A reporting statement for corporate mitigation intervention impacts

"What is GHG Accounting?"
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Executive Summary

Current corporate greenhouse gas (GHG) accounting faces a fundamental disconnect between corporate actions and reported outcomes, as current Scope 3 and market-based inventory methods are often insensitive to specific mitigation efforts. To address this, we propose, as part of a multi-statement corporate GHG reporting framework, the **Mitigation Intervention statement** to credibly quantify and report the impacts of corporate climate actions.

1 The Multi-Statement Solution

The proposed framework acknowledges that no single metric can serve all GHG accounting needs. While a Physical Inventory statement tracks absolute emissions reductions within clearly defined boundaries, the Mitigation Intervention statement allows companies to report "Beyond-Inventory Mitigation" (BIM). This approach shifts the framing from "compensation" or "offsetting" to "contribution," where actions taken outside a company's inventory complement rather than substitute for internal emission reductions.

2 Consequential vs. Allocational Accounting

A key distinction of the Mitigation Intervention statement is its reliance on consequential accounting methods. Unlike allocational (inventory) methods that measure absolute changes over time, consequential methods isolate the causal effect of an intervention by comparing actual outcomes to a counterfactual baseline scenario. This process identifies "avoided emissions" or "enhanced removals" resulting specifically from the intervention.

3 Eligibility Principles

To ensure credibility and prevent greenwashing, the statement only recognizes interventions that meet two core eligibility principles:

- **Ambitious:** In keeping with the concept of additionality, the action must represent a significant deviation from "business as usual," imposing a significant opportunity cost on the company (e.g., increased procurement costs or foregone profit).
- **Quantifiable:** The impacts must be measured using scientifically supported methods and be limited to interventions with short, direct causal chains where the effects are clearly attributable to the action.

4 Reporting and Goal Setting

The framework distinguishes between "targets" (for inventory reductions) and "contribution goals" (for intervention impacts). Contribution goals reflect a company's capacity and size—such as revenue or profit—rather than being linked to its physical inventory totals, which helps avoid the perception that interventions are being used to "buy one's way out" of internal reductions.

5 Governance and Verification

For the Mitigation Intervention statement to be trusted, it must be supported by institutional governance. This includes:

- **Review and approval** of intervention types to ensure they meet "ambitious" and "quantifiable" criteria.
- **Standardized methodologies** for baseline setting and impact quantification.

- **Independent verification** (*ex post*) of reported impacts to confirm actual implementation and appropriate application of accounting rules.

Ultimately, the paper argues that resources currently spent on unreliable Scope 3 estimates would be better utilized in identifying and quantifying high-impact mitigation interventions through this rigorous, complementary framework. This paper is intended to support the work of the GHG Protocol's Actions and Market Instruments (AMI) Technical Working Group (TWG), future work by the Taskforce for Corporate Action Transparency (TCAT), as well as other initiatives. Draft Mitigation Intervention statement reporting tables are provided in an annex.

1 INTRODUCTION

1.1 The problem with current corporate GHG accounting

In the context of voluntary corporate climate action and reporting, a fundamental disconnect has emerged between what companies do and what existing corporate GHG reporting frameworks support them to credibly report. Companies want to take on targets they have a realistic hope of achieving and to receive recognition for taking meaningful mitigation actions in their company, value chains, and beyond. Meanwhile, stakeholders—including investors, customers, policymakers, and civil society—want to identify which companies are demonstrating genuine climate leadership and superior GHG performance. Unfortunately, the current corporate GHG accounting paradigm, hobbled by unfit Scope 3 and market-based inventory thinking, has proven inadequate to meet either of these needs (Broekhoff and Gillenwater, 2024; M Gillenwater, 2024).

> *Voluntary corporate action is a powerful tool for achieving global GHG mitigation. This tool operates primarily through public recognition of corporate climate leaders (e.g., corporate "net zero"). Such recognition depends on reported corporate GHG metrics to identify genuine climate leaders. Yet the corporate GHG inventory accounting and reporting standards underpinning these metrics are currently unfit for this purpose. Therefore, we need both to reform existing inventory standards to better establish accountability AND to complement them with a new consequential impact standard and statement specifically designed for corporate mitigation contribution reporting.*

This paper builds upon previous installments of this series, which elaborate on how current Scope 3 and market-based approaches to corporate GHG inventorying suffer from critical flaws that undermine their usefulness for reporting and recognizing meaningful corporate climate action.[1] Most fundamentally, Scope 3 estimates are based on subjective accounting boundaries, are insensitive to the impacts of most corporate mitigation actions, and do not provide meaningful relative comparisons of performance (e.g., have emissions in a company's value chain actually declined over time, or has a company accomplished more mitigation impacts than a competitor company?).[2] When value chain emissions are calculated using industry or sectoral averages through spend-based input-output methods, the resulting data provides little meaningful information for identifying and undertaking mitigation actions. While such crude estimates may suggest large structural changes—such as material replacement, reduction, or elimination—they cannot capture the nuanced impacts of choosing one supplier over another or implementing specific mitigation interventions with supply chain partners.

[1] Even perfectly accurate allocational (i.e., inventory) GHG accounting methods, including those used for corporate reporting of Scopes 1 & 2, will have the general property of failing to reflect the effect of actions when those effects occur outside the inventory boundary.

[2] CDP says the purpose of Scope 3 reporting is to "drive interventions that can actually reduce emissions…that's the key thing" [https://www.youtube.com/watch?v=2-rLVHMJ_Zo] [timestamp 1:07]. We have argued that, unfortunately, Scope 3 is not fit for that purpose.

These types of procurement and intervention decisions require consequential accounting methods that can isolate causal effects.

The insensitivity of Scope 3 accounting creates a perverse situation—companies invest significant resources in collecting data and producing value chain emission estimates that are not representative of their specific situation and fail to reflect their actual mitigation efforts. This disconnect between action and recognition fundamentally dilutes the incentive driving voluntary corporate climate action. Companies that work with suppliers to reduce emissions, such as by making green procurement commitments or investing in supply chain decarbonization, often find their efforts invisible in their reported Scope 3 totals, which rise simply because the company is spending more.

In an attempt to address this disconnect, companies turn to market-based approaches. But these market-based approaches applied within GHG inventory accounting—such as the use of renewable energy certificates (RECs) and other environmental attribute certificates (EACs)—have justifiably faced decades of critique. The fundamental problem is that these market-based approaches to inventory GHG accounting are both blind to whether and how much actual mitigation impact occurs, relative to scenarios without these market mechanisms, and are a misleading and inappropriate way of allocating responsibility for emissions to companies in a voluntary reporting context. By treating market-based instruments as inventory adjustments rather than interventions with quantifiable impacts, existing market-based approaches expose companies to valid accusations of greenwashing and evasion of moral responsibility.

1.2 The missing framework for consequential reporting

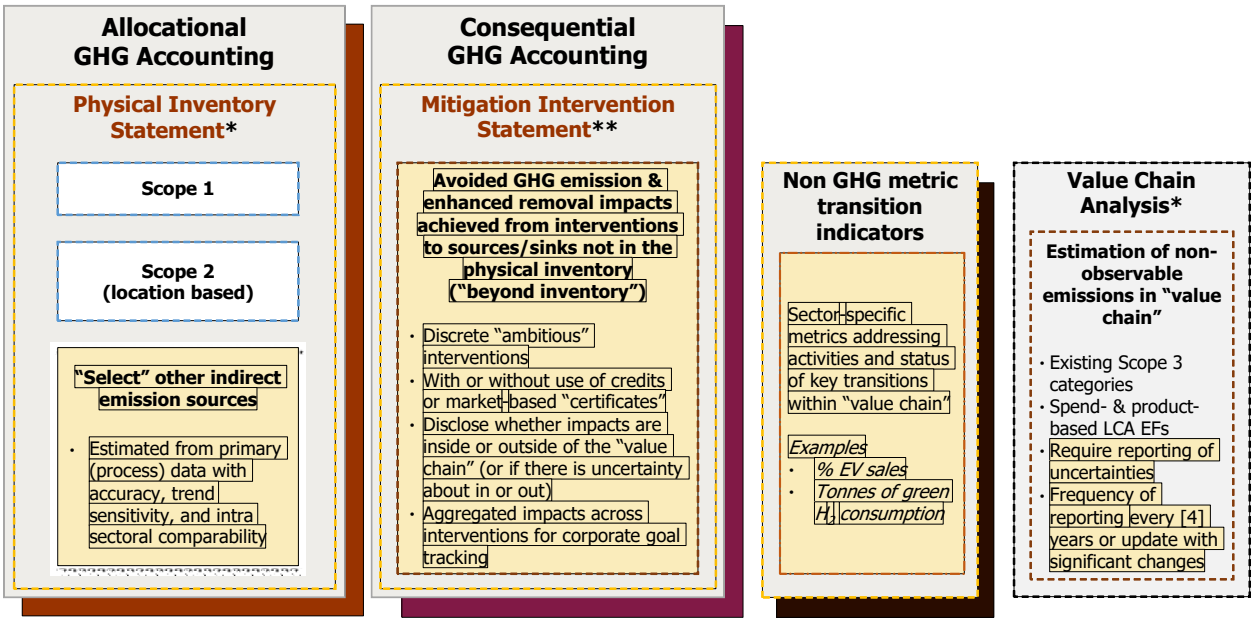
Although guidance exists for assessing GHG impacts of individual projects (e.g., the GHG Protocol Project Protocol and ISO 14064-2, which largely derive from the UNFCCC Clean Development Mechanism) and for evaluating much larger-scale policies (e.g., the GHG Protocol Policy and Action Standard), **there is currently no recognized corporate reporting framework based on consequential methods for quantifying, aggregating, and reporting the total GHG impacts of multiple corporate mitigation actions**.[3] This gap has driven companies to push for ways to claim credit for their value chain actions using corporate GHG inventory accounting rules, as it has been the only recognized venue for such claims. The result has been a proliferation of contested market-based inventory approaches that attempt to shoehorn intervention impacts into an allocational accounting framework where they do not belong (Michael Gillenwater, 2025a).

1.3 The multi-statement solution and the Mitigation Intervention statement

This paper elaborates the Mitigation Intervention statement, one component of the multi-statement corporate GHG reporting framework introduced in Installment N.5, Installment N.7, and Installment N.7bis of this series (Figure 1) (Broekhoff and Gillenwater, 2024; M Gillenwater, 2025a, 2025b). This

[3] Although the GHG Protocol corporate standard does recommend companies use the Project Protocol to quantify the impacts of individual mitigation actions, it does not provide a framework for aggregating and reporting (see pg. 61).

multi-statement framework recognizes that no single corporate GHG metric can serve the diverse purposes for which corporate GHG accounting is needed. Different types of information—captured through different accounting methods and statements—are needed to support different intended uses. Even for corporate target setting, a single metric in the form of a GHG Protocol corporate GHG inventory has proved insufficient—as is increasingly recognized by the Science Based Targets Initiative (SBTi), the Taskforce on Corporate Action Transparency (TCAT), and others (TCAT, 2025a, 2025b).



Note: Shaded areas indicate new elements relative to existing corporate GHG reporting practice.
* Emissions and removals reported separately
** Consequential methods applied. Avoided emissions and enhanced removals reported separately, *ex post*, and annually.

Figure 1. Illustration of proposed multi-statement corporate GHG reporting

The Mitigation Intervention statement, elaborated in this paper, specifically addresses the need for companies to quantitatively evaluate the efficacy of their mitigation investments and other actions (see Box 1). Its intended uses include:

- **Quantitatively evaluating mitigation interventions**: Providing a framework to quantify, aggregate, and report the GHG impact of multiple corporate actions that affect sources and sinks beyond inventory boundaries, using consequential accounting methods
- **Driving effective mitigation investments**: Recognizing the magnitude of impacts from corporate interventions so as to recognize, and thereby reward, ambitious corporate climate action affecting sources and sinks outside a company's Physical GHG inventory
- **Tracking contribution goals**: Separate from their GHG inventory reduction targets, guiding companies in setting and tracking progress toward contribution goals (i.e., tonnes CO_2-eq.) that reflect their additional support for achieving global net-zero emissions.

Importantly, the Mitigation Intervention statement is not intended for purposes such as evaluating relative GHG performance of products and services (which requires product-level, not corporate-level

metrics), measuring companies' climate risk exposure, or evaluating sector-level GHG performance of industries as a whole. These intended uses require their own metrics that have been intentionally designed to provide meaningful results to inform product choices, risk assessments, and sectoral emissions budgeting.

Box 1. Different intended uses by corporations for consequential methods

Consequential GHG accounting methods have three general use cases in the context of corporate climate action.

1. **To inform internal planning, decision-making, and target-setting purposes.** Quantifying the avoided emissions impacts of mitigation interventions primarily addressing sources of emissions accounted for in the corporate GHG inventory. Although emissions from these sources are already tracked by a company's inventory over time, consequential analysis can be used to isolate the effect of a specific intervention option both on sources within and beyond its corporate GHG inventory boundary. These results can then be paired with the data on the net incremental cost of the intervention to produce a mitigation cost estimate and a cost per tonne of avoided emissions. The latter can then be compared to other interventions (i.e., mitigation options). Such an exercise is the proper approach for building a corporate climate action plan and informing at what level to set corporate-wide emissions inventory reduction targets (i.e., what target should be set so that it is in keeping with a company's willingness to spend on climate action). This use case often does not involve external reporting.
2. **To create tradable carbon credits representing avoided emissions claims.** Carbon credit issuing programs are an established use case for consequential (i.e., project-level) methods. Such avoided emissions claims should derive from impacted sources outside of the company's inventory boundaries.
3. **To make corporate intervention impact contribution claims separate from internal corporate inventory reporting and target tracking.** There is a wide range of mitigation interventions, other than purchasing carbon credits, that a company may make for the purpose of contributing to the mitigation of global GHG emissions. These are avoided emission impacts on sources and sinks that are outside of the intervening company's Physical GHG inventory boundaries. These are intervention impact claims that are intended to be externally communicated by the company engaging in the intervention.

This paper and the Mitigation Intervention statement focus on the third intended use of consequential methods.

1.4 Complementary frameworks

The multi-statement framework we outline acknowledges a fundamental reality: corporate activities simultaneously emit GHGs that harm the climate—for which they should be allocated responsibility for reducing using a Physical Inventory statement—and take actions affecting sources and sinks beyond their inventory that contribute to global mitigation—accounted for in their Mitigation Intervention statement. Further, we recommend that the Mitigation Intervention statement be grounded in a

"contribution" framing for climate action—not a compensation or offsetting framing (Chagas et al., 2025; Fearnehough et al., 2023; Michael Gillenwater, 2024). Therefore, there is no claim of offsetting, counterbalancing, netting, or neutralizing. Such claims provoke moral skepticism because of the connotation with buying one's way out of taking responsibility for "reducing your emissions." Instead, beyond-inventory mitigation contributions apply a different (consequential) accounting method than the one applied for the Physical inventory statement (allocational). The two methods measure different things (i.e., emissions vs. avoided emissions), and so should not be subtracted from or added to each other to produce a physical measurement.

Companies should therefore set aggressive reduction targets for emissions within their Physical Inventory boundaries and work to achieve them through internal mitigation actions. Separately, they should set contribution goals for avoiding emissions and enhancing removals across and beyond their value chains, through mitigation interventions, and report progress against these goals through the Mitigation Intervention statement. Corporate climate leadership recognition programs, such as SBTi, can then evaluate companies based on their performance across both dimensions of climate action, as well as other robust non-GHG global net zero transition indicators where applicable.

1.5 A focus on "Beyond-Inventory Mitigation" (BIM)

With one exception, the Mitigation Intervention statement is intended only for reporting avoided emissions and enhanced removal impacts (see Box 2) that occur in sources and sinks that are outside of the intervening company's Physical Inventory, which we refer to as "beyond inventory mitigation" (BIM). These impacts may occur within what is conventionally defined as a company's value chain. (As discussed in Broekhoff and Gillenwater (2024) and Gillenwater (2025c), corporate GHG inventories used for target setting and tracking should be constructed using more delimited, fit-for-purpose boundaries, versus an expansive and opaque concept of a value chain.)

In short:

- Companies should take responsibility for emissions (and removals) within clearly defined inventory boundaries and set targets for reducing (increasing) them over time. Companies will therefore need to implement mitigation activities that address GHG sources included in their Physical Inventory that will support meeting their reduction targets. The overall effects of these mitigation activities (i.e., "internal interventions") are reflected in the reductions in companies' reported emissions in their GHG inventories over time.[4]
- In addition, companies can and should set goals for how much (in tonnes CO_2-eq.) they will further contribute to global mitigation through their BIM interventions.

The key distinction between the Physical Inventory and Mitigation Intervention statements is inventoried responsibility (with clear boundaries and visible lines of accountability) versus broader mitigation contribution opportunities (which occur beyond these lines).

[4] With the caveat that inventory methods will not reflect actions that have "spillover" effects outside of the corporate inventory boundaries (or within inventory boundaries where methods are insensitive to these effects). It is therefore prudent to assess such "internal" mitigation actions to confirm they are unlikely to increase emissions in these out-of-boundary or insensitive emission sources and sinks. See, for example, (Brander, 2022).

The one exception is where Physical Inventories include emissions from activity pools (see Box 3). Because it is not possible (by definition) for specific sources within an activity pool to be allocated to individual end users, the effects of mitigation interventions within an activity pool will (typically) not result in a noticeable change in an end user's Physical Inventory. Therefore, mitigation interventions within an activity pool that overlaps with a company's value chain may still be treated as BIM interventions, and their impact on emissions may be reported in the company's Mitigation Intervention statement. This implies that a company's Physical Inventory represents the average emissions from the activity pool, while the company's reported impacts within the activity pool are reported in the Mitigation Intervention statement. This approach should not be viewed as double-counting because, as noted in section 1.4, the emissions and avoided emissions, respectively, are reported in separate statements with separate targets and goals.

Box 2. What are avoided emissions?

In the product life-cycle assessment (LCA) community, it is common to apply an underinclusive definition of "avoided emissions" as only related to the differences in life-cycle emissions between two products. This perspective is associated with frameworks such as ISO 14044 or the GHG Protocol Product Standard. However, we define the term both in a broader and more technically precise manner as a change in emissions caused by any form of mitigation intervention relative to a baseline scenario in which that intervention does not occur (Michael Gillenwater, 2025b). This definition separates GHG accounting results derived from consequential methods from those derived from allocational (inventory) methods. To establish clear distinctions, we reserve the term "emission reduction" for the decrease in an entity's physical inventory over a period of time, whereas we refer to "avoided emissions" as the causal impact of an intervention compared to an alternative scenario at the same point in time.

Box 3. What is an activity pool?

In the context of allocational or GHG inventory accounting, an activity pool is defined as a common set of emission sources with processes that physically serve (i.e., are connected via matter or energy flows) to an accounting subject (e.g., company), where traceability from the specific physical source of emissions to a specific accounting subject is not possible (Brander and Bjørn, 2023; Gillenwater, 2023a). The most well-known activity pool is a shared electricity distribution grid, along with the generators connected to it. But other examples include natural gas pipeline networks, agricultural and raw material commodities, and waste management systems used for the disposal of sold products. Because consumption or production of products or services by companies from an activity pool is from a mixture that cannot be differentiated with respect to its upstream or downstream processing, emissions are logically allocated based on the average emissions intensity (i.e., emission factor) of that pool. Any other allocation rule would presume exclusive physical traceability exists, when in truth it does not, or would allow emissions to be reallocated between companies based on purely financial or contractual arrangements that are disconnected from physical association.

1.6 Addressing concerns about consequential methods

Some may argue that consequential methods are subject to inherent and intractable uncertainties and should not be used for recognizing and comparing corporate efforts to mitigate GHG emissions. We disagree. While any method that assesses changes relative to a counterfactual baseline entails uncertainties, it is not true that we are never able to produce quantified intervention impact estimates with reasonable levels of confidence for any type of intervention.

The presence of uncertainty does not automatically disqualify information from being decision-useful. As established in measurement theory and impact evaluation literature, the relevant question is not whether estimates are perfectly certain, but whether they are sufficiently reliable to inform decisions and differentiate meaningful performance changes (Ferraro, 2009; Ferraro and Hanauer, 2014). A result can be uncertain yet still provide valuable information if the uncertainty range is quantified and disclosed, and the signal-to-noise ratio allows meaningful distinctions (Morgan and Henrion, 1990).[5] The GHG Protocol Project Standard and Policy and Action Standard—which provide a framework for applying consequential methods, including baseline setting, impact attribution, and uncertainty assessment—recognize this point, noting that "reasonable" confidence rather than perfect accuracy and precision is appropriate for project-level and policy impact GHG accounting (WRI, 2014; WRI/WBCSD, 2005). The proposed Mitigation Intervention statement can be viewed as an extension of these two existing GHG Protocol standards for corporate voluntary reporting.

Further, for corporate climate leadership recognition, a mitigation intervention reported to have avoided emissions of 100,000 tCO_2e during a given year with ±40% uncertainty may provide more decision-useful information than year to year Scope 3 estimates that are quantitatively insensitive to actual changes in real-world emissions. As discussed in Brander (2017) and Broekhoff and Gillenwater (2024), the current LCA and spend-based method approach to Scope 3 generally fails to be sensitive to the causal effects of corporate actions intended to reduce Scope 3 emissions because they instead produce unrepresentative and crude estimates that only reflect static sectoral averages.

While both inventory and consequential methods have uncertainties, the latter produces results fundamentally aligned with a type of information desired (i.e., identifying which corporate mitigation actions should be recognized as especially laudable and approximating the magnitude of impacts achieved). The GHG accounting standard setting and GHG program design question is then how much uncertainty is acceptable for the intended use of corporate reporting? Admittedly, it is unlikely that we can say with a high level of confidence that one intervention had 5% more impact than another intervention. But for many types of mitigation interventions, although certainly not all, we should be able to apply consequential estimation methods that allow us to confidently distinguish mitigation interventions with impacts that differ by an order of magnitude. This is why the Mitigation Intervention

[5] Assessing uncertainty will typically involve some expert judgement, given the counterfactual nature of quantifying *ex post* baseline scenario emissions. Information on estimate uncertainty itself can also be decision-relevant information *ex ante*, for example, choosing between two mitigation options with similar central estimates for their expected mitigation impact, but one has significantly lower uncertainty.

statement only accounts for interventions that are deemed to be "quantifiable" (i.e., sufficiently reliable baseline scenarios and impact estimation methods are available – see section 2.2.2).

Yet, the credibility of corporate reporting using consequential methods also relies on distinguishing between interventions that have no beneficial emissions impact and those that have a significant positive impact (i.e., the "additionality" of interventions). This is why the Mitigation Intervention statement only accounts for interventions that are highly likely to be "ambitious" (i.e., actions with significant opportunity costs that are taken primarily for the purpose of GHG mitigation – see section 2.2.1).

By limiting reporting eligibility to types of interventions meeting the "ambitious" and "quantifiable" eligibility principles, as well as requiring independent verification with annual *ex-post* reporting, the Mitigation Intervention statement can provide credible results for many, although again not all, types of interventions for the purpose of corporate climate action recognition. Meanwhile, corporate GHG inventories can also provide decision-useful results for emissions sources for which process-specific data is collected. However, many Scope 3 estimates and market-based inventory approaches not only entail significant uncertainties themselves, but more importantly, typically fail to provide meaningful information for mitigation action decision-making (i.e., fail to distinguish between companies deserving of recognition as climate leaders based on the efficacy of their mitigation actions versus those that do not) (Brander and Bjørn, 2023; Gillenwater, 2023b; M Gillenwater, 2025a). This is not just a problem for stakeholders seeking to identify genuine corporate climate leaders, but also for companies themselves because they lack the GHG metrics to make informed mitigation action decisions.

In sum, a reformed multi-statement framework for corporate GHG reporting should be built upon the existing GHG Protocol and ISO standards that already address mitigation intervention impact accounting and rely on consequential methods, rather than relying on unrealistic beliefs that expanding corporate inventory boundaries blindly into value chains will account for the effect of every corporate action (Broekhoff, 2007; ISO, 2019, p. 140; WRI, 2014; WRI/WBCSD, 2025, 2005).

1.7 Overview of this paper

This paper provides initial guidance on implementing the Mitigation Intervention statement as part of a multi-statement corporate GHG reporting framework. It is intended that this initial guidance will be extended and improved upon by GHG standard-setting bodies (e.g., GHG Protocol and ISO), reporting programs (e.g., GRI, The Climate Registry), and corporate climate leadership recognition programs (e.g., SBTi, CDP).

Complete planning, quantification, reporting, and goal-setting guidance should include the following key steps:

Step 1. Identifying and studying beyond-inventory mitigation intervention options for potential implementation through *ex ante* analysis

Step 2. Setting corporate contribution goals for avoided emissions and enhanced removals based on intervention opportunities, corporate strategy, and programmatic obligations

Step 3. Determining eligibility of specific mitigation interventions for reporting based on "ambitious" and "quantifiable" principles (see section 2.2)

Step 4. Quantifying the *ex post* impacts of each implemented intervention using appropriate baseline and quantification methodologies (see section 2.4)
- Defining the intervention and its causal chain
- Defining a GHG accounting boundary
- Specifying methods for quantifying baseline emissions
- Specifying methods for quantifying actual (post-intervention) emissions
- Collecting and verifying monitoring data
- Quantifying avoided emissions and/or enhanced removals

Step 5. Assessing and disclosing whether impacts of each mitigation intervention occur within or beyond the intervening company's Physical Inventory and value chain (see section 2.1.2)

Step 6. Verifying results of each mitigation intervention according to applied standards and program rules (see section 3.2)

Step 7. Aggregating total and subtotal (e.g., by country, sector, within versus beyond value chain) annual avoided emission and enhanced removal impact estimates across all "beyond-inventory" interventions (see section 3.1)

Step 8. Publicly reporting the Mitigation Intervention statement in accordance with standardized formats and programmatic rules (see section 3.1)

The sections of this paper elaborate initial guidance for steps 3 through 8, providing principles, methods, and guidance for standard-setting organizations and companies to implement a credible GHG accounting framework for recognizing and reporting corporate mitigation contributions. Steps 1 and 2 are properly the subject of further guidance on mitigation planning and analysis, which should be performed as a joint analytical and decision-making process within companies to address both corporate Physical Inventory reduction targets and Mitigation Intervention contribution goals.

2 ACCOUNTING FOR INDIVIDUAL INTERVENTION IMPACTS

The underlying purpose of a corporate Mitigation Intervention statement is to provide a transparent summary of the aggregate GHG avoided emissions and enhanced removal impacts each year across all recognized mitigation interventions attributed to a reporting company. However, these aggregate impacts are necessarily the summation of impacts across multiple individual mitigation interventions. This section provides guidance on determining impacts for individual interventions, and guidance on reporting aggregate impacts across all interventions is provided in the next section.

2.1 What is a mitigation intervention?

Interventions are the fundamental *accounting subject* for consequential methods used to quantify greenhouse gas (GHG) impacts. Although companies can undertake interventions (i.e., mitigation

actions), companies are not the subject of GHG accounting when a consequential method is applied. This contrasts with allocational (inventory) GHG accounting methods, in which it is an entity, such as a company, that is the subject of GHG accounting. Consequential and allocational methods also measure two fundamentally different types of changes–avoided emissions relative to an intervention-free baseline and emission reductions within the inventory boundary over time relative to a base year, respectively (Michael Gillenwater, 2025a).

But what is a mitigation intervention? In the context of GHG accounting and reporting under the Mitigation Intervention statement, a mitigation intervention is a specific action or decision that is intended to have the causal effect of avoiding GHG emissions (or enhancing removals) relative to an alternative scenario in which that intervention was not (*ex post*) or will not be (*ex ante*) present.[6]

> *A GHG mitigation **intervention** is a deliberate (i.e., planned) act that is implemented wholly or in large part for the purpose of avoiding emissions or enhancing removals.*

In the context of government policy, we typically think of interventions in terms of incentives, such as technical or financial assistance (i.e., "carrots"), educational or information programs (i.e., "sermons"), or government mandates, taxes, or other regulatory enforcement threats (i.e., "sticks") (McCormick, 2017). Yet, actors other than governments can also undertake mitigation interventions. In the context of voluntary corporate climate action, different terms are sometimes used to refer to concepts related to mitigation interventions, including projects, actions, investments, carbon finance, solutions, or contributions. For the purpose of ensuring the credibility of companies' reported impacts under a Mitigation Intervention statement, only interventions that satisfy strict eligibility principles, elaborated below, should be recognized.

An example of an intervention by a company is a decision to subsidize the construction of a solar energy project by another company for the purpose of mitigating global GHG emissions (i.e., displacing fossil fuel combustion for electricity generation). A common, but not the only, channel for financing mitigation interventions is carbon crediting markets and the programs that certify and issue credits to projects. Often, these credits are purchased and used by companies to make "offsetting" claims; however, the same credits can also be treated as corporate contributions to global mitigation (Chagas et al., 2025; Fearnehough et al., 2023; Michael Gillenwater, 2024).

2.1.1 Forms of mitigation interventions

Only some forms of mitigation interventions are realistically available for implementation by companies and other organizations in the context of voluntary GHG reporting. A company is not a government and so cannot enact a new regulation mandating all producers of steel in a given jurisdiction shift to a new zero-carbon technology, nor can an individual company establish a new national tax or subsidy scheme for carbon dioxide capture systems. Instead, mitigation interventions that can realistically be implemented by an individual company (or a small group of a few collaborating

[6] Throughout this document, we will frequently only refer to emissions and avoided emissions for the sake of brevity. You should know that in most cases, the discussion is also applicable to removals and enhanced removals.

companies) to affect sources and sinks outside of the reporting company's operational control are typically more limited and are financial in form. These limited forms of financial interventions include, but are not limited to:

1) Funding and directly implementing a mitigation technology affecting GHG sources or sinks "beyond" the organization's GHG inventory boundary (e.g., a battery company installing solar/battery-powered irrigation pumps that displace dirty grid power at no cost to farmers)[7]
2) Financially supporting others to implement a mitigation intervention by, for example:
    a) Issuing a grant or making a *concessionary impact investment*[8] (e.g., for another company to install new zero-emitting equipment)
    b) Payment of a procurement "green" premium, or incurring other additional costs, for goods or services (e.g., setting GHG performance criteria in procurement contracts and paying a higher price relative to common practice, such as to purchase parts made with "green steel" that is produced using a low or zero GHG emitting process)
    c) Offering incentives (e.g., price discounts) for customers to choose lower-emission options produced and/or sold by the reporting company (i.e., that either are produced or operated in a manner that emits significantly less GHGs than the non-discount alternative)
3) Taking on added risk for an investment in mitigation (i.e., "derisking") by transferring specific financial risks to the reporting company that would otherwise hinder a mitigation project's implementation feasibility (e.g., providing a credit worthy and legally binding long-term offtake or price hedging agreement for output from a planned "green cement" production plant, thereby making the project's revenue more predictable and "bankable" for debt or equity investors in the plant)
4) Purchase and retirement of high environmental integrity certified carbon credits that have been accepted as eligible for Mitigation Intervention statement reporting
5) Participate in an organized market-scale intervention by purchasing and retiring tradable product attribute instruments, such as the purchase and retirement of eligible Environmental Attribute Certificates (EACs), that function to subsidize the production and sale of products significantly less GHG emitting than the most likely non-EAC supported alternative

[7] For the purposes of a Mitigation Intervention statement, the GHG sources and sinks affected by a recognized intervention should be either outside the intervening company's Physical Inventory boundaries or located within an activity pool, which may or may not be viewed as being in the intervening company's value chain. See here for further discussion of Physical Inventory boundaries.

[8] *Concessionary impact investments* are made with the intention of generating measurable social or environmental benefits while intentionally accepting below-market financial returns. These investments prioritize positive impact over profit maximization and are often used to support high-impact projects that may be too risky or not profitable enough for traditional investors.

A single corporate mitigation intervention may act through one or more of these forms to effect a change in behavior, which then avoids emissions or enhances removals. For example, corporate virtual Power Purchase Agreements (vPPAs) in wholesale electricity markets may operate through both the risk transfer form of intervention (#3) and a price premium subsidy (#2b), while being channeled through an EAC market (#5).[9]

Again, carbon credits (form #4) can be used by companies without making an offsetting (i.e., compensation) claim against their corporate Physical GHG inventory statement reduction target.[10] In the context of a Mitigation Intervention statement, carbon credits are meant to function as corporate contributions to global GHG mitigation, not as offsetting claims. Many companies also seek to deploy other forms of interventions that do not operate through carbon credit markets. For example, a manufacturing company may choose to require some parts they purchase to be made with "green steel" (i.e., steel produced using a specified very low GHG-emitting process that presently has a high incremental cost relative to steel commonly available for purchase).

A range of different tradable environmental commodities have been and are being created that claim to represent various beneficial environmental attributes, including low or zero-GHG-emitting production or consumption processes. These EAC markets represent a market-based form of mitigation intervention that operates on a market-wide scale (M Gillenwater, 2024). These EACs function as a subsidy instrument driven by the demand for them. In some cases, they may also involve long-term contracts as a risk transfer instrument (form #3). The GHG mitigation impact of such EAC markets can range from no impact to significant impacts, depending on the eligibility criteria for issuing and using EACs, which largely determine supply and demand and therefore the scarcity and prices for them. The impact of each EAC market requires its own study and quantification with regular updating as EAC rules and market conditions change. Once the aggregate impact, in terms of annual avoided emissions, of the overall EAC market is quantified, it can be distributed to EAC holders proportional to their holdings of that year's certificate vintage and claimed in their Mitigation Intervention statement for that reporting year (for further discussion see Installment 7bis).

Another dimension along which to view different forms of interventions is related to the intervention's number of actors and subjects. For example, a single company may make an intervention addressing a range of emission sources across a supply shed.[11] Alternatively, multiple companies may collaborate to implement a single intervention addressing a single emission source. Mitigation interventions can take various multi-party forms, including:

- One to one – A single intervening company affecting a single emission source

[9] The available evidence and research on voluntary Renewable Energy Certificate (REC) markets using annual certificates and corporate PPAs suggest that that it is the risk transfer form of intervention (#3), not the subsidy form (#2b and #5), that is the primary causal mechanism affecting renewable energy capacity investments and thereby leading to avoided emissions from displaced fossil fuel-fired generation (Backstrom et al., 2023; Gillenwater, 2013).

[10] Carbon credits are limited to the types of project interventions allowed under crediting programs and are only able to act through the subsidy mechanism of the carbon credit price signal.

[11] Supply shed refers to the specific geographic area or group of suppliers that produce a particular commodity or product that is sold into a common market.

- One to many – A single intervening company affecting a group of emission sources (e.g., a supply shed)
- Many to many – A collective of companies partnering to intervene in a group of emission sources (e.g., supply shed)
- Many to one – A collective of companies partnering to intervene on a single, typically large, emission source

Section 3 addresses how to apportion and report avoided emission claims when a collective of companies partners and jointly reports the impact of an intervention.

We argue that only interventions with relatively short causal chains leading to avoided emissions or enhanced removal impacts should be recognized under a Mitigation Intervention statement. Interventions with long causal chains—such as informational or educational interventions aimed at modifying group behavior; research and development (R&D) aimed to create new mitigation technologies in the future; or development of voluntary technical standards aimed at fostering the use of existing mitigation technologies—should not be reported under the Mitigation Intervention statement, although they may still have meaningful benefits. In other words, it should be fairly unambiguous what specific physical emission sources or removal sinks are affected by the recognized intervention and when these impacts occurred. We will elaborate on this topic in Section 2.2.2, discussing the eligibility principle of "quantifiability."

As noted above, the Mitigation Intervention statement is intended only for reporting on "beyond inventory mitigation" (BIM). Some examples of BIM interventions are:

- For another company in the intervening company's supply shed, installing or providing a grant for the accelerated replacement of coal or natural gas-fired boilers with an electric boiler and solar-battery hybrid power system
- Requiring in procurement rules that suppliers only source from farms that use ammonium nitrate fertilizers created from green ammonia, rather than using urea created from fossil-origin ammonia
- Prior to the construction of a new building that will be leased under a long-term agreement, negotiate with the building developer to ensure it is constructed with low-emission cement/concrete instead of conventional cement/concrete
- Making a concessionary impact investment in a new low-emission steel production plant
- Signing a long-term virtual Power Purchase Agreement (PPA) in the development stage of a new wind energy project
- Requiring, in procurement rules, that suppliers replace diesel internal combustion engine heavy-duty trucks with battery electric vehicle equivalents
- Requiring within procurement rules that suppliers shift their sourcing of forest products from conventionally managed forests to sustainably managed forest land with long-term commitments to maintain or increase carbon stocks
- Employee commuting programs that strongly incentivize public, pedestrian, or mass transit usage and penalize driving to work in internal-combustion vehicles
- Buying and retiring Sustainable Aviation Fuel (SAF) certificates[12]

[12] Examples adapted from "AIM Association Test" draft document.

A more detailed list of mitigation intervention examples is provided in Annex A. A common focus of corporate mitigation interventions will be energy efficiency and electrification technologies. There are also many other GHG mitigation technologies that can be the subject of corporate interventions. A useful list of some such technologies is provided by the draft AIM Association Test and is reproduced in Annex B (AIM Platform, 2024).

The Mitigation Intervention statement requires principles and rules for identifying and screening which interventions are to be recognized and thereby quantified, reported, and accounted for towards corporate "beyond inventory" contribution goals. Not just any type of intervention in any context, including every instance of the example interventions listed above, should be recognized as eligible for reporting under the statement. Without eligibility filters on what type of interventions are recognized, the Mitigation Intervention statement would be flooded with questionable and spurious reporting of a huge number of different claimed interventions using questionable baseline scenarios, resulting in dubious avoided emissions and enhanced removal impact claims. For example, claimed interventions based on necessary replacements (e.g., LED light upgrades, HVAC improvements, or more efficient vehicles) that entail common practice improvements in energy efficiency relative to previous levels, or similarly, sales of products with lower use phase emissions or energy use relative to outdated or uncompetitive alternatives. Governance over this screening process for determining the reporting eligibility of intervention types is addressed in section 3.2 below.

In other words, the corporate Mitigation Intervention statement elaborated in this paper addresses and recognizes only interventions made by companies that are deemed "ambitious" through satisfying eligibility criteria, which is discussed in the "Intervention eligibility" section 2.2 below. Companies should also disclose whether the sources and sinks affected by a reported mitigation intervention are understood to be within or beyond a company's value chain, which is discussed next.

2.1.2 Differentiating within and beyond value chain mitigation

There are many problems with equating corporate GHG inventory boundaries with the concept of a corporate value chain. To summarize, the concept of a corporate value chain is a flawed and ambiguous basis for clearly defining corporate physical GHG inventory boundaries. This current approach, elaborated largely through the GHG Protocol corporate and Scope 3 standards, needs reform (M Gillenwater, 2025c). The Mitigation Intervention statement, as described here, applies a reformed concept of physical GHG inventory boundaries elaborated in Gillenwater (2025c) for precisely determining what is BIM rather than the physically ambiguous concept of a corporate value chain. And therefore, the Mitigation Intervention statement recognizes impacts occurring both within and beyond a company's value chain (Figure 2).[13]

[13] Companies should also conduct *ex ante* and *ex post* mitigation analysis of interventions intended to reduce emissions within their physical inventory boundaries, as the latter is invaluable to inform decisions on internal mitigation investments and the latter is needed to evaluate the efficacy of those investments. These internal impact estimates may be reported as supplemental information under a Mitigation Intervention statement, but are not to be counted towards corporate contribution goals.

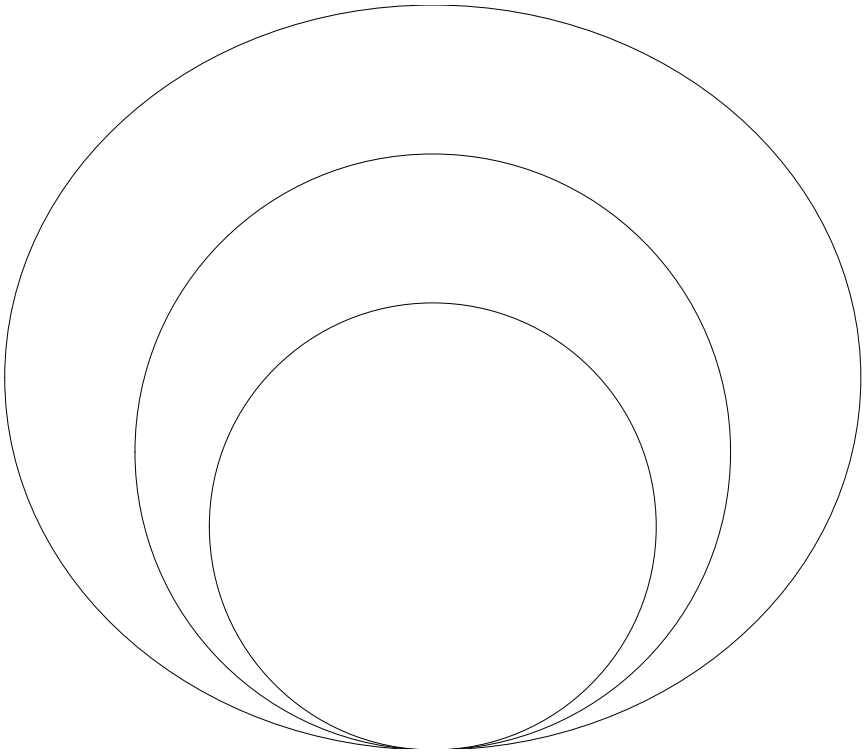


Figure 2. Illustration of corporate GHG accounting boundaries. Impacts from sources and sinks beyond the physical GHG inventory boundaries (BIM) are accounted for and reported under the Mitigation Intervention statement

GHGs are a global pollutant, and so scientifically it should not matter where mitigation occurs, as long as it does occur. However, given limited mitigation budgets, a scattershot approach of pursuing the least cost mitigation measures around the world may not be the most strategic way for companies to engage in climate action. From the standpoint of driving systemic change needed to decarbonize energy systems, it may be important for companies to concentrate mitigation efforts on key leverage points within their value chains. Therefore, to effectively deploy corporate social responsibility mechanisms, it can be useful for companies to disclose the "location" of corporate BIM interventions (i.e., identify what physical sources and/or sinks each intervention is affecting). In addition to geographic and jurisdictional (e.g., country) location information, corporate recognition GHG programs and other stakeholders may also wish to differentiate – and prioritize for recognition and goal setting – interventions affecting emission sources and sinks perceived to be within the intervening company's value chain versus those perceived to be outside of it. Therefore, while recognized interventions under the Mitigation Intervention statement must affect sources and sinks outside of the intervening company's clearly defined Physical Inventory boundary, the Mitigation Intervention statement does include the impacts of interventions within a company's broader value chain, as well as beyond it. Some corporate recognition programs may choose to prioritize intervention impacts occurring within corporate value chains, while others may deem the distinction less important than maximizing aggregate mitigation impacts.

Under the GHG Protocol and ISO 14064-1, the value chain LCA approach to boundary setting conceptually treats anything that a company could indirectly "influence" up and down the distant

supply chain and consumer tiers as being within the boundary of a Scope 3 corporate GHG accounting (ISO, 2018; WRI/WBCSD, 2011, 2011). In practice, companies do not know and cannot clearly identify all of the emissions sources (or sinks) in their value chain due to both the lack of visibility and the fact that value chains have no clear physical boundaries.[14] Therefore, companies are unlikely to be able to determine with confidence if the emissions affected by their interventions are within their specific value chain or Value Chain Analysis statement (Figure 1).

Despite these realities, the Mitigation Intervention statement guidance calls for **companies to disclose whether they consider each intervention's affected sources and sinks to be within their value chain**.[15] Reporting and recognition programs that apply their version of the Mitigation Intervention statement may, to address their programmatic policy objectives, require such disclosures and choose to differentiate between intervention impacts that are, and are not, associated with a company's value chain. For example, programs could differentiate interventions according to the following value chain association categories (Figure 3):

i) High certainty of association (i.e., greater than 95% confidence)
ii) Probably some association, including supply shed connections
iii) Unknown association (i.e., insufficient information to assess association)
iv) Probably no association
v) High certainty of no association (i.e., greater than 95% confidence)

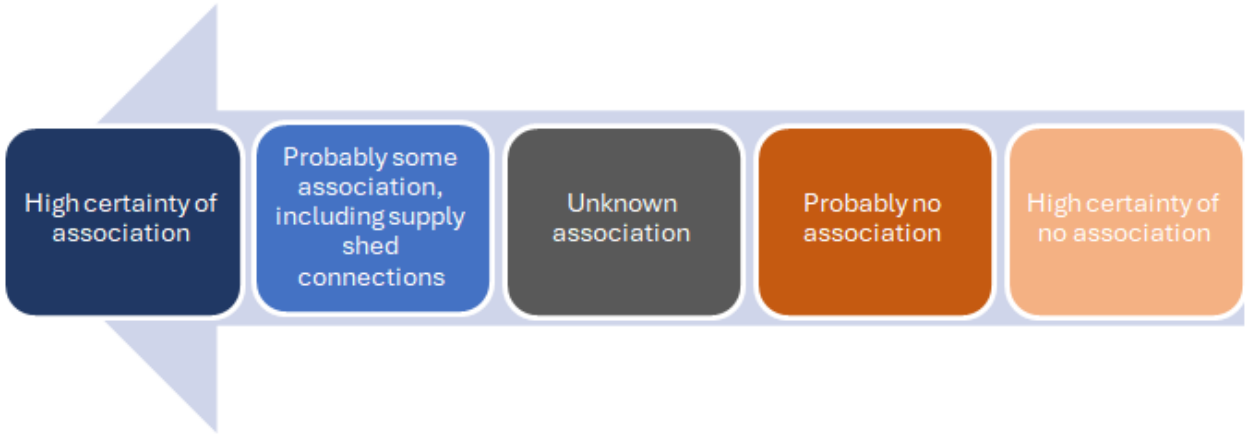


Figure 3. Suggested value chain association labels

The Advanced and Indirect Mitigation (AIM) Platform has drafted value chain association testing guidance that includes various approaches and considerations for assessing whether an intervention is

[14] Many supply chains, for example, are quite dynamic, shifting with ever-changing market factors, and so it may be infeasible to determine when or if an intervention's impacts shift from being within to beyond a company's value chain, or vice versa.

[15] In some situations, an intervention may both have some impacts within and some beyond the perceived boundaries of the intervening company's value chain. These distinctions can also be made within the detailed quantitative reporting of annual avoided emissions and enhanced removals for each mitigation intervention.

"associated with" a given company's value chain that may, after it has been pilot tested, offer assistance in making this differentiation.[16]

In contrast to corporate value chains, there should be no ambiguity determining whether the sources and sinks affected by an intervention fall within a company's Physical Inventory, which requires inventory boundaries be set such that reporting companies have visibility of the specific sources and sinks, or activity pools, they have been allocated responsibility for under their Physical Inventory statement (M Gillenwater, 2025c).

2.1.3 Quantifying the effects of an intervention: the need for consequential accounting methods

Because an effective intervention, by definition, causes a *deviation* from an assumed course of action that would have occurred in the intervention's absence, the impact of an intervention must be measured against this no-intervention baseline. While interventions *may* cause a change in allocated (i.e., Physical Inventory) emissions for one or more companies (e.g., emissions at a supplier's facility may be lower in years after an intervention than they were before it), the mitigation effect of the intervention may be difficult to distinguish from the effects due to a multitude of other factors that cause an company's reported emissions to change. Furthermore, an intervention may have effects beyond the boundaries of any given company's inventoried (i.e., allocational) emissions. The deviation an intervention causes from a baseline (versus relative to a prior time period) across all emission sources and sinks is what matters when seeking to quantify its total impact on emissions. This is where consequential GHG accounting comes in.

Consequential GHG accounting is designed to isolate the effect of an intervention over time on total emissions to (or removals from) the atmosphere, regardless of where impacts occur. Avoided emissions (or enhanced removals) are accounted for as the difference in net emissions to the atmosphere between a scenario where the intervention is implemented and a (counterfactual) baseline scenario in which it is not implemented, taking into account all the ways in which an intervention might affect emissions or removals.

When applied upfront (*ex ante*), consequential accounting methods can be used to inform decisions around what interventions (i.e., mitigation options) to undertake. In this case, both intervention and baseline scenarios must be predicted and then compared. More typically (e.g., in the context of carbon crediting), consequential methods are applied *ex post*, comparing estimates of actual emissions or

[16] The AIM Platform association test is being developed for application to market-based "book and claim" approaches to corporate GHG inventory accounting. Such approaches, compared with the Mitigation intervention statement, face the added burden of addressing double counting of emissions and the need to 1) adjust LCA activity or spend-based emission factors; 2) convert spend-based data to activity data to be prevent intervention impact claims exceeding implied activity within value chain inventory boundaries; and 3) the problematic situation in which an intervention shifts from being in a company's value chain one year and is out the next (i.e., creating a disincentive to invest in mitigation). The multi-statement reporting framework presented in the Introduction intentionally excludes this type of market-based inventory statement because of these and other fundamental problems.

removals (as determined through measurements) *after* an intervention is undertaken to a prediction of what baseline emissions or removals *would have been* in the same time period.

Because consequential methods seek to quantify the deviation in emissions or removals caused by an intervention, it is incorrect (or is at least imprecise) to refer to the results as "emission reductions" or "removals." Many interventions may cause emissions to be lower than they would have been otherwise, even where total emissions increase in absolute terms. This is not an invalid result, nor does it imply that the intervention has no mitigation impact. Instead, the results of consequential methods should be referred to as "avoided emissions" (or, in the case of sinks, "enhanced removals") to distinguish them from absolute "reductions" or "removals" over time that are accounted for using allocation GHG accounting methods. See this summary document for a detailed elaboration of the differences between consequential (intervention) and allocational (GHG inventory) methods, and this discussion of the distinction between "avoided" and "reduced" terms for further background (Michael Gillenwater, 2025c, 2025a).

2.2 Intervention eligibility principles

One risk with reporting on the effects of interventions is that companies may make assumptions, choose baseline scenarios (e.g., comparing against unrealistic scenarios), and neglect "leakage" effects that result in exaggerated (i.e., overestimated) avoided emissions claims.[17] But, reporting and recognition of the avoided emission and enhanced removal impacts of corporate interventions can be done with acceptable credibility if a rigorous GHG accounting framework is applied. The present problem is that, currently, there is no distinct corporate GHG accounting and reporting statement based upon credible and generally accepted guidance, standards, and principles that companies can use to quantify, aggregate, and report intervention impact claims. Specifically, dedicated GHG accounting principles and rules are needed that **label as ineligible** exaggerated, dubious, or duplicative avoided emission and enhanced removal claims.

So, how does the Mitigation Intervention statement approach this determination of intervention eligibility and exclude dubious or exaggerated claims? This section addresses the principles for recognizing which corporate interventions should be eligible for claiming avoided emissions or enhanced removals towards contribution goals under the Mitigation Intervention statement. We identify two core principles:

- Ambitious
- Quantifiable

[17] There is a troubled history of some companies claiming or implying to have avoided GHG emissions or enhanced removals, upon investigation, are found to have been decisions driven not by climate ambition but primarily for profitability or other reasons unrelated to environmental benefit (i.e., "business as usual"). These claims may be made in reference to the "low carbon" qualities of a product, service, or investment. Without guidance, there is a tendency for marketing departments and GHG mitigation "solution providers" that make such claims to do so with self-serving bias (i.e., overclaiming), insufficient transparency, and in a non-comparable manner.

We separately discuss other impact reporting quality principles applicable to the Mitigation Intervention statement in section 2.3.

2.2.1 Ambitious

A key eligibility condition for an intervention, such as an investment or change in procurement practices, to be recognized and reported under a Mitigation Intervention statement is that it must *substantially deviate* from what a company would do if it were not seeking to mitigate GHG emissions. Actions that a company would take without regard to their effect on GHG emissions are not recognized as eligible GHG mitigation interventions under this statement. This can be a challenging, subtle condition to evaluate, because corporate actions may regularly change GHG emissions without any consideration given to climate change. For example, if a company decides to produce and sell a new product that is slightly more fuel efficient, and thereby can be operated with a lower emissions intensity per use than most competing products, should this be recognized as an "intervention" whose purpose is to mitigate GHG emissions?

A salient concern is that companies could engage in a form of "greenwashing" by reporting as "mitigation interventions" activities they would undertake even if they were not seeking recognition for addressing climate change (i.e., "business as usual" activities). To exclude these, **recognized interventions** under the Mitigation Intervention statement must be "ambitious"—that is, intervening companies must be engaging in efforts to benefit the climate in ways that deviate significantly from what might be expected under standard business practices.[18] When applied, this principle only recognizes types of interventions that represent an *unambiguously substantial* departure from "business as usual" because they impose a *significant opportunity cost* (i.e., incremental cost) on the intervening company or business unit. It is in the interest of companies undertaking truly "ambitious" GHG mitigation interventions that these be distinguished within an intervention GHG reporting framework, such as the Mitigation Intervention statement.

A significant opportunity cost exists if the intervention unambiguously displaces financial returns, short-term market competitiveness, or immediate operational efficiency *compared to **competitors** that do not implement their own ambitious interventions targeting the same business segments* (e.g., product lines). Specifically, application of the principle of "ambitious" should involve the evaluation of the following criteria as part of determining which types of interventions are recognized within the Mitigation Intervention statement:

- **Foregone revenue and profit**: Does the intervention significantly change the expected short-term revenue and profit compared to non-intervening competitors? Is the company diverting substantial capital from higher-return investments?
- **Competitive trade-offs**: Does the intervention eliminate a polluting product or service with strong market demand compared to non-intervening competitors?
- **Increased costs**: Does the intervention result in significantly higher production, operational, and/or procurement costs relative to non-intervening competitors?

[18] One can think of "ambitious" as being equivalent to an activity having a very high probability of additionality (i.e., approximately zero likelihood of non-additionality). See Gillenwater (2012a, 2012b) for further discussion on the distinction with additionality.

- **Regulatory context**: Is the intervention well beyond current or expected and enforced regulatory requirements? Is the intervention not influenced by government subsidies or other incentives?

Further consideration and consensus building is needed before establishing the minimum incremental cost that an "ambitious" mitigation option should have for it to be deemed eligible for reporting under a Mitigation Intervention statement.[19] The required incremental cost should be substantial but will be contextual (e.g., vary across countries). Therefore, it should not be assumed by default that a uniform global value for the incremental cost of a mitigation option (e.g., US$50 per avoided tonne of GHG emissions or enhanced tonne of CO_2 removed) must be used in all cases for determining eligibility.

Although incremental cost should be the primary eligibility factor, other factors may also be considered, including:[20]

- The technology penetration (i.e., adoption or market penetration) of the technology or practice. For example, is the mitigation option based on an emerging technology that involves a first-time introduction in a given context?
- The degree to which the technology or practice is in keeping with a viable global net-zero transition pathway. In other words, technologies and practices should not be considered as eligible that will lock-in equipment or other capital and infrastructure that would become a stranded asset under viable global net zero transition pathways, such as those outlined by the IPCC (IPCC, 2022).

The application of the "ambitious" principle may also take the form of a stringent performance standard (e.g., GHG intensity per unit output of a technology or process). Some mitigation options in some or all contexts may also be deemed automatically eligible by being included on a "positive" or "allow" (i.e., preapproved) lists (e.g., most forms of carbon capture and storage). Companies, technology providers, and other stakeholders should be encouraged to propose new mitigation options to be evaluated for inclusion on these "positive" lists. Such performance standards and lists will require some governance process and be regularly reassessed as technologies improve, and costs increase or decrease (see section 3.2).

Overall, the function of the "ambitious" principle is very similar to the concept of "additionality", which limits eligibility for earning carbon credits to project interventions that clearly deviate from "business as usual" because of the financial incentive of earning revenue from selling carbon credits (see Box 4).

Although the application of the "ambitious" principle assures the credibility of impact reporting and the value of the resulting contribution recognition, it does narrow the range of interventions for which impacts may be reported and recognized. Obviously, companies should be encouraged to implement

[19] In establishing GHG accounting rules and approving proposed types of mitigation interventions for recognition, opportunity costs can be assessed based on an estimated incremental mitigation cost of a technology or practice (i.e., incremental cost per avoided tonne of emissions or tonne of enhanced CO_2 removals relative to a standardized baseline scenario). Here, incremental is defined as the added cost of the intervention relative to the least emitting of the most profitable alternatives (i.e., "business as usual").

[20] These criteria are similar to the work on international climate finance for "high-hanging fruits" in Day et al. (2023).

"zero" and "low" incremental cost mitigation actions. However, the Mitigation Intervention statement intentionally excludes such "low-hanging fruit" even though some may deem them as being "additional." Recognition of voluntary BIM contributions must be widely perceived as credible. We must err on the side of keeping out free riders to preserve credibility, or the value of the recognition disappears, and the theory of change collapses under the weight of greenwashing criticism. However, under the multi-statement reporting framework, companies will also be recognized for implementing low and zero-cost mitigation actions affecting sources and sinks within their Physical Inventory boundaries so as to achieve their Physical Inventory reduction targets.

Box 4. How does "ambitious" compare with "additionality"?

How does the principle of "ambitious" compare with the concept of "additionality" in carbon crediting markets?[21] The ambitious principle is closely related to the concept of additionality in carbon crediting, but goes beyond it. In the case of crediting, additionality refers to the first of a two-stage assessment of a causal chain. Additionality assesses whether an incentive in the form of the credit market's price signal (i.e., the first stage in the causal chain involves the revenue project developers expect to earn from selling credit they are issued) causes a change in a project developers' behavior (i.e., the second stage in the causal chain involves a decision whether to invest in and implement a GHG mitigation technology or process). Within the context of reporting a corporate Mitigation Intervention statement, the first stage is instead the potential for the intervening company to be recognized for contributing to global climate change mitigation (e.g., receiving reputational benefits). Effectively, "ambitious" means that such recognition has been deemed to have been a primary cause (i.e., necessary) for the mitigation action to occur *and* that the intervention goes well beyond what a company would do in the absence of this recognition.

Crediting programs effectively apply a lower incremental cost of mitigation for their eligibility threshold than we propose should be deemed "ambitious" under a Mitigation Intervention statement (i.e., for crediting programs, the threshold, in principle, is simply a positive incremental cost, whereas we are suggesting an incremental cost of a substantial magnitude). Again, the result may be that some lower-cost credits, and therefore less "ambitious" types of projects, are not recognized for reporting as contributions under a Mitigation Intervention statement.

2.2.2 Quantifiable

The GHG impacts of mitigation interventions must be reasonably quantifiable. Here, we use "quantifiable" as a term of art. The impacts of any kind of intervention may be quantifiable in the sense that it is possible to assign a number to them (even if just an educated guess). As an eligibility condition,

[21] A necessary aspect of assessing additionality is having a theory of behavior–in other words, what factors affect human decision-making and actions. These factors can vary somewhat by context. See Gillenwater (2012a) for a discussion of theories of behavior in the context of corporate intervention, impact reporting, and the concept of project additionality.

however, we mean that it should be possible to calculate quantified impacts that are reasonably precise (e.g., quantified to the nearest tens of tons of CO_2-equivalent) and reasonably certain.

"Reasonably certain" means that the true quantity of emissions avoided by an intervention is likely to fall within a reasonable range of the reported value. This is similar to how certainty is defined in statistics. However, quantifying the impact of an intervention is complicated by the fact that it involves a comparison to a hypothetical baseline scenario, involving estimates of emissions that *would have* occurred without the intervention. It can be difficult to assign a statistical likelihood to a particular baseline scenario and/or the emissions associated with that scenario.

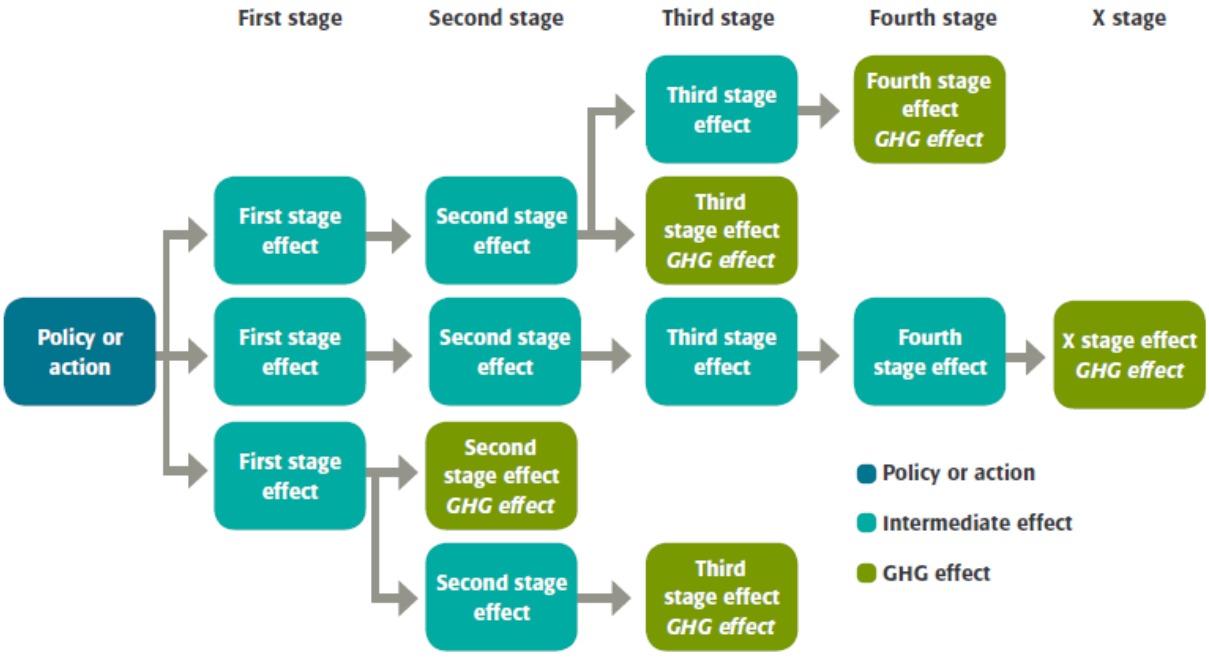
Baseline uncertainty can be particularly high where there are many variables that could, in principle, influence baseline activity and associated emissions. To address this potential source of uncertainty, the Mitigation Intervention statement should be limited to interventions with **simple and direct "causal chains"** and, related to this, to interventions whose effects are **clearly attributable**.

Finally, to ensure quantifiability, eligible mitigation interventions should be limited to those for which there are **established, scientifically supported quantification methods**.

2.2.2.1 Interventions with short causal chains

Recognized mitigation interventions should be limited to those with simple and direct (i.e., "short") causal chains. The GHG Protocol defines a causal chain as a map of "the process by which [an intervention] leads to GHG effects through a series of interlinked logical and sequential stages of cause-and-effect relationships" (WRI, 2014). Figure 4, from the GHG Protocol *Policy and Action Standard*, illustrates a generic causal chain.

Figure 4. Generic example of mapping GHG effects by stage in a causal chain



Reference: GHG Protocol (2014)

Conceivably, the causal chain for a mitigation intervention could be quite long. As an extreme example, a company could invest in fundamental scientific research on modeling the physics of high energy plasma, which could lead to advances in nuclear fusion technologies, the creation of new companies that attempt to commercialize these technologies, the eventual deployment of fusion technology to produce useable energy, and thereby the displacement of fossil fuel combustion generators and the avoidance of GHG emissions. Each step of this causal chain would be subject to significant baseline uncertainty (and questions about attributability - see below), as well as significant time lags, leading to low confidence in any estimate of avoided emissions occurring in a particular year. Because of this, most observers would say the effects of such a "long" causal chain intervention are not quantifiable with reasonable confidence.

By contrast, the funding and installation of N_2O destruction equipment at a nitric acid plant has a short causal chain (e.g., provision of funds, installation and operation of equipment, leading to avoided emissions). The effect is direct and occurs close in time to the intervention itself. Since the baseline can be established with confidence (i.e., continued plant operation without N_2O destruction, assuming the intervention is deemed "ambitious"), and the effect on emissions is not mediated through secondary (or tertiary) causal relationships, this mitigation intervention's effects are quantifiable with reasonable confidence.

We propose that under the Mitigation Intervention statement, a "short" causal chain must have two characteristics:

- Causal effects on emissions are at most two stages removed from the intervention
- Causal effects on emissions begin occurring close in time to the intervention (e.g., within 1 year)

2.2.2.2 Attributability of avoided emissions or enhanced removals to the intervention

Even where interventions have short causal chains, their effect on emissions or removals can be difficult to isolate. This is primarily a concern where multiple factors can influence the emissions or removals occurring at sources or sinks affected by an intervention. Given an observed deviation in emissions compared to an intervention's baseline, can we say with confidence that this deviation was *caused* by the intervention?

An example where attribution can be challenging is with efforts to slow tropical deforestation. In many areas, a complex mix of factors will determine how much forest is lost in any given year. Deforestation may slow or accelerate due to changes in timber or agricultural commodity prices, population pressures, and changing climatic conditions. A program that protects forests from illegal logging or increases productivity on existing agricultural lands can—all else equal—slow deforestation. But if demand for forest products declines during the period in which the program is implemented, the program may appear to avoid more emissions than it actually does.

Ideally, the way to ensure attributability is to properly define baselines. A well-defined baseline will take into account exogenous factors that also cause emissions to increase or decrease in the absence of an intervention, so the effects of these factors would then be netted out of any avoided emission calculation. For interventions that slow deforestation, for example, baseline deforestation estimates

can (in principle) be dynamically adjusted to account for changes in commodity prices or local development pressures.

In practice, designing baseline estimation methods that accurately capture a full range of exogenous variables can be challenging. **Recognized interventions under the Mitigation Intervention statement should be those for which attributability is high, meaning that there are few other variables involved in determining an intervention's baseline emissions or removals, and/or those variables can be sufficiently isolated (e.g., dynamically updated using annual measurements) and reflected in baseline emissions or removals estimation methodologies.**

2.2.2.3 Established, scientifically supported quantification methods

Obtaining reasonably certain estimates of avoided emissions (or enhanced removals) requires having reliable data and methods for quantifying results consistently (over time) and comparably (across interventions) in a manner that minimizes uncertainty. For many types of interventions, measurement and quantification methods may be (relatively) straightforward. Where more complex estimation methods are needed, however—including models used to estimate either actual or baseline emissions—eligibility requires that these methods are validated and supported by peer-reviewed research. One consequence of this limitation is that novel types of interventions may be excluded from recognition until a sufficient evidence base is established for their estimation methods. This does not mean that companies should not pursue novel mitigation interventions, but these should be undertaken with the objective of establishing such an evidence base to satisfy the principle of quantifiability, to support later recognition under Mitigation Intervention statements.

2.3 Further Mitigation Intervention GHG accounting principles

In addition to the principles of "ambitious" and "quantifiable" for determining the eligibility of interventions for recognition under the Mitigation Intervention statement, more general GHG accounting principles are also needed to guide expert judgements and decision-making. Recognizing companies and other organizations for avoided emission and enhanced removal contributions (e.g., supply chain improvements, investments deploying low-carbon technologies, or use of market-based mechanisms) will only be viewed as credible if quality principles are applied in a rigorous manner.

This section recommends GHG accounting principles applicable to quantifying and reporting the impact of interventions. We have drawn from and adapted principles in established programs, guidelines, standards, and protocols (e.g., IPCC, GHG Protocol, ISO, ICVCM, OffsetGuide.org).

By applying these further principles, companies can ensure their reported Mitigation Intervention statement supports intended users of this information in assessing the true climate impact of corporate interventions targeting sources and sinks beyond their Physical Inventory boundaries. We have elaborated an extended list of principles that standards developers and GHG programs can draw from in keeping with their existing nomenclature.

- **Transparent.** Sufficient and appropriate information to support the intended use of the estimate by the intended user, and this information is documented in an accessible and understandable manner with relevant assumptions, methodologies, data, data collection

processes, and uncertainties disclosed and/or referenced. Ideally, documentation should be sufficient to reproduce estimates and substantiate avoided emissions and enhanced removals claims.

- **Accurate**. The GHG avoided emission and enhanced removal estimates attributed to a mitigation intervention shall be robustly quantified, based on sound scientific methods. Uncertainties, subjective judgment, and bias in measurements, estimates, or calculations shall be reduced as much as is practical, given the fundamental "unknowable" nature of a counterfactual baseline. While baseline scenarios cannot be characterized by accuracy, the data and parameters used to calculate baseline emissions and removals can be.

- **Time series consistency.** Data, methods, criteria, and assumptions are selected that produce meaningful and valid trends in baseline and intervention scenario emission and removal estimates over time. Estimates shall be reported concurrently with the year the avoided emissions or removal enhancements physically occur.

- **Scenario comparability.** Where common parameters are involved in determining baseline emissions or removals for different interventions, the assumptions and quantification methods used in relation to those parameters should be consistent. Furthermore, common quantification methods and assumptions should be used, where possible and relevant, for both baseline and intervention scenarios.

- **Verifiable.** The reported avoided emission and enhanced removal claims from recognized mitigation interventions must be based on the *ex post* quantification of GHG impacts. And these impacts must be reported and claimed in reference to the time period (i.e., year) that they actually occur, thereby providing the ability to verify the data upon which baseline and intervention emissions and removals are calculated. Sufficient documentation must be maintained for an independent auditor to reconstruct reported GHG impacts and validate the appropriateness of methods and assumptions, including: data sources and collection methods; justification for all assumptions; calculation methods and emission factors; uncertainty assessments; records of any methodological revisions; and retention of raw data.

- **Permanent.** Avoided emissions (e.g., avoided deforestation) and enhanced removals from an intervention shall be permanent[22] or, where there is a significant risk of reversal, there shall be measures in place to address those risks and account for and report any reversals when they occur and revise reported Mitigation Intervention statement claims accordingly.

- **Explicitly assigned impact claims.** Avoided emission and enhanced removal claims shall be clearly linked to a specific recognized mitigation intervention, and each intervention shall be transparently claimed by one or more entities. Where more than one entity claims an

[22] From a physical science perspective, mitigation outcomes should be "permanent on climate-relevant timescales," which science suggests should be at least 10,000 years (Arcusa and Lackner, 2025). As a practical matter, programs may choose to specify shorter time periods as meeting the definition of "permanent," or instead adopt standards for "durability" rather than permanence. In doing so, however, they should be clear about the potential trade-offs of this approach with respect to achieving global climate goals.

intervention (e.g., joint implementation), its impacts shall be clearly apportioned between the parties or prominently disclosed as being jointly claimed. Contribution claims shall not be simultaneously claimed under more than one reporting or recognition GHG program unless disclosed and permitted under program rules.

- **Sustainable development benefits and safeguards.** Interventions shall conform with or go beyond widely established industry good practices on social and environmental safeguards while delivering positive sustainable development impacts.

Given its tension with the accuracy principle, GHG programs that adopt a version of the Mitigation Intervention statement for corporate reporting and contribution goal setting should carefully consider the role of conservativeness in the quantification of avoided emissions and enhanced removals claimed by reporting organizations, and incorporate it as appropriate into program rules and methodologies (see "Quantifiable" section 2.2.2 above). Specifically, policy makers for GHG programs must answer the question: What level of risk of overestimation of impact claims is acceptable to our program?

- **Conservativeness.** Using assumptions, values, procedures, and baseline scenarios that are more likely to underestimate than overestimate avoided GHG emissions and enhanced removals, where uncertainties cannot otherwise be reduced (see Box 5).

Box 5. Conservativeness in practice: ICVCM criteria for "robust quantification"

The Integrity Council for Voluntary Carbon Markets (ICVCM) administers a labeling program for high-quality carbon credits. Its Assessment Framework requires that any methods used to quantify the impacts of mitigation projects must minimize overestimation. Specifically, it requires that:

- Quantification methods must be *likely* (>66% probability) to *not overestimate* avoided emissions or enhanced removals.
- In conjunction, it should be *very unlikely* (<10% probability) that—*if* overestimation occurs—this overestimation *exceeds* actual avoided emissions or enhanced removals by more than 20%.[23]

Criteria like these provide a basis for consistently interpreting the principle of "conservativeness" when applying expert judgements to methodologies and quantifying mitigation impacts, even if the probability conditions cannot be strictly demonstrated (e.g., it may be difficult to assign numerically derived probabilities to possible baseline scenarios and their associated emissions).

2.4 Key elements of a consequential accounting for interventions

The details of consequential GHG accounting methods will vary with the type of mitigation intervention involved. Given the range of possible types of interventions eligible under a Mitigation Intervention

[23] See the Integrity Council for Voluntary Carbon Markets (ICVCM) Core Carbon Principles and related Assessment Framework (https://icvcm.org/).

statement, it is not possible to prescribe detailed methodologies here for quantifying the impacts of every possible type of intervention. Similar to existing carbon crediting programs, detailed methodologies for each type of mitigation intervention are necessary for Mitigation Intervention statements. However, methods for all types of mitigation interventions should adhere to certain common elements. For the purpose of quantifying GHG avoided emissions and enhanced removals, a proper consequential GHG accounting of each mitigation intervention involves the following tasks under Step 4, as introduced in section 1.7:

Step 4. Quantifying the *ex post* impacts of each implemented mitigation intervention using appropriate baseline and quantification methodologies

- Defining the intervention and its causal chain
- Defining a GHG accounting boundary
- Specifying methods for quantifying baseline emissions
- Specifying methods for quantifying actual (post-intervention) emissions
- Collecting and verifying monitoring data
- Quantifying avoided emissions and/or enhanced removals

Below, we provide general guidance on performing each of these steps, identify important considerations to address, and summarize relevant methodological options. Particular attention is given to baseline definition.

2.4.1 Defining the mitigation intervention and its causal chain

The essential first step is to clearly define a mitigation intervention, including its scope and how it operates to avoid emissions or enhance removals, before quantifying its GHG impacts. This task may seem prosaic, but it is often not straightforward. Trying to assess the effects of a poorly specified intervention—or an intervention with a poorly specified causal chain—can lead to ambiguous, unreliable, or misleading results.

As noted earlier, a causal chain defines the sequential steps and processes by which a mitigation intervention causes GHG emissions to be avoided (or removals to be enhanced). Key elements to address in describing a causal chain include:[24]

- **What is the scale of the intervention?** For example, will the intervention have a small effect on the supply or demand for goods and services relative to the entire market for those goods and services, or will it have significant impacts on supply/demand balances? The scale of the intervention matters in determining what methods are most appropriate for estimating baseline emissions, as simplifying assumptions are typically more appropriate for small-scale interventions (section 4.2, and Box 6 below).

[24] For further discussion, see "coverage and scope" considerations in Broekhoff, D. and Lazarus, M. (2013). *Options and Guidance for the Development of Baselines*. Technical Note, 5. World Bank Partnership for Market Readiness, Washington, D.C. https://www.thepmr.org/content/pmr-technical-note-5-options-and-guidance-development-baselines.

- **Who are the actors involved and what are their roles?** What is the complete set of actors needed to implement or effectuate the intervention and achieve its intended outcomes? Who will be affected by the intervention?

- **What set of activities, practices, technologies, facilities, systems, and/or processes will the intervention affect?** These are key elements of an intervention's causal chain. The type(s) of processes affected—and the scope of those processes—will play a role in determining what methods are used to estimate baseline emissions (see section 2.4.3).

- **How does the intervention affect these activities, practices, technologies, processes?** Is the effect of the intervention direct (i.e., single-stage causal chain) or indirect (i.e., multi-stage)? What specific causal chain steps lead to the avoidance of emissions? How will larger systems (including markets) connected to an intervention respond, and what effects will those responses have on emissions? These questions matter for establishing attributability (see section 2.2.2) but are also relevant for considering GHG assessment boundaries (section 2.4.2), determining baselines (section 2.4.3), and accounting for "leakage emissions" (sections 2.4.4 and 2.4.5, below). Note that for the Mitigation Intervention statement, we propose limiting eligible interventions to those with short causal chains that lead directly to avoided emissions (section 2.2.2, above).

- **What specific emission sources or sinks will be affected, and where are they located?** The GHG sources and sinks affected by an intervention will define its "GHG assessment boundary" (see section 2.4.2).

Box 6. EACs as market-based interventions

In multiple sectors, there is growing interest in using market-based instruments (e.g., environmental attribute certificates, or EACs, that convey some form of environmental claim associated with a certain activity) as a type of organized market-scale "intervention" for mitigating GHG emissions. The problems with applying market-based approaches in the context of allocational (inventory) GHG accounting are explained in installment N.4 and N.7bis (M Gillenwater, 2025a, 2024). An emission factor or emissions profile, which is the form of claim made by most EACs, is not an avoided emission quantity. However, using EACs as the basis for an *avoided emissions* claim can also be problematic. For EACs denominated as emission profiles, the impact of the overall EAC market needs to be assessed holistically, using consequential accounting methods.[25] Since emission profile EACs are not typically subject to additionality tests, the impact of a single company purchasing and retiring a certificate may not quantifiably cause any change in global emissions.

Thus, to make a causal claim about the use of EACs, one needs to be explicit about whether the influence of a single market-based transaction is being quantified or the aggregate impact of the overall EAC market. For the former, the typical effect of an individual certificate purchase will be

[25] Carbon credits are already based on project-level consequential methods for quantifying impacts. If other EACs are similarly quantified, then this eliminates the need for market-scale impact assessment.

negligible. But collectively, the entire EAC market could result in a lower level of emissions than would have occurred in the absence of the EAC market mechanism. In these cases, the "intervention" being assessed for EACs should be the implementation of an entire EAC market mechanism (i.e., creation of supply through EAC issuance and creation of demand through environmental claims approvals and policing). The aggregate avoided emissions impact of the overall EAC market can then be apportioned to market participants (i.e., effectively, those purchasing EACs purchase a right to claim and report as a contribution a share of this aggregate GHG impact).

2.4.2 Defining a GHG accounting boundary

A GHG accounting boundary under a consequential method delineates the emission sources and carbon sinks that must be considered and included in some way when quantifying the effects of an intervention. In principle, the GHG accounting boundary must include all sources and sinks that are (or could be) significantly affected by the intervention, and excludes sources and sinks that are unaffected (i.e., their emissions and removals, respectively, are the same in the baseline and intervention scenarios). "Significantly affected" can be subjective. Most standards for consequential accounting define a "materiality" threshold for inclusion. A materiality threshold, for example, might require the inclusion of sources or sinks if changes in their emissions or removals caused by the intervention are likely to exceed a certain percentage (e.g., 1% to 5%) of the total avoided emissions or enhanced removals caused by the intervention across all sources and sinks.[26]

Defining a mitigation intervention GHG accounting boundary requires considering sources and sinks that may be present in *either* the baseline scenario for an intervention (see below), in the intervention scenario itself, or in both scenarios. The effect of an intervention, for example, may be to end the existence of a source (or prevent it from being created) and replace it with another source that would not have been present in the baseline scenario. Alternatively, an intervention may simply cause emissions at a single source—present in both scenarios—to be avoided.

Inclusion within a GHG accounting boundary does not mean that every source or sink must be explicitly tracked and measured. In some contexts, it is sufficient to identify a set of sources or sinks (e.g., power plants on an electricity grid) and then apply methods to quantify the aggregate effect of an intervention on those sources.

2.4.2.1 Accounting for "leakage"

Some consequential accounting frameworks distinguish between the *intended* effects of an intervention (e.g., avoiding emissions at targeted sources) and *unintended* effects (e.g., increased emissions that occur elsewhere as an unintended consequence of the intervention).[27] Such unintended effects are often referred to as "leakage" (or similar terms such as "spillover" or "slippage").

[26] Exceptions may be made, however, where the effect at a particular source or sink is to avoid emissions or enhance removals, and this effect would be difficult to quantify. That is, if excluding sources or sinks is likely to result in an *underestimate* of total avoided emissions or enhanced removals, then they may be justifiably excluded for conservativeness.

[27] The GHG Protocol for Project Accounting (WRI/WBCSD, 2005), for example, refers to these as "primary" and "secondary" effects.

While this distinction is intuitive, it is also arbitrary. A full accounting of avoided emissions or enhanced removals resulting from an intervention must include both kinds of effects. That said, demarcating leakage effects may be useful for two reasons. First, how leakage can occur is not always obvious or intuitive. Several rubrics exist for defining mechanisms or pathways by which leakage can occur, and it is often useful to include these in a consequential method to ensure they do not get overlooked. For example, many methodological frameworks distinguish between two main types of leakage:

- "Activity shifting" leakage occurs when an intervention physically displaces an emission-causing activity, removing it from one location but causing it to shift to another location. "Classic" examples would be a forest conservation project that simply causes local subsistence farmers to clear forest on a neighboring parcel of land, or a natural gas well-capping project that causes methane to leak out of the ground in another location.
- "Market" leakage occurs when an intervention affects the supply or demand for energy, commodities, goods, or services, inducing a market response that leads to increased emissions elsewhere. For example, a forest conservation intervention may also reduce timber supply, leading to increased logging in other areas (even far away) to meet global demand for timber.

Unintended leakage effects can sometimes be challenging to monitor and quantify (often because they are indirect, e.g., involving market leakage). In these cases, specific kinds of models or estimation methods may be required to quantify these effects, separate from those used to estimate the primary (non-leakage) effects of an intervention.[28]

2.4.3 Specifying methods for quantifying baseline emissions

The baseline for an intervention is, in essence, a characterization of a scenario that would have (most likely)[29] occurred in the absence of the intervention. A baseline scenario describes the technologies that would have been implemented, the practices that would have been used, and/or the behaviors that would have been engaged in. It further must specify associated activity levels (e.g., how much a technology would have been utilized, or how frequently and to what extent a practice would have been engaged in) and the resulting GHG emissions and removals from these activities. The generic formula for baseline emissions is:

$$BE_t = \Sigma (A_{i,t} \times EF_{i,t})$$

[28] The potential for market leakage in some cases can be investigated economically using empirical data on elasticities of supply and demand.

[29] A key challenge with consequential accounting is that it inherently depends on the characterization of a counterfactual baseline. A counterfactual baseline scenario cannot be empirically verified, and in theory, there could be a range of possible scenarios that would have occurred in the absence of an intervention, with varying levels of probability. The task for consequential accounting is to characterize a scenario for baseline emissions that is either highly likely to be "true," or—following the principle of conservativeness—to adopt a characterization that falls towards the lower end of the distribution—in terms of emissions—of possible scenarios, and is therefore more likely than not to *underestimate* baseline emissions (or, conversely, to *overestimate* baseline removals). Quantifying baseline emissions, therefore, involves both art and science (i.e., it is not a purely objective exercise), which is a major reason for perennial questions about the credibility of avoided emissions claims. It is important to bear this in mind when identifying eligible interventions (see section 2.2) and making decisions about quantification methods.

Where *t* is typically treated as a calendar year, and:

BE_t = Baseline emissions for time period *t*

$A_{i,t}$ = Quantified activity level for activity *i* over time period *t*

$EF_{i,t}$ = Quantified emission factor for activity *i* over time period *t*

A full description of a baseline scenario must align with an intervention's identified causal chain (see above), and may be informed by factors such as:[30]

- Legal requirements
- Financial incentives
- Physical or environmental conditions
- Infrastructure constraints
- Resource availability
- Common practice or behaviors

In theory, fully characterizing *ex post* baseline emissions requires some version of the following steps:[31]

1) Identifying all facilities/practices affected by the intervention, as determined by a mapping of its causal chain. This may include some combination of:
   a) Facilities/practices that exist, or are already occurring, at the start of the intervention; and
   b) New facilities/practices that would have been deployed in the absence of the intervention, and are now either displaced or affected by the intervention.
2) Characterizing the emission (or removal) factors of these identified facilities/practices, including any changes over time.
3) Characterizing total baseline activity levels over time, and the relative contribution of identified facilities/practices to these total activity levels.

In practice, methods for quantifying baseline emissions often rely on some common methodological "shortcuts" to this general approach. For many types of mitigation interventions, for example, it is common to assume equivalent levels of activity in the intervention and baseline scenarios (see "Controlling for activity levels" below). And for all types of mitigation interventions, there are several common categories of approaches for estimating baseline emissions (see section 2.4.3.2, "Methodological approaches for estimating baseline emissions").

2.4.3.1 Controlling for activity levels

In many cases, the baseline scenario for an intervention involves using technologies or practices that would have provided *the same level of product or service* as the technology or practice associated with the intervention. (In life cycle analysis, this is typically referred to as providing an equivalent number of "functional units"). For example, interventions that improve the energy or material efficiency of a

[30] Broekhoff, D. and Lazarus, M. (2013). *Options and Guidance for the Development of Baselines*. Technical Note, 5. World Bank Partnership for Market Readiness, Washington, D.C. https://www.thepmr.org/content/pmr-technical-note-5-options-and-guidance-development-baselines.

[31] Adapted from Broekhoff, D. and Lazarus, M. (2013). *Options and Guidance for the Development of Baselines*. Technical Note, 5. World Bank Partnership for Market Readiness, Washington, D.C. https://www.thepmr.org/content/pmr-technical-note-5-options-and-guidance-development-baselines.

production process at a specific location, or that switch to alternative fuels or other means for providing a service (e.g., transportation), will generally do so while maintaining the same level of output (e.g., transportation services) at the facilities or locations where they occur.

In these cases, a common methodological shortcut is to assume that, at the site or facility affected by the intervention, activity levels in the baseline scenario would have been equivalent to the levels provided in the intervention scenario. After an intervention is implemented, therefore, actual measurements of activity can be used to calibrate baseline emissions estimates, eliminating a key source of potential uncertainty. (Baselines estimated in this way are sometimes called "intensity baselines," because only baseline emissions intensities must be estimated, as activity levels can be directly measured.)[32]

The caveat with this approach is that not all interventions *do* preserve the same level or kind of activity at a particular facility or location. Interventions that reduce logging of forests, for example, will generally reduce timber supply from affected areas compared to the baseline (i.e., a change in the level of timber production within a particular area of land). A lowering of service or output due to an intervention can lead to "leakage" emissions, as other producers step in to make up the shortfall. This potential displacement is something that should be addressed when mapping out the causal chain for an intervention, and leakage emissions should be anticipated and explicitly identified within the GHG assessment boundary (see above).

2.4.3.2 Methodological approaches for estimating baseline emissions

Several generic methods can be used to estimate baseline emissions. These methods may be used to estimate baseline emission factors, activity levels, or both. The appropriateness of these methods, and the details of how they are specified, will vary by the type of intervention (i.e., project type). This section, therefore, provides only a general overview.

At the broadest level, there are two approaches to defining a baseline scenario and estimating associated baseline emissions:

1) **Scenario characterization**. This approach involves explicitly identifying and characterizing the specific baseline technologies and/or practices that would have most likely been employed in the absence of a mitigation intervention, and deriving baseline emission factors—and possibly activity levels—from this characterization.
2) **Using a performance standard or benchmark**. This approach involves deriving a baseline emission factor using statistical sample data about the emission rates of existing technologies or practices that an intervention is replacing or displacing.

Several general methods can be used for **scenario characterization**. These include:

- Assuming the continuation of historical activity and/or emission rates
- Identifying a likely alternative technology, practice, or management regime
- Deriving a scenario from simulation modeling
- Calibrating baseline scenario assumptions *ex post* using comparison groups

[32] Ibid.

These methods are not necessarily mutually exclusive. For example, a decision to specify an alternative technology—or to assume the continuation of current historical activity—may be validated through surveys or modeling. Simulation models may themselves be calibrated using measurements of comparison (control) groups. Certain methods (like assuming continuation of historical activities) may be preferred for practical reasons, but methods should be chosen first and foremost based on whether they will provide an accurate rendering of baseline activity and emissions/removals.

A common method is to estimate baseline emissions by assuming a ***continuation of historical activity and/or emission rates***. This method can be used where an intervention alters an ongoing process or activity (e.g., intervening to slow rates of deforestation, or replace industrial equipment with a low-emitting alternative well before the equipment would otherwise have been retired or decommissioned). An important caveat, of course, is the standard disclaimer one hears about financial investments: "past performance is not a guarantee of future returns." Estimating baseline activity levels and emission rates from historical trends only works if there are unlikely to be future discontinuities in the baseline scenario. Even then, projections should be time-limited (see section 2.4.3.3, "Defining a valid duration for the baseline," below). In some cases, a hybrid approach may be used where historical trends are modified or adjusted based on known or predicted changes from historical conditions (e.g., changes in land-use laws or forest commodity prices, which could affect deforestation rates, or the known replacement date for existing industrial equipment). Finally, a critically important methodological step is defining the historical period from which future emissions will be projected. There is no "one-size-fits-all" rule for this task. The period should generally be long enough to capture ongoing trends, but not so long that the trends it captures are obsolete (e.g., 4-7 years).

Where future conditions are likely to be significantly different from historical conditions, other methods are needed. This is a particular concern when estimating baseline activity levels. For many types of processes, activity levels can fluctuate significantly over time. This can be true for things like deforestation rates, for example, but also commodity markets and a wide range of other complex systems. As described above, a common approach is to assume that baseline and actual activity levels for an intervention will be identical (or nearly the same), which is reasonable for many kinds of interventions. In that case, baseline activity levels are simply set equal to what is observed after the intervention. Even in these cases, however, there may be important changes over time in baseline emission factors that deviate from historical conditions. Three general methods are possible for forecasting future deviations in baseline activity levels and/or emission rates.

The first method is ***specifying a new technology, practice, or management regime*** that would have been adopted in the baseline scenario. For example, a mitigation intervention might consist of installing a new, ultra-low-emitting technology at the time an old piece of equipment is being replaced. Standard equipment would have been installed in the baseline scenario, with lower emissions than the historical equipment, but higher than the mitigation intervention technology. The baseline emission factor could therefore be derived from the "standard" equipment. One version of this approach is to determine the baseline emission rate using a **performance standard** (e.g., derived from a mix of "standard" technologies or practices, see below).

Some form of ***simulation modeling*** may be required where both baseline activity levels and emission factors need to be estimated, or where baseline emission rates depend on the performance of complex systems. Determining baseline marginal emission rates on an electricity grid, for example, requires at least some form of system modeling. Simulation modeling is almost always required where large-scale interventions are undertaken (e.g., interventions that cause major shifts in markets or production systems) in which case models are needed to estimate both activity levels and emission factors.

Simulation modeling can be used to produce a fixed *ex ante* estimate of baseline emissions (e.g., defining what baseline emissions will be in each year before an intervention is implemented) or to generate *ex post* estimates (e.g., modeled estimates of baseline emissions taking into account new data collected during an intervention's implementation). For some types of interventions, the latter approach may be essential to accurately reflect baseline conditions, because of the unpredictability of key variables (see discussion of the valid duration for a baseline in section 2.4.3.3 below).

Where key variables needed to estimate baseline emissions are hard to predict, methods that rely on ***comparison groups*** can be used. With these methods, a reference area or control group is defined that is similar to, and representative of, the area, facility, or practice affected by a mitigation intervention. The comparison groups can then be monitored to infer baseline activity levels for the intervention, baseline emission rates, or both. For example, an intervention that shuts down a coal-fired boiler and replaces it with a thermal electric system might rely on monitoring of other boilers at other facilities in the same industrial complex to infer the boiler's baseline activity levels and emission rates. Likewise, avoided deforestation interventions may rely on control areas, unprotected but similar in profile to the area protected by the mitigation intervention, to infer baseline deforestation rates.[33]

Finally, the other major approach to estimating baseline emissions is to use some type of **performance standard**. This approach is specific to defining baseline emission factors, and functions quite similarly to the "specifying a new technology, practice, or management regime" method described above. The difference is that, with a performance standard, baseline emission rates may be defined either by a specific technology or practice (e.g., a "best in class" or "best available" technology for producing a good or service) or by using statistics to derive an average (or below average / high performing) emission rate. For example, data on the emissions performance of facilities similar to (and geographically proximate) to a facility targeted for intervention can be used to derive a high-performing (e.g., 10th percentile) emission rate that is then used to conservatively estimate the mitigation intervention's baseline emissions. Defining an appropriate performance standard requires clearly defining relevant geographic boundaries for sampling baseline technologies or practices, and clear rules for the maximum age or vintage of technologies and practices that may be considered in setting the standard.[34]

Performance standards are, by definition, only applicable in situations where the intervention and baseline scenario involve the same outputs (see "controlling for activity levels," above) and work best

[33] For example, see Rau, E.-P., Holland, J., Swinfield, T., Williams, A., Keshav, S., and Coomes, D. (2025). "Strengthening the integrity of REDD+ credits: objectively assessing counterfactual methods using placebos." *Environmental Research Letters*. DOI:10.1088/1748-9326/ae0f44.
[34] Ibid.

when the outputs from different technologies and practices are homogeneous. The reason performance standard approaches are distinguished from "scenario characterization" approaches is that they typically define a desired goal for minimum emissions performance, rather than an explicit prediction of what would "most likely" have occurred in the absence of an intervention. Otherwise, they function similarly to methods that specify a particular baseline technology.

2.4.3.3 Defining a valid duration for the baseline

Baseline scenarios are inherently uncertain and become more so the further they are projected into the future. Because of this, most carbon crediting programs, for example, place limits on the time period for which a baseline scenario, and associated baseline emission estimates, are considered valid. These so-called "crediting periods" may intentionally be *shorter* than the lifetime of a particular project or piece of equipment (e.g., 7 to 10 years).

The length of time over which baselines can be confidently projected varies by the type of mitigation intervention and the methods used. For example, baseline emission estimates that are updated over time using *ex post* monitoring data (e.g., to update parameters used in simulation modeling, or to monitor control groups) may be considered valid for a longer duration after an activity is initiated, because they are adjusted *ex post* to reflect changing circumstances. Discretion should be used to define valid baseline durations, taking into account uncertainties (e.g., with respect to how quickly or substantially variables driving baseline emissions are changing over time) and whether baseline emission estimates are determined purely *ex ante*, or adjusted over time based on monitoring data.

2.4.4 Specifying methods for quantifying actual (post-intervention) emissions

To determine the emissions avoided, or removals enhanced, by a mitigation intervention, baseline emissions or removals must be compared to the *actual* emissions or removals that occur after the intervention is implemented. Quantifying actual emissions requires specifying the methods that will be used to measure and/or estimate emissions (or removals) arising from sources and sinks within the GHG accounting boundary identified in section 2.4.2. The generic formula for determining actual (post-intervention) emissions mirrors the formula for baseline emissions:

$$PE_t = \Sigma (A_{i,t} \times EF_{i,t})$$

Where t is typically treated as a calendar year, and:

PE_t	=	Post-intervention emissions for time period t
$A_{i,t}$	=	Quantified activity level for activity i over time period t
$EF_{i,t}$	=	Quantified emission factor for activity i over time period t

Quantification methods must specify any measurements and data collection related to activity data, emission factors, or both, and indicate any calculations that must be performed, or any estimation/modeling methods that must be used, to determine actual emissions or removals. The specific set of monitoring methods, tools, and calculations required will depend on the type of intervention (e.g., data and methods used to estimate actual emissions for a mitigation intervention that improves energy use efficiency in buildings will differ markedly from those used to estimate emissions for an intervention to enhance carbon storage in forests).

2.4.5 Collecting and verifying monitoring data

It will generally be useful to develop an *ex ante* estimate of the emissions a mitigation intervention will avoid, or the additional removals it will induce, before it is implemented. In many cases, a company will have a range of mitigation interventions they are considering funding and will need some ex ante analysis to compare options based on GHG impacts, costs, and other factors. In these cases, estimates can be based on projections of both baseline and actual emissions/removals. These projections may be anchored in measurements or estimates of activity data and emission factors at the time of an intervention's initiation, but otherwise do not depend on data collection and monitoring.

However, to ensure proper accountability, companies should determine the emissions avoided or removals enhanced by a mitigation intervention on the basis of its actual performance. This requires, at a minimum, ongoing collection of data related to activity levels and emission factors needed for quantification of post-intervention emissions, as prescribed in the methods specified in section 2.4.4. A consistent set of procedures and methods should be specified for monitoring and collecting all required data. If baseline estimation methods require ongoing monitoring (e.g., to collect data needed to calibrate simulation models, or to inform estimates based on comparison group methods), then procedures must be specified for collecting these data as well.

To assert credible claims related to avoided emissions or enhanced removals, all data used to inform calculations of baseline and post-intervention emissions—and any calculations performed using those data—should be independently validated and verified. External independent auditors may be used for this purpose. Validation and verification procedures should be elaborated and prescribed (e.g., by a program authority overseeing corporate reporting efforts, see section 3.2 on "Governance" below).

2.4.6 Quantifying avoided emissions and/or enhanced removals

Quantifying *ex post* avoided emissions or enhanced removals involves the relatively simple step of calculating the difference between the estimates for the baseline and post-intervention emissions/removals, according to the following generic formula:

$$AE_t = BE_t - PE_t - LE_t$$

Where t is typically treated as a calendar year, and:

- AE_t = avoided emissions achieved during time period, t
- BE_t = baseline emissions occurring during time period, t
- PE_t = post-intervention emissions occurring during time period, t
- LE_t = net emissions from leakage[35] occurring during time period, t

[35] Leakage emissions will consist of a subset of the total changes in emissions or removals caused by a mitigation intervention. That is, leakage occurs when a mitigation intervention (unintentionally) *induces emissions* at a set of sources, or *inhibits removals* at a set of sinks, thereby decreasing the total net change in emissions or removals caused by the intervention. Leakage emissions must therefore be estimated by comparing baseline to post-intervention emissions/removals at the subset of affected sources or sinks. This result is then deducted from the difference between baseline and post-intervention emissions or removals at remaining (targeted) sources/sinks, per the formula above.

For calculating enhanced removals, the terms of the formula are typically reversed, so baseline removals are subtracted from actual removals to yield a positive number.

The reporting of final estimated avoided emissions or enhanced removals under the Mitigation Intervention statement should be done *ex post* and reported annually under the year in which the change in emissions or removals occurred. Companies may also choose to separately report, as supplemental information, *ex ante* estimates of avoided emissions and enhanced removals for planned mitigation interventions or for the anticipated future impacts of ongoing interventions. This exercise can be useful for later learning to see if mitigation actions performed better or worse than predicted.

2.4.6.1 Managing uncertainty

Uncertainty in the estimation of avoided emissions or enhanced removals can arise from multiple sources. Important potential sources of uncertainty include:

- *Measurement uncertainty*. Measurement techniques used to collect monitoring data—related to actual post-intervention emissions, or to calibrate estimates of baseline emissions—may have varying levels of accuracy. It is important to report on the level of uncertainty in any measurements used (e.g., a 95% confidence interval for results). A common practice for managing uncertainty is to use results from the upper end of a confidence interval to estimate actual, post-intervention emissions (i.e., erring towards over-estimation), and from the lower end of a confidence interval for data used to infer baseline emissions (i.e., erring on the side of under-estimation of emissions).[36] This is a key method for ensuring conservativeness in reported quantities of avoided emissions and enhanced removals.

- *Baseline uncertainty*. In some cases, the largest source of uncertainty in a quantification exercise is uncertainty about the baseline scenario or the level of baseline activity levels and emissions associated with this scenario. Managing this uncertainty requires applying robust methods for identifying an appropriate baseline scenario, clearly reporting on any assumptions used and methods applied, and—where multiple baseline alternatives are possible—intentionally erring by specifying a scenario with relatively lower baseline emissions (or higher removals) compared to plausible alternatives.

Methods to address uncertainty should seek to ensure that potential overestimation is minimized, as described in section 2.2.2.3, "High quantification certainty."

[36] For quantification of removals, the inverse would apply (i.e., erring on the side of under-estimating post-intervention removals and over-estimating baseline removals).

3 AGGREGATING & REPORTING INTERVENTIONS: GOVERNANCE, TRACKING PROGRESS, AND GOAL SETTING

An essential element of many voluntary GHG programs that serve to recognize corporate climate leadership and action is the setting, tracking, and achieving of ambitious GHG mitigation targets and goals. To help linguistically distinguish between corporate allocational and consequential GHG accounting frameworks that are used as evaluation metrics by recognition GHG programs, we refer to corporate commitments to reduce over time GHG emissions (and increase removals) from sources and sinks for which they have been allocated responsibility (i.e., within a company's Physical Inventory) as "targets". In contrast, we refer to corporate commitments to avoid an aggregate amount of emissions (or enhanced removals) through their "beyond inventory mitigation" interventions as "contribution goals". This section only addresses the mostly neglected subject of setting such contribution goals and corporate reporting and tracking their progress against them.

No one metric can comprehensively measure all aspects of corporate GHG performance for all intended uses of corporate GHG information. Therefore, the Mitigation Intervention statement elaborated in this document should be viewed as part of a broader multi-statement corporate reporting framework that may be adapted for use by corporate climate leadership recognition programs (e.g., SBTi). As illustrated in Figure 5, a Physical Inventory statement supports the tracking of progress in achieving corporate reduction targets over time, aligned to global net zero sector pathways. Separately, a Mitigation Intervention statement can be used to track progress towards corporate annual and cumulative avoided emissions and enhanced removal contribution goals that are also established by recognition programs.

Recognition programs may then choose to combine these metrics into an overall corporate performance score, depending on their objectives. Although both the Physical Inventory and Mitigation Intervention statements are quantified in units of tonnes of CO_2-eq., it is preferable that they not be added or netted, as they measure two different types of changes relative to different references and with different boundaries. Therefore, any combined scoring that corporate climate leadership recognition programs undertake should treat a combination as a unitless value (i.e., performance score) (Gillenwater, 2023c).

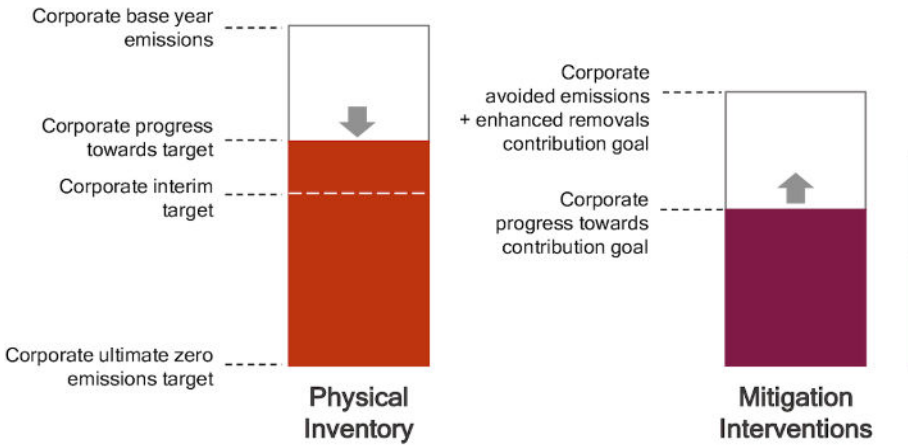


Figure 5. Illustration of multi-statement progress tracking with annual corporate inventory target and annual contribution goal[37]

3.1 Aggregation and reporting

A Mitigation Intervention statement should include the reporting of avoided emissions and enhanced removal impacts in tonnes of each GHG separately and in aggregate CO_2-eq. These quantities should be based on *ex post* quantification and reported in reference to the year they physically occur (Brander et al., 2021). The frequency of the submission of reports may also be annual, although this is a program-level decision. Corporate reporting and recognition programs may also choose to request or require companies to disaggregate their intervention impact reporting by features, such as:

- Geographies or jurisdictions (e.g., countries) in which emissions were avoided or removals enhanced (i.e., the location or locations of the sources and sinks affected by the intervention)
- Industries or sectors that are impacted by interventions
- Type of intervention and/or type of methodology used (e.g., energy efficiency project, change in procurement rules)
- Whether the sources and sinks affected are in an activity pool (see Box 3) for the intervening company's Physical Inventory
- Whether sources or sinks affected are perceived to be within or outside of the intervening company's value chain (or whether this is unknown)
- Whether the avoided emissions or enhanced removal are being exclusively claimed by a company or whether the intervention has been jointly implemented. If the latter, whether the impact claims are being jointly claimed and reported or apportioned without duplicate claims (see Box 7).

[37] Removals and enhanced removals were not presented for simplicity of presentation.

Box 7. Jointly implemented and claimed mitigation interventions

Mitigation Intervention statements accommodate collaborative interventions (e.g., multiple companies cooperating to implement mitigation interventions at a sectoral or jurisdictional level in a common supply chain). In these cases, however, the question arises—who gets to report and claim any resulting avoided emissions or enhanced removals? Contribution goal-setting rules established by recognition programs may need to account for jointly claimed impacts (e.g., by apportioning, in an additive manner, the estimated avoided emissions to each party). For all parties materially contributing to a mitigation intervention, the total of their individually claimed contributions should not exceed the total mitigation impact achieved by the mitigation intervention.[38]

While we recommend the reporting of contributions annually, contribution goals may be temporally structured in other ways. GHG programs and companies may set a time series of annual goals and/or a cumulative goal over a period of years. Figure 6 illustrates the tracking of corporate performance against a combination of annual and cumulative contribution goals.

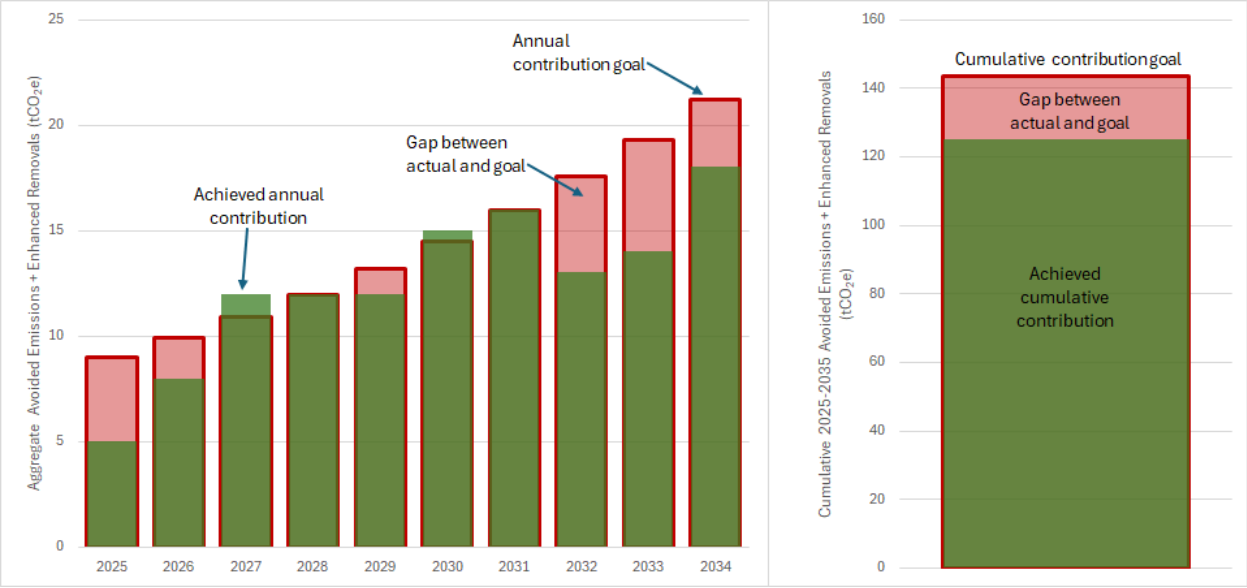


Figure 6. Graphical illustration of achieved annual aggregate corporate avoided emissions and enhanced removal reporting presented relative to annual and cumulative contribution goals

Reporting of mitigation intervention impacts by companies should include estimates of the uncertainties in the reported quantities of avoided emissions and enhanced removals, along with a discussion of the likely causes of those uncertainties (see section 2.4.6.1 "Managing uncertainty")

[38] Because these claims are in the form of contributions to achieving global GHG mitigation and global net zero, recognition programs may also choose to tolerate jointly claimed impacts. However, such joint claims must be transparently disclosed, including a listing of all the parties making a shared claim for the same avoided tonne of GHG emissions. And material contribution conditions must be placed on the acceptance of such joint claims. Jointly claimed impacts may be applied to separate collective contribution goals set by consortia of companies, but must be excluded from tracking towards individual company contribution goals.

(Manski, 2019). The development of improved guidance on assessing and reporting uncertainties in mitigation intervention impact estimates is needed and should be a priority for development (Bamber et al., 2020; Leung et al., 2015; Mesa-Frias et al., 2013). GHG program rules could consider these uncertainties when aggregating the claimed contributions from multiple interventions. For example, more uncertain quantities could be addressed by either discounting those claimed quantities or by enlarging the company's goal accordingly. If uncertainties have been properly managed within the GHG accounting methods used to estimate mitigation impacts, however, such rules may be unnecessary.

Finally, when implementing multiple mitigation interventions, it is possible for them to have overlapping effects. For example, a company (or two separate companies) could simultaneously support separate interventions in freight transportation that (1) improve logistics so that delivery vehicles travel fewer kilometers; and (2) replace conventional delivery vehicles with electric vehicles. The emissions avoided by intervention #2 (electrification) will be overstated if they are quantified by assuming the *baseline* distance traveled (e.g., assuming intervention #1 is not implemented). These types of overlapping effects should ideally be addressed at a methodological level. That is, methodologies used to estimate the effects of each intervention should account for the effects of other, simultaneous interventions, or (even better) consider their effects in aggregate.[39] However, this may not always be possible. Reporting should identify potential overlaps in the intervention accounting boundaries for different interventions and strive to adjust claimed impacts accordingly.

A first draft of the Mitigation Intervention statement's reporting tables is presented in Annex C. These tables are intended to serve as an illustration of reported information and a starting point for further development of proper reporting requirements and tables by standard-setting, reporting, and recognition programs, such as the GHG Protocol and SBTi.

3.2 Governance

For a Mitigation Intervention statement to operate in a credible and trusted manner, it must be supported by institutional governance systems. Reporting and recognition programs will need to establish governance bodies to oversee key functions and ensure the integrity and comparability of quantification methodologies, corporate avoided emissions and enhanced removals claims, and contribution goal-setting guidelines.

A critical governance function is the review and approval of proposed intervention types. Governance bodies must determine whether specific types of interventions meet established eligibility principles of being both "ambitious" and "quantifiable". Given the wide range of potential intervention proposals, governance entities will need to screen and reject proposed intervention types that do not satisfy these eligibility principles, while maintaining transparent justifications for such decisions and a mechanism for dispute resolution.

Additionally, governance systems will need to oversee the development, approval, and periodic revision of standardized methodologies (e.g., emission/removal calculations, monitoring procedures,

[39] In this generic example, the effects of intervention #2 would typically be calculated using *actual* distance traveled by delivery vehicles, which would automatically reflect the effects of intervention #1. However, for some types of interventions, overlapping effects may not always be automatically captured.

input data, GHG accounting boundaries) for baseline setting and quantification of avoided emissions and enhanced removals associated with the recognized intervention types. The governance process must also establish procedures for the regular reconsideration and updating of both recognized intervention types and their associated quantification methodologies as technologies and circumstances change over time. An objective of these governance processes should be to foster comparability of assumptions and quantification approaches across different mitigation intervention types and recognition programs. Similar systems exist under major carbon crediting programs for the types of interventions utilized in those markets, which should be adapted and extended for Mitigation Intervention statement reporting.

While the establishment of a reporting registry of implemented mitigation interventions and tracking of contribution claims and goals is not a strict prerequisite for the adoption of Mitigation Intervention statements by recognition programs and companies, such a registry could enhance transparency and facilitate stakeholder trust.

A novel reporting and governance consideration for corporate Mitigation Intervention statements and contribution goals is the treatment of jointly implemented interventions, where multiple companies establish a consortium to implement a mitigation intervention and then each seeks to claim and report a share of the avoided emissions or enhanced removals. In such cases, there is a risk of duplication of contribution claims across corporate statements. Obviously, companies should be encouraged to cooperate on the implementation of mitigation interventions where they will result in more effective and larger interventions. Reporting standards (e.g., GHG Protocol and ISO) and recognition programs (e.g., SBTi) may require all corporate contribution claims to be exclusive, or they may allow for impacts to be jointly reported, conditional on a company materially contributing to the intervention. Where impact claims are non-exclusive (i.e., claimed in full by multiple implementation partners) such non-exclusivity must be clearly disclosed and should be reflected in the tracking of progress toward separate consortium, versus individual company, contribution goals. Where impact claims are exclusive, the apportionment of avoided emission or enhanced removal impacts among all intervention partners must also be disclosed.

Finally, governance bodies may, and should, require a degree of assurance over reported avoided emissions and enhanced removal claims, including the verification of individual interventions and the aggregate achievement of corporate contribution goals. If assurance mechanisms are required by recognition programs, governance will need to extend to the accreditation of assurance providers, the certification of individual verifiers, and the oversight of applicable verification standards to ensure consistency and impartiality in assurance outcomes. Again, similar assurance processes and standards already exist in carbon crediting markets and corporate target-setting initiatives, which should be adapted and extended for Mitigation Intervention statement reporting.[40]

[40] For example, the following: a) ISO 14064-3:2019, which specifies principles and requirements for conducting or managing the validation and verification of GHG assertions and covers selecting verifiers, establishing assurance levels, determining verification approach, assessing data and controls, and preparing verification statements; and b) ISO 14065:2020, which specifies principles and requirements for bodies that undertake validation or verification of GHG assertions and establishes competence requirements for verification bodies.

Specifically, the verification of avoided emission and enhanced removal claims for each intervention reported by companies in their Mitigation Intervention statement should confirm that:

- The reported intervention meets the "ambitious" and "quantifiable" eligibility principles (e.g., confirming the intervention is on a positive list and meets the eligibility criteria of that list).
- The reported intervention was actually implemented as reported, including confirmation of financial outlays, contractual agreements, and physical deployment of technologies or practices.
- The consequential accounting methodology(ies) used to quantify baseline emissions, post-intervention emissions, and avoided emissions impacts are appropriate and appropriately applied, especially including selection and quantification of baseline scenarios.
- The quality and representativeness of data inputs used in impact calculations, such as activity levels, emission factors, and technology performance parameters, are in keeping with the accepted and applied methodology and good practice.
- For market-based interventions involving Environmental Attribute Certificates (EACs), the aggregate market-level impact analysis and the company's proportional impact share calculation are appropriately conducted in keeping with an accepted methodology.

3.3 Setting corporate contribution goals

How large a contribution goal should a company commit to? When setting a corporate contribution goal for the aggregate impact of their "beyond inventory mitigation" interventions, it is reasonable for the scale of that goal to reflect the overall **size and capacity of the company**. Larger companies—whether measured by revenue, number of employees, assets, or production output—should generally be expected to commit to a larger aggregate contribution goal.

Another tempting indicator of company size is the total GHG emissions allocated to and reported by the company in its Physical Inventory. However, assuming the company has set and is being held accountable for a Physical Inventory reduction target, we advise that the company's Physical Inventory total not be used as the reference for setting its contribution goals. Using emissions inventories as a reference for contribution goal setting risks creating the impression that reported contributions are intended as substitutes or compensation for reducing a company's allocated and reported emissions, rather than representing additional voluntary "beyond inventory mitigation" contributions that support broader national and global mitigation efforts. Neglecting this distinction risks problematically conflating such contributions with compensation practices, such as offsetting, which readily leads to greenwashing critiques that companies are not taking full responsibility for reducing "their" emissions (Michael Gillenwater, 2024).

Institutionally, this question of how contribution goals should be set and funded by companies is not one to be answered by GHG standardization bodies, like the GHG Protocol. What a company's contribution goal should be is a question better addressed by recognition programs (see Box 8 and Box 9). However, guidance in corporate GHG accounting standards and protocols can elaborate on options and considerations for setting corporate contribution goals, as well as corporate Physical Inventory reduction targets.

As illustrated in Figure 6, contribution goals should generally be set on an annual basis or as a cumulative total over a number of years.

Box 8. Potential references for setting contribution goals

Corporate recognition programs will need to develop and choose a rationale and basis for setting the magnitude of an individual company's contribution goal. Many options exist, such as basing goals on an estimate of what a company's "fair share" obligation is to global mitigation, cumulative historical emissions, or using some 'ability to pay' framework.[41]

For example, an ability to pay approach could define a portion of a company's annual profits over a period of years in the past and divide that value by a carbon price (e.g., implied value used for assessing "ambitious" or a social cost of carbon[42] value). The resulting value in tonnes of CO_2-equivalents could then be used as the quantity for a future contribution goal. A rationale for this option is that a company is ethically expected to invest an agreed portion of its profits in future interventions addressing sources and sinks beyond its GHG inventory. And that these interventions need to achieve a reasonable magnitude of impact.

Another far more novel option is to use a new "induced emissions" analysis based on the application of marginal emission factors to a company's major upstream consumption inputs and downstream production outputs. This induced emissions estimate approximates the marginal increase in global emissions that results from a company's economic activities—essentially measuring how much incremental emissions result from the company's existence and operations in the economy (while unrealistically assuming that markets do not respond to the addition or elimination of an entire company from the marketplace).[43] A rationale for this option is that companies that "induce" a greater magnitude of emissions through their broader value chain activities should also contribute a greater magnitude of avoided emissions through their "beyond inventory mitigation" interventions.[44] This option could be applied to disaggregated contribution goals by sector. For example, with a company's past or projected electricity consumption, a sector-specific induced emissions estimate could be produced using marginal grid emission factors that are applied to the firm's total electricity consumption (i.e., addressing both operating short-term and long-term, or build, factors). Separate contribution goals for each sector could then be set in reference to some portion of this induced emissions value. This same thinking can

[41] Höglund, R. and Mitchell-Larson, E. (2022). *Bridging the Ambition Gap: A Framework for Scaling Corporate Funds for Carbon Removal and Wider Climate Action*. Carbon Gap. https://carbongap.org/report-bridging-the-ambition-gap-a-framework-for-scaling-corporate-funds-for-carbon-removal-and-wider-climate-action/

[42] One could argue that the carbon price used should be a lower value, as many low-cost mitigation options still exist. However, the Mitigation Intervention statement is structurally limited to "ambitious" interventions, which will tend to have a higher mitigation cost per avoided tonne.

[43] Note, this induced emissions analysis is not a true consequential impact quantification, as if a company did cease consuming and producing, then it is highly likely that other companies would increase consumption and production through normal market dynamics.

[44] Because this induced emissions estimate reflects the company's incremental contribution to global emissions, rather than its allocated responsibility in its Physical Inventory, using it as a contribution goal reference avoids the compensation framing problem.

also be applied to other upstream inputs (e.g., steel consumption) and downstream outputs (e.g., gasoline production or solid waste generation) that are used as spend or activity data inputs in a Value Chain Analysis (see Figure 1).

Box 9. The challenge of reporting induced emissions

Intuitively, a more satisfying framework for corporate climate action reporting would capture not only emissions avoided and removals enhanced through contributory mitigation interventions, but also emissions induced or removals inhibited. It feels unbalanced to allow companies to report mitigation intervention impacts without also reporting on the effects of harmful corporate activities outside their Physical Inventory boundaries. However, implementing such a dual GHG accounting statement presents fundamental methodological difficulties, particularly around baseline definition.

The Baseline Ambiguity Problem

The core difficulty lies in determining what constitutes an "inducing intervention" appropriate for reporting that mirrors the "ambitious" eligibility principle of the Mitigation Intervention statement. A mirrored induced emissions eligibility principle for reporting harmful interventions entails establishing what the company should have done instead. Many decisions are made within companies every year, some of which can be seen to have harmful impacts on the climate relative to decisions that take climate change more fully into consideration (e.g., that internalize the economic externalities of GHG emission). Companies could select some of these decisions to evaluate the induced emissions or inhibited removals they cause, but which decisions must they evaluate? And what baseline would they use to evaluate them? Technically, it is not obvious how to determine the basis for the selection of baseline scenarios that would mirror the eligibility principle of "ambitious." Such a mirrored eligibility requirement would, absurdly, be for interventions that companies undertake wholly or in large part with the intention of inducing GHG emissions and inhibiting removals (i.e., actions the company is taking with the intention of causing harm to the global climate) relative to a baseline scenario (i.e., "business as usual"). Hopefully, there would be no reputational benefit to a company for claiming to have induced emissions or inhibited removals. A reporting statement for induced emissions and inhibited removals would, therefore, need to be based on a fundamentally different concept of baselines than the Mitigation Intervention statement, which means that the resulting quantities from the two statements would not be comparable.

"Dirty List" Proposal and Its Limitations

One approach to a separate induced emissions statement involves establishing a specified list of "dirty activities"—actions that lock in emissions when lower-emission alternatives exist with no relative financial disadvantage. When companies engage in these "dirty activities", they could be required by GHG recognition programs to report the beyond inventory induced emissions and inhibited removals if they wish to also (separately) report and claim avoided emissions or enhanced removals under the Mitigation Intervention statement. Companies making such decisions that affect sources and sinks beyond their Physical Inventory boundaries (e.g., investing in fossil fuel infrastructure when renewable alternatives are cost-competitive) would be

required to report induced emissions (e.g., relative to some standardized performance benchmark as a baseline scenario).

Further research is needed on the intended use of a new induced emissions statement and the appropriate baselines and intervention selection criteria for reporting.

4 CONCLUSION

The Mitigation Intervention statement introduced in this paper is not intended as a substitute for rigorous Physical Inventory statement reporting and reduction targets. Rather, it represents a complementary framework that recognizes a fundamental reality—companies simultaneously bear responsibility for reducing "their" emissions while also having opportunities to contribute to global mitigation beyond their "reformed" GHG inventory boundaries. Critics rightfully warn that avoided emissions claims could divert attention from a company taking mitigation action internally. These concerns must be taken seriously.

However, much of the criticism directed at avoided emissions reporting stems from two flawed assumptions: i) that such reporting necessarily substitutes for inventory reductions, or ii) that any reporting accounting framework based on consequential methods will inevitably fail to constrain greenwashing. This paper demonstrates that both concerns can be thoughtfully addressed through the rigorous design of a GHG accounting framework for companies to make contribution claims. By establishing eligibility principles of "ambitious" and "quantifiable," requiring *ex post* verification, mandating transparent disclosure, and explicitly framing contributions as complementary to—not compensatory for—GHG inventory reductions, the Mitigation Intervention statement provides a pathway for credible recognition of corporate "beyond inventory mitigation."

The path forward requires concerted effort from multiple stakeholders. Governance bodies, building on work by crediting programs, will need to select which mitigation intervention options are eligible under the statement, approve detailed methodologies for quantifying mitigation impacts across different intervention types, develop further guidance and standardized reporting formats, and specify verification requirements. Corporate climate leadership recognition programs, however, should not wait, but begin further developing and piloting Mitigation Intervention statements and contribution goals.

We argue that resources currently devoted to increasingly complex and ultimately unreliable Scope 3 estimates would be far better invested in developing robust mitigation intervention methodologies and guidance. As the "What is GHG Accounting?" series has argued, Scope 3 accounting is not a meaningful GHG accountability metric, especially for corporate target setting. The attention and resources diverted to this analytical dead end would be more impactfully deployed toward identifying, quantifying, and reporting high-impact mitigation interventions.

The corporate GHG accounting paradigm must mature. The Mitigation Intervention statement offers a rigorous, credible framework for recognizing corporate contributions to global mitigation while

preserving—and indeed strengthening—accountability for reducing inventoried emissions. By adopting the proposed multi-statement approach, the corporate climate action community can move beyond flawed wishful thinking toward a system that truly drives meaningful progress toward global net zero.

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Annex A: List of Some Mitigation Technologies

From draft "AIM Association Test" document.
Table 7. Approved Core Sectoral Decarbonization Technologies List Sector Technology

Aluminum

- Inert anode technology backed by renewable electricity
- Electric calcination backed by renewable electricity
- Mechanical vapor recompression backed by renewable electricity
- Furnace electrification backed by renewable electricity
- Carbon capture, use, and storage (CCUS) technologies for process emissions with a capture rate of >90%
- Aluminum furnaces fueled by green hydrogen backed by renewable electricity

Cement /Concrete

- Concrete made with zero clinker per unit of cement/binder
- Concrete made with a cement/binder that is made from a non-carbonate feedstock material, and produced with methods powered by renewable electricity
- Concrete made with low to zero emission cement via CCUS with a capture rate of >90%

Steel

- Blast furnace basic and basic oxygen furnace (BF-BOF) + CCUS or bioenergy carbon capture, use, and storage (BECCUS) with a capture rate of >90%
- Smelting reduction + CCS with a capture rate of >90%
- Direct reduction iron electric arc furnace (DRI-EAF) + CCS with a capture rate of >90%
- DRI-EAF powered by 100% green hydrogen backed by renewable electricity
- DRI-Melt-BOF powered by 100% green hydrogen backed by renewable electricity
- DRI-Melt-BOF + CCS with a capture rate of >90%
- Electrolyser-EAF
- Electrowinning-EAF

Chemicals

- Electrification of steam cracking backed by renewable electricity
- Production of chemicals through electrochemistry backed by renewable electricity
- Non-fossil recycled feedstocks for chemicals production
- Ammonia produced using green hydrogen backed by renewable electricity
- CCS for process emissions with a capture rate of >90%

Aviation

- Battery electric aircraft
- Sustainable Aviation Fuel (SAF) produced using one of the following production methods:
    - Power-to-Liquid (PtL) produced using green hydrogen backed by renewable electricity
    - Hydrogenated Esters and Fatty Acids (HEFA) produced using a feedstock with an induced land use change (ILUC) value of 0 or less according to the Carbon Offsetting and Reduction Scheme of International Aviation (CORSIA) Default Lifecycle Emission Values for CORSIA Eligible Fuels5.
    - Alcohol to Jet (AtJ) produced using a feedstock with a CORSIA ILUC value of 0 or less.

    - Gasification and Fischer-Tropsch (FT) produced using a feedstock with a CORSIA ILUC value of 0 or less.

Shipping

- E-Ammonia produced using green hydrogen backed by renewable electricity
- Green Hydrogen backed by renewable electricity
- E-methane produced using green hydrogen backed by renewable electricity
- Bio-methane produced using a feedstock qualifying under EU RED Annex IX, or with a CORSIA ILUC value of 0 or less.
- E-methanol produced using green hydrogen backed by renewable electricity
- Bio-methanol produced using a feedstock qualifying under EU RED Annex IX, or with a CORSIA ILUC value of 0 or less.

Trucking

- Battery electric vehicles (BEVs) with a Gross Vehicle Weight Rating (GVWR) or greater than 19,501 pounds (8,846 kg) backed by renewable electricity
- Fuel cell electric vehicles (FCEVs) with a GVWR of greater than 19,501 pounds (8,846 kg) utilizing green hydrogen backed by renewable electricity

Annex B: Indicative examples of potential corporate mitigation intervention types

Upstream Intervention Examples	Indicative Baseline Scenario for Intervention*
At a facility within the contributing company's current supply shed, providing grant funding for the accelerated replacement of coal or natural gas-fired boilers with an electric boiler and installation of a solar-battery hybrid power system	The baseline scenario is the *expected remaining lifespan*[45] of existing coal or natural gas-fired boilers and their most likely cost-effective technological replacements. Quantify the emissions that would result from the use of the existing technology for the remainder of its lifespan and the emissions that would result from the *most likely replacement technology* until the end of the existing technology's lifespan. Apply the manufacturer's specifications for operation and historical data to estimate fossil fuel-fired boiler emission rates over the quantified intervention period and compare against the electric boiler's measured emissions over the same period (ex post).
In procurement rules, requiring that suppliers only source from farms that used ammonium nitrate-derived fertilizers created from green ammonia[46] rather than using fossil-origin nitrogen (N) fertilizers	The use of urea created from fossil-origin N fertilizers to provide the same level of service (i.e., N applied to fields and timing of N released) as in the intervention.[47] It is important to ensure that the same rate of N applied per acre to fields is assumed in the baseline as in the intervention, which may require conversion calculations if fertilizers have different N contents.
Prior to construction of a new building, the company pays a premium to the developer to construct the building using "low-carbon" design principles and materials (e.g., looking at whole building design, energy use, "passive house" principles)	A *comparable building* constructed with *industry common practice materials and methods*. Comparable building energy-use-related emissions could be measured by identifying a group of comparable buildings that would be used to inform estimates of baseline carbon intensity.

[45] Through this summary table, we italicize terms like this one that involve substantial and challenging methodological approaches to conservatively determine and prevent gaming. In general, many of the example interventions provided in this table would require specification of a range of methodological details that this summary table does not attempt to describe.

[46] "Green ammonia" is ammonia (NH_3) produced using renewable energy sources—such as wind, solar, or hydropower—to drive the electrolysis of water, generating hydrogen (H_2), which is then combined with nitrogen (N_2) from the air via the Haber-Bosch process. Unlike conventional (grey) ammonia, which relies on fossil fuels (typically natural gas) as a source of hydrogen and releases significant CO_2, green ammonia avoids direct greenhouse gas emissions by sourcing hydrogen from water and energy from non-emitting sources.

[47] A key element of this baseline is considering the intervention's effect on the overall supply of green ammonia, considering market and common practice trends. The added green ammonia demand could divert supply from other buyers who would have purchased green ammonia in the baseline but, because of the intervention, must now purchase fossil-derived N-fertilizer (i.e., leakage). The baseline is therefore the expected use of fossil and green ammonia across representative (e.g., geographically similar, similar size, similar crops, similar management practices) farms, and this is compared against the intervention scenario rate of green ammonia consumption, which would likely be assessed on the basis of the application rate.

Making a concessionary investment or loan to a steel producer in a supply shed to enable a new low-emission steel production plant	The per unit (e.g., hundredweight CWT, tonne of steel) emissions from production of steel at a new plant using lowest-cost production methods, or using *conventional and/or industry standard practices* should be used to inform the baseline.[48]
Signing a long-term virtual Power Purchase Agreement (vPPA) in the development stage of a new hybrid wind and battery energy storage project	The increased operation of existing dispatchable generation and/or development of the lowest cost new generation capacity to provide the same level of service (i.e., firm generation).[49]
Establishing procurement incentive policies to pay transportation suppliers more if they use battery electric trucks/vehicle equivalents	For the *percentage of freight tonne-kilometers that would have been provided by conventional vehicles in the baseline*[50], emissions could be calculated assuming continued use of existing internal combustion engine heavy-duty trucks for the *remainder of their expected lifespans*, and potentially at the end of their lifespan, the *most likely (next) new truck/vehicle that would be purchased* to provide transportation service.
Establishing procurement rules that require suppliers to provide (or use) forest products from sustainably managed forestlands	Baseline activity levels would need to be estimated by assessing total production levels on sustainably managed forestlands in the absence of the procurement rules (this would then need to be compared to the *additional production induced by the procurement rules*). Baseline emission factors could be based on the carbon intensity of conventionally sourced forest products to meet supplier needs. It is unlikely that forest products could be traced to specific forests/suppliers, so an average carbon storage or loss rate value could be applied to determine the carbon intensity of a unit of forest product output for the average timber forest.
Employee commuting programs that strongly incentivize walking, biking, or mass transit usage. They could also penalize driving to work in internal-combustion vehicles, such as through parking fees.	Pre-existing and trending employee commuting modes.
Buying and retiring Sustainable Aviation Fuel (SAF) certificates.	SAF certificates seek to impact the market for aviation fuel, therefore the baseline requires a market-wide determination of fuel (SAF and fossil-aviation fuel) consumption without a SAF certificate market. SAF used beyond this baseline could be due to the use of certificates or an increase in SAF for other reasons (e.g., airlines seeking to lower their inventory emissions), so growth in SAF not associated with the certificates market would need to be incorporated into the baseline as well.

[48] Differences in construction emissions between the low-emission plant and its baseline alternative could also be compared.
[49] This presumes that the project is additional – i.e., it (or an equivalent wind and battery system) would not have been constructed without the vPPA.
[50] This would need to be determined based on an analysis of how effective procurement incentive policies are likely to be in driving greater adoption of electric vehicles.

Downstream Intervention Examples	Baseline for Intervention
Subsidizing the price of an exceptionally energy efficient product that results in avoided use-phase emissions (e.g., hyper-efficient industrial motors such as synchronous reluctance or permanent magnet motors) so that they are cost competitive for sale with profitable, but less energy efficient alternative products	Average/typical use phase emissions of the conventionally designed version of the product.
An EV car company offers its drivers charging from off-grid charging stations that exclusively utilize zero-emission electricity (e.g., onsite solar collection and battery storage)	Vehicle charging from grid electricity applying a marginal EF to quantify the carbon intensity of grid electricity that would have been provided. The marginal EF should be geographically specific to the balancing authority and match the time of actual EV charging as closely as possible (e.g., hourly or daily marginal EF).
Establishing or funding a new program to track, collect, and destroy high-GWP refrigerants in products manufactured by the contributing company at the end of the product's life (e.g., avoiding the leakage of refrigerant gases to the atmosphere)	Average/typical end-of-life emissions from conventionally designed version of the product.

* This table does not explicitly address the application of the intervention eligibility principle of "ambitious." Additional criteria are necessary to determine whether a specific instance of an intervention of any of these types is recognized within a Mitigation Intervention statement.

Annex C: Draft Mitigation Intervention statement reporting tables

Mitigation Intervention Statement Reporting Tables												
Annual Reporting (Company Level)												
Company name:	*[Company-defined parameter]*											
Reporting Year:	*[YYYY]*											
Independent verification status												
Verification body(ies)												
Total Mitigation Intervention statement time series for all interventions by reporting year *(ex-post tonne CO_2e)*												
	2014	*2015*	*2016*	*2017*	*2018*	*2019*	*2020*	*2021*	*2022*	*2023*	*2024*	***2025***[51]
Previously-reported interventions												
Total Avoided Emissions	*-*	*-*	*-*	*1,000*	*1,000*	*2,000*	*5,000*	*200*	*600*	*700*	*4,000*	*5,000*
Total Enhanced Removals	*500*	*300*	*300*	*300*	*300*	*-*	*-*	*-*	*-*	*-*	*-*	*200*
New interventions in reporting year												
Total Avoided Emissions	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*3,000*
Total Enhanced Removals	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*8,000*
GWP values reference:	*[IPCC Assessment Report #]*											
New Interventions and First Disclosed in Current Reporting Year												
Emissions and Removals Impact Report – (YYYY, reporting year)												
Avoided emissions												
Mitigation Intervention Type A (e.g., Waste Reduction)												

[51] In this example, the reporting year is 2025.

	Avoided emissions in reporting year *(ex-post tonne CO_2e)*	***Level of uncertainty***	***Association with reporting organization's value chain***	***Verification***
[Intervention 1 name]	*[1,000]*	☐ High ☐ Medium ☐ Low Quantitative:	☐ *1. High certainty of association* ☐ *2. Probably some association* ☐ *3. Unknown association* ☐ *4. Probably no association* ☐ *5. High certainty of no association*	Verified, Assured Level of Assurance: Verification/Assurance Body:
Mitigation Activity Type B (e.g., Industrial Process Improvement)				
[Intervention 2 name]	*[2,000]*	☐ High ☐ Medium ☐ Low Quantitative:	☐ *1. High certainty of association* ☐ *2. Probably some association* ☐ *3. Unknown association* ☐ *4. Probably no association* ☐ *5. High certainty of no association*	Verified, Assured Level of Assurance: Verification/Assurance Body:
Enhanced removals				
Mitigation Intervention Type C (e.g., Afforestation)				
	Enhanced removals in reporting year *(ex-post tonne CO_2e)*	***Level of uncertainty***	***Association with reporting organization's value chain***	***Verification***
[Intervention 3 name]	*[3,000]*	☐ High ☐ Medium ☐ Low Quantitative:	☐ *1. High certainty of association* ☐ *2. Probably some association* ☐ *3. Unknown association* ☐ *4. Probably no association* ☐ *5. High certainty of no association*	Verified, Assured Level of Assurance: Verification/Assurance Body:
Mitigation Intervention Type D (e.g., direct air capture)				
[Intervention 4 name]	*[5,000]*	☐ High ☐ Medium ☐ Low Quantitative:	☐ *1. High certainty of association* ☐ *2. Probably some association* ☐ *3. Unknown association* ☐ *4. Probably no association* ☐ *5. High certainty of no association*	Verified, Assured Level of Assurance: Verification/Assurance Body:

Contribution Progress Tracker	
Individual Intervention	
Intervention name:	*[Company-defined parameter]*
Start of installation/construction:	*[YYYY]*
First year of impacts (i.e., avoided emissions and/or enhanced removals):	*[YYYY]*
Intervention eligibility period:	*[MM-YYYY to MM-YYYY]*
Monitoring frequency:	*[Specify frequency (e.g., quarterly, biennially, every X years, etc.)]*
Type of Intervention[52]: *(check all that apply)*	☐ *1. Financial subsidy* ☐ *2. Risk transfer to enable an investment* ☐ *3. Carbon credits* ☐ *4. Tradable instruments (define)* ☐ *5. Other (define)*
Describe the Intervention:	*1. General description. (e.g., what behavior/practice is changing or expected to change?)* *2. Describe the causal chain in an annex to your reporting.*
Methodology for estimating intervention impact:	*Insert full reference.*
Implementing entities:	*[List the parties involved in implementation and their contact information]*
Impacted sources and/or sinks association with reporting organization's value chain:	☐ *1. High certainty of association (i.e., ≥ 95% confidence)* ☐ *2. Probably some association, including supply shed connections* ☐ *3. Unknown association (i.e., insufficient information to assess association)* ☐ *4. Probably no association,* ☐ *5. High certainty of no association (i.e., ≥ 95% confidence)*
Verification or assurance:	*[Provide documentation of verification or assurance of intervention done by an independent party.]*
Attribution Evaluation	
Company's financial support to Intervention (*a*)	$_____

[52] Type of intervention is indicative (placeholders)

Intervention total financial requirement (b)	$_____
Intervention claim attribution rationale or calculated ratio	$\% = \frac{a}{b} \times 100$
Ambitious Evaluation	
How does this intervention meet the criteria for ambition?	☐ 1. Project-specific. Cite methodology: ☐ 2. Sector-specific. Cite methodology: ☐ 3. Standardized. Cite methodology: ☐ 4. Not determined.
Describe baseline scenario	
Describe intervention scenario	