actions the company is taking to reduce emissions (similar to reporting avoided emissions or impacts of specific actions separately from scope 1, 2 and 3 emissions).

40. Please explain. Book and claim approaches should be reported separately and leveraged as narrative claims. Because book and claim approaches do not require any form of physical linking of emissions information to goods or to volumes of goods, the system would greatly increase the uncertainty that specific goods are volumes of goods are linked to emission reductions or increased removals claims.

45. Would market-based accounting approaches be appropriate for some sectors but not others? (e.g. electricity, natural gas/biomethane, aviation fuels (SAF), oil, agricultural commodities, transport/shipping, hydrogen, steel, aluminum, and others.) What are the differences between sectors or conditions that would make it appropriate or not appropriate? Please explain.

It is quite possible, yes, but our response is limited to the agricultural sector and agricultural commodities, in which we believe appropriately designed market-based accounting approaches are appropriate and necessary to achieve scale in a timely manner. In the agricultural sector in particular, business dynamics and market demands create annual and interannual volatility in quality, sourcing and availability of commodities. Collaborative market-based programs and methodologies can enable co-investments in interventions that impact the scope 3 inventory of companies sourcing from the same region or supply shed. Well-designed market programs and programmatic infrastructure can ensure the appropriate distribution of the right to claim is linked to investments and actions, which in turn will incentivize additional investments and actions.

46. The GHGP sets standards but does not administer any program (e.g. disclosure or target-setting). Given several programmatic considerations such as those listed above, would market-based approaches be more effectively implemented by GHG target setting or reduction programs or regulatory bodies, rather than by the GHG Protocol, in order to provide additional rules and decisions as well as ensure their administration, verification, and enforcement? Yes.

47. Please explain. A role division between organizations according to their priorities and positioning for increased efficiency is needed. For example, standard setting organizations could focus on standard setting while other organizations could focus on ensuring appropriate quality assurance, quantification, monitoring, verification and enforcement.

While GHG Protocol primarily focuses on setting standards, it can and should also explore alliances and alignment with governmental organizations to ensure that across programming the use of GHG protocol



guidance, hierarchy and criteria are consistently used and applied. This could ensure standardization and harmonization of accounting and reporting standards and alleviate governmental development of new standards not aligned with private sector requirements. Such alignment will ensure the ability to leverage critical public and private sector resources.

Other

48. Do you have any other feedback? See General ESMC Comments above.