

DOUBLE CLAIMING AND CORRESPONDING ADJUSTMENTS

A Deep Dive into the Double Counting of Emission Reductions, Corresponding Adjustments, and their Implications for the Voluntary Carbon Market

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ACRONYMS AND ABBREVIATIONS

A6.4ER	Article 6.4 Emission Reduction
AFOLU	Agriculture, forestry, and Other Land Use
AD	Activity data
ART	Architecture for REDD+ Transactions
BTR	Biennial Transparency Report
CA	Corresponding Adjustment
CAR	Climate Action Reserve
CBDR-RC	Common but differentiated responsibilities and respective capabilities
CDM	Clean Development Mechanism
CORSIA	Carbon Offsetting and Reduction Scheme for International Aviation
CMA	Conference of the Parties serving as the meeting of the Parties to the Paris Agreement
COP	Conference of the Parties to the UNFCCC
EF	Emission Factor
ERR	Emission reduction or removal
ETF	Enhanced Transparency Framework
GHG	Greenhouse Gas
GS	Gold Standard
IPCC	Intergovernmental Panel on Climate Change
IPPU	Industrial Processes and Product Use
ITMO	Internationally Transferred Mitigation Outcome
MRV	Measurement, reporting, and verification
NDC	Nationally Determined Contribution
OIMP	Other International Mitigation Purposes
RMPs	Rules, Modalities, and Procedures
TREES	The REDD+ Environmental Excellence Standard

UNFCCC United Nations Framework Convention on Climate Change

VCM Voluntary Carbon Market

VCS Verified Carbon Standard

VCU Verified Carbon Unit

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EXECUTIVE SUMMARY

Double counting of greenhouse gas (GHG) emissions reductions and removals (ERRs) undermines the ability to accurately assess progress towards GHG targets. Double counting is a common problem within government, corporate and project ERR accounting. It is particularly harmful where ERRs are used to offset GHG emissions of another entity that may use offsetting instead of investing into ERRs in their own operations or supply chains. Avoiding double counting is also a concern of the Paris Agreement, in particular in relation to the cooperative approaches described in its Article 6.

Corresponding adjustments (CAs) are an accounting mechanism designed to avoid double counting of ERRs transferred under Article 6 of the Paris Agreement. If ERRs generated in a country that “hosts” a mitigation activity are transferred internationally under Article 6 of the Paris Agreement, then a CA must be applied to the accounts of the host country to ensure that those ERRs are not counted by that country towards its mitigation targets under its Nationally Determined Contribution (NDC). Applying CAs to avoid double counting of progress toward NDCs is uncontested.

In contrast, it is controversial whether accounting provisions should also avoid the claiming of mitigation benefits between governments and corporates in the context of the Voluntary Carbon Market (VCM). Some experts find it unacceptable for ERRs generated by VCM activities to be claimed both by the host country for its NDC and by an entity that uses the credits as voluntary offsets. They propose the application of CAs in relation to transferred VCM ERRs as a strategy to avoid such double claiming. Others consider the double claiming of ERRs between a host country’s NDC and a corporate offset as unproblematic and argue that applying CAs would create more harm (and less emissions mitigation) than benefit. Both camps posit that their position results in additional incentives for mitigation activities and consequently progress towards the goals of the Paris Agreement.

This study reviews both positions. It identifies and analyzes instances of double counting, puts double counting in the context of incentives to achieve ERRs, and discusses CAs as a tool to enhance the overall integrity of carbon markets and mitigation goals. It finds that the discussion around CAs crucially depends on policy and behavioral expectations that are hard to verify. Double claiming rules, including the guidance on how to apply CAs in the context of Article 6, seek to achieve certain policy goals. They tend to reflect assumptions rather than science. For example, according to current guidance related to Article 6 from the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement (CMA), CAs must be applied to a transferring Party’s emissions balance even in situations where the transferred mitigation outcome has been generated by an activity outside the scope of the NDC (i.e., in situations where there can be no risk of double counting under the Paris Agreement). The CMA’s guidance assumes that CAs are necessary to drive ambitious NDCs.

Double claiming of ERRs between governments and corporates (as well as among corporates) is common. Government GHG accounting, project-based ERR accounting, and corporate GHG accounting are each guided by different objectives, protocols, and methodologies. Corporate accounting is based on a company’s scope of responsibility for GHG emissions, while countries report their emissions based on what happens within their borders. VCM ERR accounting is based on approved methodologies from carbon standards. As emissions are reported in both corporate and national inventories, emission reductions achieved by VCM projects show up in the accounting of both entities.

While accounting frameworks consider some forms of double counting as acceptable, they tend to formulate rules against double counting that create disincentives for additional mitigation activities.

The extent to which policies assume that overlapping of GHG measurement and accounting systems is problematic depends on whether such systems:

- **lead to double claiming of ERRs:** whether and when there are instances of double claiming between ERR accounting systems (i.e., corporate and project, national and corporate, or national and project) depends on the scope of accounting frameworks, the quality of the underlying GHG estimates and reporting, and the credibility of the GHG accounting frameworks;
- **have implemented effective double counting rules:** Paris Agreement rules make it clear that CAs must be applied to avoid double counting of ERRs between countries. In the VCM, carbon standards provide rules for avoiding double counting but take different stances when it comes to requiring CAs for carbon credits. Meanwhile, corporate accounting primarily relies on guidance from the GHG Protocol for avoiding double counting both within and between companies;
- **undermine the effectiveness of the mitigation action:** generally, instances of double counting and double claiming are acceptable if they are considered to create more rather than less incentives for mitigation action.

When deciding on whether CAs should be applied to the VCM, decision makers should first analyze whether and when double counting occurs. This is particularly relevant for policymakers from developing countries that are considering using carbon markets as a tool to achieve and go beyond their NDCs. When CAs are offered without sufficient prior consideration, host countries may have to “pay double” for the internationally transferred mitigation outcome (ITMO): first in the form of a CA within their NDC accounting and, second, in the form of an additional ERR that needs to be achieved within their NDC. This can lead to a situation where an ITMO is backed by two ERRs – one within the NDC achieved by the host country and one outside of the NDC. In addition, where host country NDC targets are unambitious, the promise of a CA may be of little value to an acquiring company since the application of a CA will not lead to additional host country mitigation efforts. Table A below summarizes the instances when double claiming related to NDC achievements is likely and when it is less likely.

Table A. Likelihood of double claiming in the context of NDCs

NDC Coverage and Ambition	VCM ERRs achieved within the climate Target	Ambitious target or policies	Corporate ERRs that are to be offset relate to GHGs outside of the host country	Double counting likely	CA necessary to avoid double counting
Economy-wide climate target	Yes	Yes	Yes	Yes	Yes
			No	No	No
		No	Yes	Depends on a strict additional test	Possibly
			No	No	No

	Achieved outside the scope of NDC goals	Irrelevant consideration		No	No
Sectoral or policy-based climate targets	Achieved within the scope of NDC goals	Yes	Yes	Yes	Yes
			No	No	No
	No	No	Yes	Depends on a strict additional test	Possibly
			No	No	No

In a second step, policy makers should consider CA authorizations in the context of their national policy goals. They should review the arguments in favor of and against applying CAs to transactions of VCM carbon credits in the context of national policies and circumstances. Whether CAs will incentivize or disincentivize climate change action depends on a country's NDC, the accuracy of its inventory and measurement, reporting, and verification (MRV) system, and its plans, finance and progress in implementing national climate policies. Whether CAs should be applied to VCM ERRs also depends on beliefs, assumptions, and hypotheses in relation to the effect that CAs have on mitigation action. These are easier to assess in specific national contexts rather than at the global level. Consequently, general rules as to whether CAs should apply to VCM activities may be ill-advised. Generally, countries may be advised to pursue a cautious approach when it comes to authorizing CAs to ensure that national NDC compliance is not put at risk and carbon finance is effectively used to generate ERRs that can be counted towards national climate targets. Table B summarizes policy arguments in favor and against the use of CAs in the VCM.

In sum, the debate about double counting is not actually about accounting, but rather about setting the right incentives for mitigation action. Opinions on such incentives differ. CAs are one tool that could incentivize or disincentivize climate change mitigation. Public policy is very hard to predict, and carbon accounting may only play a small role in a government's climate policy decisions. There are no studies that back the assumption that carbon markets would discourage public policy progress. So far, there is also no evidence on whether applying CAs on VCM transactions will have any effect beyond "cooling" the market.

Table B. Summary of policy arguments regarding CAs used in the VCM

Policy arguments for the use of CAs	Policy arguments against the use of CAs
<ul style="list-style-type: none"> • CAs prevent VCM actions from displacing public policy by preventing countries from relying on voluntary actions to generate ERRs. • CAs incentivize countries to adopt more ambitious NDCs because they cannot rely on voluntary action. • CAs therefore support Article 4.4's guidance to move toward economy-wide targets. • CAs boost the integrity of offsetting as it ensures that corporates claim ERRs that are not contributing to the NDC of the host country. 	<ul style="list-style-type: none"> • There is no evidence that private sector VCM activity would displace public sector action in achieving NDC targets. VCM activity may actually tap into additional ERRs and encourage public action by lowering policy implementation costs. • CA-backed credits place a large institutional burden on developing host countries, possibly discouraging engagement in the VCM by governments that cannot manage the burden and by companies that withhold investment because they are uncertain about whether VCM activities will be able to generate carbon credits. • CAs may deprive host countries of rapid and flexible private finance for climate change mitigation. This especially harms developing countries that often lack capacity to develop mitigation activities. • Private VCM activity supports the common but differentiated responsibilities and respective capabilities (CBDR-RC) principle through transfer of resources from developed countries to less developed ones; and requiring CAs for VCM investments conflicts with equity considerations of the Paris Agreement.

1. AIMS OF THE STUDY

Double counting of greenhouse gas (**GHG**) emission reductions or removals (**ERRs**) can undermine the integrity of carbon markets (Schneider et al., 2019). Double counting occurs if the same ERR is counted more than once toward a mitigation target or goal. Double counting makes accurate tracking of progress toward mitigation goals impossible if aggregate GHG emissions are different than those that governments or corporates report. Avoiding double counting is essential to accurately assess climate change mitigation achievements and plan future measures.

Accounting provisions are needed to understand mitigation contributions and their impact on GHG emissions levels. In the case of the Paris Agreement, the double counting of ERRs among the Nationally Determined Contributions (**NDCs**) of Parties to the Paris Agreement (**Parties** and, individually, a **Party**) is avoided through so-called “Corresponding Adjustments” (**CAs**). CAs are bookkeeping adjustments to countries’ NDC achievement tracking that are used to avoid double counting of ERRs by two separate Parties. However, double counting of emissions and emission reductions also exist with Voluntary Carbon Market (**VCM**) transactions and corporate GHG accounting.

It is generally accepted that **double counting** should be avoided within GHG reporting and accounting systems (e.g., the accounting of progress toward NDCs, or accounting within the VCM). In contrast, it is controversial whether accounting provisions should also avoid the claiming of mitigation benefits between different GHG reporting and accounting frameworks (e.g., between NDC accounting and progress toward corporate climate goals). Some experts have expressed concerns that ERRs related to VCM projects would be both (a) accounted for by the host country Party¹ toward their NDC mitigation targets, and (b) used the entity that acquired the carbon credits representing those ERRs as offsets. This form of double counting, labelled as **double claiming**, is seen by some stakeholders and commentators as problematic. Applying CAs has been proposed to solve double claiming of ERRs generated in the VCM (Brander et al., 2022a; Hermwille & Kreibich, 2016; Kreibich & Hermwille, 2021; Schneider et al., 2019; Schneider & Theuer, 2019). Others warn that applying CAs to VCM transactions could have adverse effects on climate ambition in developing countries (Moura Costa, 2022), curtail or even kill incentives for private actors to invest in voluntary mitigation (Ebert, 2022), or discriminate against poorer communities and smaller project developers (Sandeep Roy Choudhury, 2021).

The two camps substantiate their opinions from their vantage point and within the logic of their argument but fail to satisfactorily respond to the concerns of the other camp. Advocates in favor of applying CAs to VCM transactions argue within the logic of carbon accounting, while those arguing against CAs in the VCM tend to make reference to equity considerations, broader incentives for investments into mitigation and broader benefits for developing countries. **What is missing, so far, is a study that identifies and analyzes instances of double counting, puts them in the context of incentives to achieve ERRs, and discusses CAs as tool to enhance the overall integrity of carbon markets and mitigation action.**

This paper aims to fill this analytical gap by providing a comprehensive, fact-based analysis of the accounting and political implications of double counting in general and double claiming in particular. **In doing so, it attempts to clarify when GHG reporting rules reflect or account for factual reality versus when GHG accounting rules are used as political instruments to achieve certain policy outcomes.** The paper seeks to answer the question of whether and when double claiming is

¹ The term “host country” refers to a jurisdiction where a climate change mitigation activity takes place. “Party” refers to a Party to the Paris Agreement. Thus, a “host country Party” describes a jurisdiction that is a signatory to the Paris Agreement where a mitigation activity is taking place.

problematic, and when strategies to address double counting may fail to address the problem and instead disincentivize ambitious climate action.

This paper is organized as follows:

- Section 2 introduces the main concepts that underpin GHG accounting and the problem of double counting of ERRs;
- Section 3 summarizes measuring, accounting, and double claiming considerations in the context of government, VCM, and corporate systems;
- Section 4 discusses the problem of double counting between different GHG measurement and accounting systems as well as the strategies that program rules define to avoid double counting within and among systems;
- Section 5 discusses the implications of double counting rules and CAs, including their role as policy instruments and assumptions about their ability to influence climate change mitigation.

2. KEY CONCEPTS: GHG ACCOUNTING AND DOUBLE COUNTING

Box 1. Key takeaways of Section 2

- **Measuring GHG emissions.** GHG emissions are estimated by following protocols that formulate common methodological guidance to present estimates that can be considered transparent, complete, consistent, comparable, and accurate. Such estimates can be based on measurements of past emissions or be calculated using monitored activity data and emissions factors.
- **Accounting for GHG emissions.** Accounting refers to the rules that allow the comparing of estimated GHG emissions with GHG emission goals. Accounting rules define how progress toward such a goal or target is measured and reported.
- **Double counting of ERRs.** Accounting overlaps within or between accounting systems can lead to double counting of emissions and ERRs. In many cases, double counting is seen as an acceptable source of accounting inaccuracy, even though it leads to over- or under-estimation of emissions. However, where double counting amounts to a structural weakness of mitigation efforts, it becomes problematic. Double counting of ERRs is considered to be particularly problematic in the context of carbon markets, where ERR units are used to offset source GHG emissions.

2.1. Measuring and Accounting of Emissions

Two of the main building blocks for correctly reporting mitigation progress and building trust in carbon market transactions are the accurate measuring and monitoring of GHG emissions, and the accounting of ERRs in accordance with agreed rules. In this regard, it is important to clarify that measuring and accounting of ERRs are two different things. Even though the United Nations Framework Convention on Climate Change (UNFCCC) and the Paris Agreement do not expressly define these terms, in relation to GHG it can be understood that:

- **Measuring** refers to all procedures that would allow the estimation of GHG emissions. Measuring procedures should follow common methodological guidance to present estimates that can be considered transparent, complete, consistent, comparable, and accurate. Estimates can be (a) determined by directly measuring emissions that have already occurred (i.e., using continuous emission monitoring systems) or (b) calculated using monitored activity data (AD) and emission factors (EFs).
- **Accounting** refers to all procedures that would allow the comparison of the results from measuring (e.g., the resulting ERR estimates) with GHG emission goals, targets, or baselines, based on rules established and agreed on by carbon standards, governments, and other standard setters.

A practical example of the difference between measuring and accounting can be seen by comparing GHG inventories and NDC accounting rules. GHG inventories are calculated by countries to report their GHG emissions during a certain period (e.g., a year). Such inventories are the result of measuring exercises and aim to capture all GHG emissions at a certain time or during a certain period as accurately as possible. GHG inventories are, in some cases, an indicator used by Parties to assess progress in achieving their NDC mitigation targets. Nevertheless, countries may not account for all their GHG emissions against their NDC targets. This could be particularly relevant in cases where a Party's NDC target does not cover all sources of GHG emissions in the country (e.g., the

scope of the NDC may exclude certain sectors or emission sources). Parties can also opt to account for ERRs not included in their GHG inventory against their targets. In these cases, ERRs can be transferred from other countries under Article 6 of the Paris Agreement. The receiving Party then accounts for those transferred ERRs under their NDC accounting but will not show the transferred ERRs in its GHG inventory.

2.2. Double Counting of ERRs

There is significant overlap between different GHG reporting and accounting systems. Such overlap can occur within one accounting system (e.g., within corporate GHG reporting, or Paris Agreement NDC accounting) or between different accounting systems (e.g., between corporate and national, or project and NDC accounting). Governments measure and report national GHG emissions in the context of GHG inventories, companies measure GHG emissions in the context of corporate GHG reporting, and both governments and companies account for ERRs when they report on progress toward mitigation goals. The overlap of these GHG accounting systems can complicate the assessment of progress toward climate goals because emissions or ERRs can be counted several times – or not at all.

Accounting overlaps can lead to double counting of emissions and ERRs. In many cases double counting, even though it leads to over- or under-estimation of emissions, is accepted as accounting inaccuracy. However, where double counting amounts to a structural weakness of mitigation efforts, it becomes problematic. Double counting is considered to be particularly problematic in the context of carbon markets, where ERR units are used to offset source GHG emissions. Double counting can manifest in three different ways (GHG Management Institute & SEI, n.d.; Schneider et al., 2015; Schneider & Theuer, 2019):

- (a) Double issuance of units occurs if more than one unit is issued for the same ERR;
- (b) Double use of units occurs if the same issued unit is used twice to attain a single mitigation pledge;
- (c) Double claiming occurs if the same ERRs are counted twice toward attaining different mitigation pledges.

Double issuance and double use of units generally refer to accounting failures within an accounting system and can be addressed through program rules and robust registry systems. Double issuance can occur where different programs issue units for the same ERRs, but most carbon crediting programs have rules that avoid such situations. Double claiming, in contrast, refers to an accounting problem between different accounting systems, which is much harder to regulate. For example, double claiming can happen if ERRs generated by a VCM project are used to offset corporate emissions and are also used toward achievement of the host country's NDC. For such double claiming to occur, the following conditions must apply (Schneider et al., 2015, p. 475):

- (a) the ERR falls within the scope of a country's NDC targets;
- (b) the ERR is reflected in the country's GHG inventory;
- (c) the same ERR is also reflected in a credit or unit transferred internationally;
- (d) the transferred ERR is not accounted for through a CA;
- (e) the ERR is used to attain a mitigation pledge in the receiving country.

Where one or several of these conditions is not met, ERRs can be used for multiple purposes without concerns about double claiming in the context of the Paris Agreement.

3. COMPARING GHG ACCOUNTING SYSTEMS

Box 2. Key takeaways of Section 3

- **Overlaps exist between different GHG reporting and accounting systems**, leading to a structural double counting of ERRs. ERRs are double counted when governments and corporates claim ERRs in their national and corporate reporting, respectively. The same applies in the case of project and activity accounting. However, since corporate GHG reporting and project-level ERR accounting is more granular than government GHG reporting, ERRs achieved within the corporate supply chain are not always captured in government GHG inventories.
- **Government GHG accounting** is largely guided by setting, accounting for, and increasing the ambition of NDC targets. NDC Accounting is required under the Paris Agreement's Enhanced Transparency Framework (ETF). Parties to the Paris Agreement report on progress toward their NDCs through their Biennial Transparency Reports (BTRs) and account for emissions in the BTRs' structured summaries. By providing the above information and abiding by the agreed NDC accounting rules, Parties demonstrate progress in implementing and achieving their mitigation targets. If possible, Parties will use the GHG estimates from their national GHG inventory as an indicator in their structured summary. Parties that have transferred, used, or acquired ITMOs and correspondingly adjusted their accounts will report those transactions in separate reports and in annexes to their BTRs.
- **Project-based ERR accounting** is done by carbon standards through approved methodologies and carbon credit registries. Ideally, each carbon credit in project-based carbon markets represents one tonne of ERRs, expressed in carbon dioxide equivalent. VCM project level accounting tends to be more accurate than national emissions inventory accounting due to differences in the specificity of the data, how uncertainties are managed, and the frequency with which it is collected.
- **Corporate GHG accounting** distinguishes and classifies emission sources according to proximity to the company's operations and the level of control a company can exercise over these emissions. There is significant and structural double counting in corporate GHG reporting. If all companies in a sector reported their emissions at all three scopes, their combined corporate inventories would exceed the total GHG emissions reported at the national level for that sector. This is because there would be overlaps between indirect emissions (Scope 3) of some companies with direct emissions (Scope 1) of other companies.
- **The assumption that the use of carbon credits by corporates leads to double claiming between the host country NDC and the corporate GHG goal of the credit purchaser is a simplification.** Whether and when there are instances between corporate and project, national and corporate, and national and project double counting depends on the scope of accounting frameworks, quality of the underlying GHG estimates and reporting, and the credibility of the GHG accounting frameworks.

3.1. Government GHG Accounting

3.1.1. Setting NDC Targets

In 2015, the 21st session of the Conference of the Parties (COP) to the UNFCCC adopted the Paris Agreement, a successor to the Kyoto Protocol and a landmark treaty in the global fight against climate change (Paris Agreement, 2015). Article 2 of the Paris Agreement outlines its temperature objective: hold the “increase in the global average temperature to well below 2°C above pre-industrial levels” and pursue “efforts to limit the temperature increase to 1.5°C above pre-industrial levels.” To achieve these goals, Article 3 binds the Parties to “undertake and communicate ambitious efforts” in their NDCs and stresses that “the efforts of all Parties will represent a progression over time.”

Article 4.1 of the Paris Agreement explains that NDCs, submitted every five years, are the instrument through which the Parties are to communicate the domestic mitigation goals and targets to which they have committed to achieve “a balance between anthropogenic emissions by sources and removals by sinks of greenhouse gases” by 2050 (i.e., net zero emissions, or carbon neutrality). Article 4.3 specifies that Parties must submit successive NDCs and that each NDC should reflect a Party’s “highest possible ambition,” exceeding the measures and objectives committed to in previous NDCs.

Article 13 of the Paris Agreement requires that the Parties report on their progress toward achieving their NDCs under an Enhanced Transparency Framework (ETF). The ETF and ambition requirements under Article 4 form the basis for the so-called “ratchet” mechanism of the Paris Agreement. The ratchet relies on the progressive ambition by Parties that is periodically assessed by the COP serving as the meeting of the Parties to the Paris Agreement (CMA). The CMA is scheduled to meet every five years to assess the collective progress achieved toward meeting the goals of the Paris Agreement (an assessment referred to as the “Global Stocktake” in its Article 14). The first Global Stocktake by the CMA will occur at COP28 in 2023.

One of the key challenges for experts trying to assess and compare the progress achieved by the Parties is the diversity of NDC targets and commitments. Although Parties share the same long-term objective of limiting the increase in average global temperature to 1.5 – 2°C above preindustrial levels, they are largely free to determine the content and form of their NDCs. While the CMA has provided guidance regarding the information that must be included in NDCs under the ETF – notably in Decisions 18/CMA.1 (UNFCCC, 2019b) and 4/CMA.1 (UNFCCC, 2019a) – Parties have significant flexibility when designing their own progress indicators.

As a result, NDCs come in many forms and may include different types of targets. Some targets are GHG reduction targets, while others are non-GHG targets (e.g., a Party may commit to attaining a specific share of renewables in its energy mix, or to implementing climate-related policies in some sectors). There are also different categories of GHG reduction targets. For example, there are absolute or relative GHG reduction targets, as well as single or multi-year targets. The scope of these targets also varies from country to country. Article 4.4 of the Paris Agreement requires developed country Parties to undertake economy-wide emission reduction targets and developing country Parties to move toward economy-wide targets only over time. As a result, a number of NDCs submitted by developing countries have a narrower scope, e.g., they only cover specific sectors or GHGs. In addition, developing country NDCs often include conditional commitments, i.e., targets that Parties will only attempt to achieve if certain conditions are met – usually if international financial support is provided to that Party.

3.1.2. NDC Accounting

All Parties report on their progress toward achieving their NDCs under the ETF. Each Party provides this information through their Biennial Transparency Report (BTR). The third meeting of the CMA established the format and content of the “**structured summary**” portion of Parties’ BTRs (UNFCCC, 2019b²; UNFCCC Secretariat, 2022). This information is used to track progress toward their NDCs. The information that Parties are required to include that is relevant to accounting is:

- the indicators, qualitative or quantitative, selected by the Party to track progress toward its NDC³;
- a description of each methodology and/or accounting approach used for (a) NDC target(s), (b) the construction of baselines, and (c) each indicator identified⁴;
- “a national inventory report of anthropogenic emissions by sources and removals by sinks of GHG, prepared using good practice methodologies accepted by the Intergovernmental Panel on Climate Change [IPCC] and agreed upon by the CMA”⁵.

It is expected that for economy-wide NDCs, Parties will use the total GHG emissions reported in their national GHG inventories as an indicator (i.e., for the purpose of tracking NDC achievement progress). For example, if a country has an NDC target of reducing their total GHG emissions by 50 percent by 2030 compared to the year 2005, it is expected that one of that Party’s chosen indicators will be the total GHG emissions reported in its national GHG inventory. Choosing this indicator will allow the country to demonstrate the achievement of its 50 percent reduction target by comparing the GHG emissions reported for the year 2030 with those reported for the year 2005. For each selected indicator, the Party shall provide information for the reference point(s), level(s), baseline(s), base year(s) or starting point(s)⁶ “for each reporting year during the implementation period of its NDC.”⁷ Measuring GHG emissions depends on the accuracy with which emissions are estimated, combined with the level of uncertainty that applies to such an estimate (Box 3).

The quality of NDC accounting depends on the quality of GHG inventories. Many countries do not yet have the capacity to produce accurate inventories. A recent study concluded that among 133 developing countries, more than half of them were struggling to measure their GHG emissions accurately (Umemiya & White, 2023). This inevitably affects not only the capacity of these Parties to effectively track progress toward their NDCs, but also the quality of their reporting under the ETF – and therefore the accuracy of the Global Stocktake.

In conclusion, by providing the above information and abiding by the agreed NDC accounting rules, Parties will demonstrate progress in implementing and achieving their mitigation targets. In some cases, Parties will use the GHG estimates from their national GHG inventory as an indicator in their structured summary. Parties that have transferred, used, or acquired ITMOs and correspondingly adjusted their accounts will report those transactions in separate reports and in annexes to their BTRs.

² See Paragraph 77 of Annex to Decision 18/CMA.1

³ See Paragraph 65 of Section III of the Annex to Decision 18/CMA.1

⁴ See Paragraph 74 of Section III of Annex to Decision 18/CMA.1

⁵ Article 13, paragraph 7a of the Paris Agreement (Decision 1/CP.21)

⁶ Paragraph 67 of Annex to Decision 18/CMA.1

⁷ Paragraph 68 of Annex to Decision 18/CMA.1

Box 3. Summary of the 2006 IPCC Guidelines methodology to measure GHG emissions.

According to UNFCCC Decision 18/CMA.1, national GHG emission estimates (i.e., national GHG inventories) will be calculated using the methodological guidance provided by the 2006 IPCC Guidelines for National GHG Inventories (IPCC, 2006). These Guidelines present good practice guidance to be applied by Parties when estimating their GHG emissions in the following sectors:

- Energy;
- Industrial Processes and Product Use (IPPU);
- Agriculture, Forestry and Other Land Use (AFOLU); and
- Waste.

According to the 2006 IPCC Guidelines, to calculate GHG emissions, *“the most common simple methodological approach is to combine information on the extent to which a human activity takes place (called activity data or AD) with coefficients which quantify the emissions or removals per unit activity. These are called emission factors (EFs).”* The basic equation is:

$$\text{Emissions} = \text{AD} \times \text{EF}$$

This equation can be applied at tier levels: *“A tier represents a level of methodological complexity. Usually, three tiers are provided. Tier 1 is the basic method, Tier 2 the intermediate, and Tier 3 the most demanding in terms of complexity and data requirements. Tiers 2 and 3 are sometimes referred to as higher tier methods and are generally considered to be more accurate.”*

In the 2006 IPCC Guidelines, Tier 1 methods are presented for almost all GHG emission categories and are designed to use readily available national or international statistics in combination with the default EFs presented in the IPCC Guidelines. In Tier 2 methods, country specific EFs are used instead of IPCC default values. Tier 1 and 2 methods can also be applied at the program and/or project level. The choice of the tier method depends on the availability of the EFs. A country specific EF (Tier 2) will normally better represent the characteristics of the emission sources in the country and, therefore, will result in more accurate GHG emissions estimates.

The 2006 IPCC Guidelines also present methodological guidance for estimating GHG uncertainties, by combining AD uncertainties and EF uncertainties. According to the IPCC, uncertainty represents the *“lack of knowledge of the true value of a variable [...]. Uncertainty depends on the analyst’s state of knowledge, which in turn depends on the quality and quantity of applicable data as well as knowledge of underlying processes and inference methods.”* Uncertainty results are reported as part of the national GHG inventory, but they are not deducted from the national totals. In this sense, GHG uncertainties are used to indicate the level of accuracy of the GHG estimates.

3.2. Project-based ERR Accounting

Carbon standards define the rules, procedures, and methodologies according to which carbon credits are certified, generated, issued, and accounted for. The Verified Carbon Standard (VCS), the Gold Standard for the Global Goals, American Carbon Registry (ACR), and the Climate Action Reserve (CAR) are the four largest standards that offer certification of project-based ERRs. Carbon standards define protocols for both the measurement and accounting of ERRs generated by VCM projects. Similar to Article 6 activities, the mitigation outcomes resulting from VCM activities are accounted for by VCM project developers against counterfactual baselines that are established

according to the rules set by standards. All project-based GHG accounting standards apply similar accounting rules.

For example, by following VCS methodologies and receiving VCS certification, project proponents can claim Verified Carbon Units (**VCUs**). The VCS – which has issued over 71 percent of total historic VCM credits⁸ – requires project proponents to use specific, eligible methodologies to estimate GHG ERRs within project boundaries (Verra, 2023b).⁹ To calculate baseline, project, and leakage emissions, most VCS methodologies rely on the use of the 2006 IPCC Guidelines (summarized in Box 3 above). VCUs are calculated as the difference between the GHG emissions estimated in a baseline scenario (i.e., the emissions or removals that would have occurred in a counterfactual scenario where the project was not developed) and the emissions that actually occurred as a result of the project and, if applicable, leakage:

$$\text{VCUs} = \text{Baseline emissions} - \text{Project emissions} - \text{Leakage (if applicable)}$$

VCUs can be overestimated depending on the assumptions used to construct the baseline scenario.

In terms of measuring, to calculate the baseline, project, and leakage emissions, most VCS methodologies rely on the use of the 2006 IPCC Guidelines (Box 3). Therefore, one could assume that both the estimates presented in the national GHG inventory and those presented at the project level have the same level of accuracy. However, there are potential differences due to the following factors:

- First, the level of specificity of the AD used at the project level tends to be greater since it is collected at site level. In principle, this means it is more accurate than AD collected from national statistical sources, which normally rely on sectorial census. Regarding the EF used, not all projects will be able to develop an EF that is specific to the technology used in the site (e.g., EF per type of fuel and engine used). Therefore, some will use EFs from the national GHG inventory and/or IPCC default values;
- Second, uncertainties at the project level may be deducted from the estimates, while national GHG inventories estimate and report combined uncertainties but do not deduct them from the national totals;
- Third, monitoring ERRs at the project level is done more frequently and in accordance with the applied methodologies, while national GHG inventories' estimates are calculated only once a year (in principle).

In terms of accounting, VCUs are estimated against a baseline scenario that represents counterfactual emissions, i.e., the emissions that would have occurred in the absence of the carbon project. VCUs can be overestimated depending on the assumptions used to construct the baseline scenario.

⁸ Climate Focus analysis of data collected for the VCM Dashboard (June 2023).

⁹ "The project boundary includes the GHG sources, sinks, and reservoirs that are relevant to the project and baseline scenarios. The relevant GHG sources, sinks, and reservoirs that must be included or excluded, or are optional, are set out in the methodology(s) applied by the project."

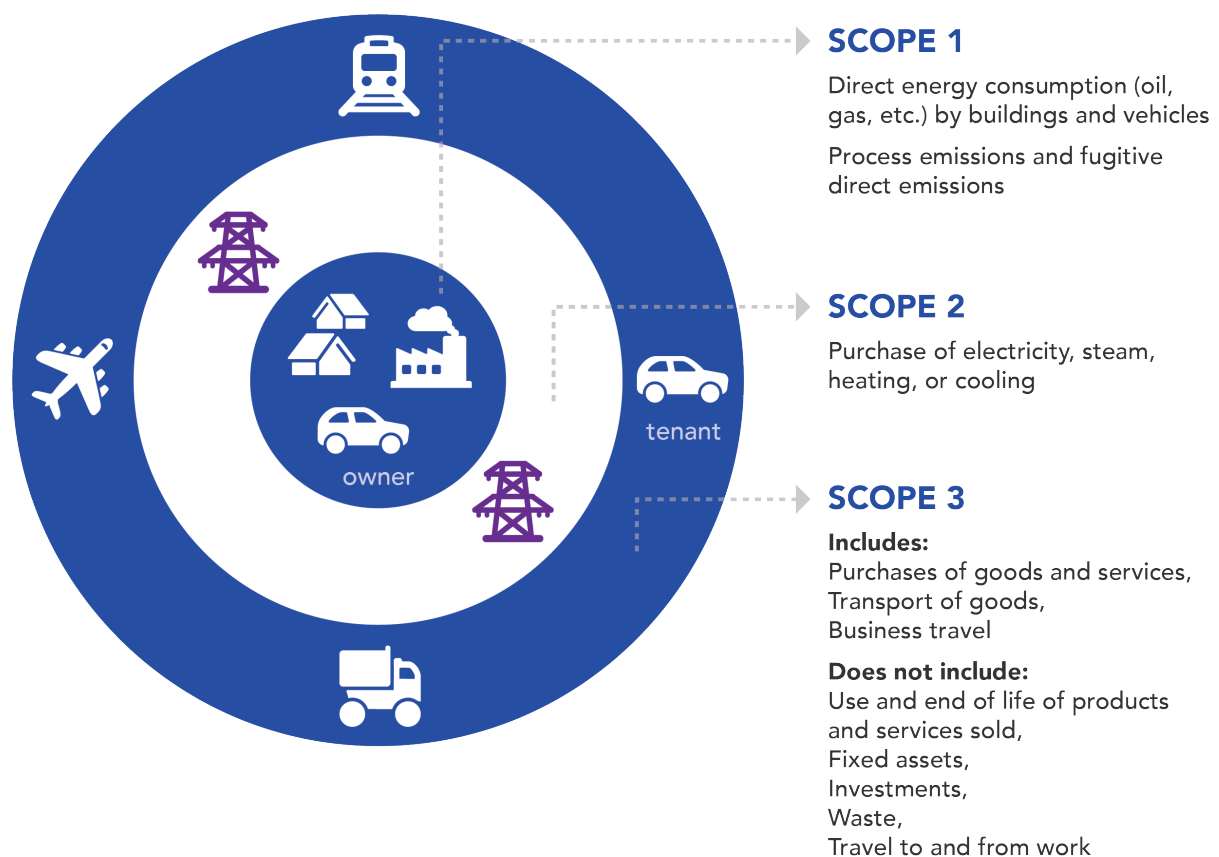
3.3. Corporate GHG Accounting

Box 4. The three scopes of corporate GHG accounting

Under the GHG Protocol, corporate GHG emissions are estimated, reported, and accounted for under three scopes (GHG Protocol, 2004):

- Scope 1 emissions are "direct GHG emissions [that] occur from sources that are owned or controlled by the company, for example, emissions from combustion in owned or controlled boilers, furnaces, vehicles, etc.; emissions from chemical production in owned or controlled process equipment."
- Scope 2 emissions are "GHG emissions from the generation of purchased electricity consumed by the company. Purchased electricity is defined as electricity that is purchased or otherwise brought into the organizational boundary of the company. Scope 2 emissions physically occur at the facility where electricity is generated."
- Scope 3 emissions are "an optional reporting category that allows for the treatment of all other indirect emissions. Scope 3 emissions are a consequence of the activities of the company, but occur from sources not owned or controlled by the company. Some examples of scope 3 activities are extraction and production of purchased materials; transportation of purchased fuels; and use of sold products and services."

Figure 1. Scope-based corporate GHG accounting (ADEME, 2016)

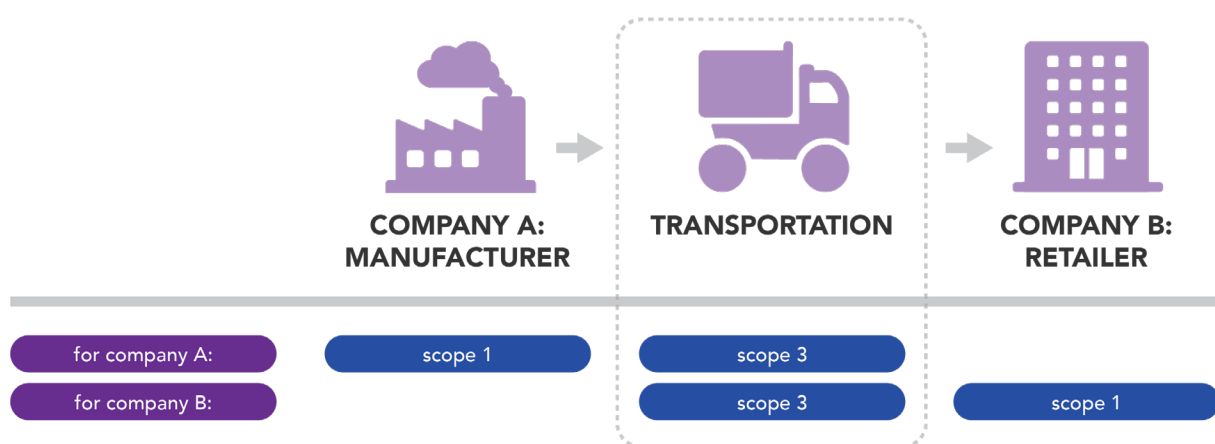


Corporations measure and report their GHG emissions to account for their carbon footprints. When corporates account for their emissions, they distinguish and classify emission sources according to proximity to the company’s operations and the level of control a company can exercise over these emissions. These classifications are called “scopes.” Most corporate actors rely on the GHG Protocol (GHG Protocol, 2004)¹⁰ to estimate their emissions and differentiate between direct emissions (Scope 1), emissions related to their energy use (Scope 2), and broader supply chain emissions (Scope 3). Box 4 and Figure 1 explain the three scopes in more detail. Companies calculate their GHG emissions and use these data to meet regulatory reporting requirements, as well as to assess their performance against regulatory or voluntary targets.

There is significant and structural double counting in corporate GHG reporting. Corporate GHG reports include direct emissions from sources controlled by the company and indirect emissions, such as Scope 2 energy-related emissions. Inventories ideally also include other indirect GHG emissions that relate to the company’s activities but are outside of its control, such as upstream production and transport emissions (Scope 3) and downstream emissions from the use of company’s products and services. Proper accounting of indirect emissions is important because it is ultimately an accounting of emission reduction opportunities (Hertwich & Wood, 2018).

These overlaps complicate the assignment of responsibility for emissions and frequently lead to double or even triple counting of indirect emissions (Science Based Targets et al., 2018). If all companies in a sector reported their emissions at all three scopes, their combined corporate inventories would exceed the total GHG emissions reported at the national level for that sector. This is because there would be overlaps between indirect emissions (Scope 3) of some companies with direct emissions (Scope 1) of other companies. One company’s scope 1 emissions may be another company’s scope 3, so if both companies account for those emissions, the emissions have been double counted. Other instances of double counting may occur, e.g., when emissions are counted and reported twice, by two separate companies in separate supply-chains, as part of their Scope 3 emissions. Figure 2 illustrates such an instance of double counting of GHG emissions among companies.

Figure 2. Illustration of instances of double counting within Scope 3



¹⁰ The GHG guidance and tools are mostly based on the IPCC’s methodologies. Relevant guidance documents include: GHG Protocol Corporate Accounting and Reporting Standard, GHG Protocol Mitigation Goal Standard, and GHG Protocol for Project Accounting. Available at: <https://ghgprotocol.org>

Corporates use GHG estimates to track progress against corporate GHG targets, which includes the use of carbon credits. The GHG Protocol for Project Accounting (GHG Protocol, 2005) is the GHG Protocol's standard that guides the use of carbon credits to offset or to compensate for GHG emissions and to achieve targets. This standard provides specific principles, concepts, and methods for quantifying and reporting GHG reductions (i.e., decreases in GHG emissions, or increases in removals and/or storage) from climate change mitigation projects. However, a range of questions remain as the standard gives companies discretion over recognition and measurement of carbon credits as assets, liabilities, or expenses. Accounting discrepancies resulting from this flexibility make comparability between firms difficult.

3.4. System Overlaps and Double Counting

GHG accounting of governments, corporates, and particular mitigation activities pursue different purposes and follow different rules, resulting in GHG reporting overlaps. Different public and private GHG reporting frameworks use different baseline and monitoring methodologies, equations, indicators and parameters to calculate ERRs. Some frameworks follow the methodologies used by the IPCC and some do not. Equations and parameters can be used at different levels (e.g., national, subnational, corporate, or the activity level of a mitigation project), resulting in estimates that are not necessarily comparable, and which may or may not represent a national or sectoral total if summed.

The quality of NDC accounting depends on, among other factors, the quality of GHG inventories. The quality of many GHG inventories is limited, and while data quality is improving, accounting for emissions often depends on relatively rough estimates. This means that bottom-up VCM project ERRs are often not captured in GHG inventories and, consequently, NDC accounting. Project or activity accounting is also often based on different assumptions than GHG inventories. For example, national EFs may differ from assumptions of project developers. This can result in different ERR estimates for the same activity. Similarly, bottom-up corporate accounting is often more granular than GHG inventories. These kinds of methodological differences between national GHG inventories and the GHG estimates reported by companies are often ignored, and NDC indicators are based on the GHG estimates presented by national GHG inventories rather than reported corporate emissions.

The quality of ERR accounting depends on, among other factors, the conservativeness of baseline emissions. Baseline scenarios are ex-ante GHG emissions projections. The quality of VCM ERRs depends on conservative estimates combined with strong and independent validation of assumptions. This means that while GHG measurements may be more granular at the project level, the integrity of ERRs depends, to a large extent, on conservative baseline setting.

Emissions are structurally double counted between government and company GHG reporting. In contrast to government emission estimates, corporates estimate emissions along their supply chain regardless of where they occur. As a result, corporate emissions reporting often includes emissions in a multitude of countries. In turn, governments also strive to cover the full extent of corporate GHG emissions occurring within the nation's territory. This means that government and corporate GHG accounting cover the same emissions to achieve different reporting goals, and there is a near total overlap between company and government GHG accounting.

The double counting of ERRs between government and corporate reporting is a consequence of the double counting of those emissions. The same applies in the case of project and activity accounting. Since corporate GHG reporting is more granular than government GHG reporting, ERRs achieved within the corporate supply chain are not always captured in national GHG inventories.

The assumption that the use of carbon credits in the context of corporate GHG goals leads to double counting between the host country NDC and that corporate target is therefore a simplification. Whether and when there are instances between corporate and project, national and corporate, and national and project double counting depends on the quality of the underlying GHG estimates and reporting, and the credibility of the GHG accounting frameworks. VCM standards and corporate GHG protocols seek to avoid double counting and have adopted various provisions to avoid double counting.

4. STRATEGIES TO ADDRESS DOUBLE COUNTING

Box 5. Key takeaways of Section 4

- **The Paris Agreement and double counting:** To support countries in achieving and exceeding their NDC targets, Article 6 of the Paris Agreement provides a framework for voluntary cooperation between Parties which that involves the transfer of mitigation outcomes. The authorization of these transfers comes with the obligation for both the transferring and the receiving Parties to apply a CA to their emissions balance. A CA is an accounting feature to ensure that there is no double counting of ERRs under the Paris Agreement.
- **The Article 6 guidance mandated CAs outside of double counting contexts to achieve policy goals.** According to current CMA guidance related to Article 6, CAs have to be applied to a transferring Party's emissions balance even in situations where the transferred mitigation outcome has been generated by an activity outside the scope of an the NDC (i.e., in situations where there can be no risk of double counting under the Paris Agreement). The guidance assumes that applying CAs to non-NDC sectors can create incentives for countries to adopt economy-wide NDC targets.
- **Consequently, Article 6.2 accounting rules reward countries with economy-wide, loose and unambitious emission reduction targets.** Developing country Parties that have not yet adopted economy-wide NDC targets are at considerable disadvantage if they authorize the transfer of ITMOs from sectors or activities that fall outside of their NDC. The Article 6.2 Guidance effectively discriminates against least developed and other poorer countries without economy-wide NDC targets.
- **The VCM and Double Counting:** Credible VCM standards provide rules and operational processes to avoid double issuance, double use, and double claiming. However, they take different stances when it comes to requiring CAs for VCM carbon credits. Most standards offer to label carbon credits that have been authorized for CAs by host countries, but do not necessarily demand such authorization.
- **Corporate Double Counting:** Double counting of emissions is a consequence of corporate GHG Scope 2 and 3 accounting. The GHG Protocol's Corporate Accounting and Reporting Standard provides guidance for avoiding double counting both within and between companies.

4.1. The Paris Agreement and Double Counting

4.1.1. ITMO Transfers and Corresponding Adjustments

To support countries in achieving and exceeding their NDC targets and goals, Article 6 of the Paris Agreement (**Article 6**) provides a framework for voluntary cooperation between Parties that involves the transfer of mitigation outcomes. Article 6 provides the basis for two market-based approaches, described as follows:

- **Article 6.2** establishes "cooperative approaches" by which mitigation outcomes generated from mitigation activities can be transferred between Parties or transferred by a host country Party to an authorized public or private entity. Article 6.2 provides flexibility to Parties to develop bilateral or multilateral agreements on the specific architecture and rules for the implementation of activities that involve the generation of "mitigation outcomes."
- **Article 6.4** establishes a centralized baseline-and-crediting mechanism. The Article 6.4 mechanism is modelled after the Kyoto Protocol's Clean Development Mechanism (**CDM**) and

is under the purview of the UNFCCC. Article 6.4 provides a framework for the generation, transfer, and use of Article 6.4 Emission Reductions (**A6.4ERs**). This prescriptive framework is governed by a supervisory body and requires the use of approved methodologies.

Under Article 6.2 of the Paris Agreement, mitigation outcomes generated in a host country Party can be transferred internationally in the form of specific units – called “Internationally Transferred Mitigation Outcomes” (**ITMOs**). These units are also relevant under Article 6.4, as A6.4ERs can become ITMOs under certain conditions. In 2021 at COP26, the CMA adopted a number of landmark decisions related to the implementation of Article 6, including guidance for Article 6.2 (UNFCCC, 2021a) (**Article 6.2 Guidance**) as well as rules, modalities and procedures for Article 6.4 (UNFCCC, 2021b) (**Article 6.4 RMPs**). These decisions, together with other relevant CMA decisions made at COP26, are widely known as the “**Paris Rulebook**” as they provide the necessary practical guidance for the implementation of the Paris Agreement.

The Article 6.2 Guidance specifies that mitigation outcomes generated under Article 6.2, as well as A6.4ERs, can be authorized by participating Parties to be transferred as ITMOs for (i) use toward the NDC of another Party, (ii) international mitigation purposes other than NDC-achievement (Other International Mitigation Purposes than NDC, hereinafter **OIMP**), or (iii) “other purposes.”¹¹

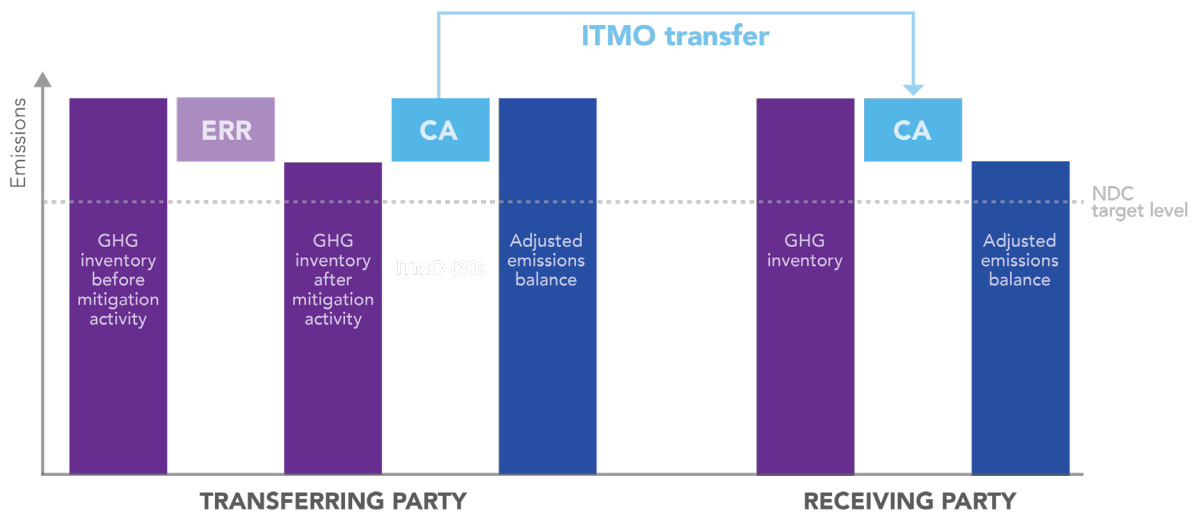
Authorization of ITMOs comes with the obligation to apply CAs, because the transfer of mitigation outcomes implies the need for an adjustment of participating countries’ emissions levels in the context of tracking progress toward their NDCs. A CA ensures that there is no double counting of ERRs under the Paris Agreement or in other international accounting systems (such the Carbon Offsetting and Reduction Scheme for International Aviation, or **CORSIA**), with the goal to ensure robust accounting of mitigation progress under the Paris Agreement (Figure 3). This implies that the climate benefit of an achieved mitigation outcome is not counted more than once in the context of NDC achievement tracking. The Article 6.2 Guidance gives further detail on how to apply CAs in different situations, depending on the type of targets included in the participating Parties’ NDCs (including non-GHG targets).¹²

When a CA is applied and an ITMO transferred, the host country Party forgoes the right to count the underlying mitigation outcome toward its NDC. This is the case regardless of whether that mitigation outcome is ultimately counted toward another Party’s NDC, whether it is used for OIMP (e.g., CORSIA compliance), or whether it is used for other purposes (e.g., voluntary corporate commitments). However, the ERR will still be captured by the host country’s GHG inventory – provided, of course, that the inventory is sufficiently granular and precise to capture the achieved ERR.

¹¹ OIMP uses could, for instance, be to comply with the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA). “Other purposes” is not defined but is generally understood to mean the use of ITMOs toward corporate and other voluntary commitments.

¹² See Annex to the Article 6.2 Guidance, Section III, Sub-Section B.

Figure 3. Corresponding adjustment between two Parties



CMA decisions also include special provisions for Parties that participate in Article 6 activities. Parties shall also include, as an annex to their BTRs, information about the methodologies used for the “measurement of mitigation outcomes in accordance with the methodologies and metrics assessed by the IPCC and adopted by the CMA.”¹³ CAs are reflected in the emissions balance presented as part of the structured summary (and not in the national GHG inventory that is reported in the BTR separately). Box 6 summarizes the CMA’s reporting requirements for Article 6.2 and CAs.

Box 6. Reporting requirements in relation to Article 6.2 and CAs

If a Party participates in cooperative approaches that involve the use of ITMOs under Article 6.2, it shall also provide as part of the structured summary:

- the annual level of anthropogenic emissions by sources and removals by sinks covered by the NDC on an annual basis reported biennially;
- an emissions balance reflecting the level of anthropogenic emissions by sources and removals by sinks covered by its NDC, adjusted on the basis of CAs undertaken by adding the GHG ERRs represented by the transferred ITMOs to the accounts of the acquiring Party and subtracting the GHG ERRs from the accounts of the transferring Party, consistent with decisions adopted by the CMA on Article 6;
- any other information consistent with decisions adopted by the CMA on Article 6 (e.g., instructions provided in the Article 6.2 Guidance regarding the application of CAs for single-year or multi-year NDCs); and
- information on how each cooperative approach promotes sustainable development; ensures environmental integrity and transparency, including in governance; and applies robust accounting to ensure, *inter alia*, the avoidance of double counting, consistent with decisions adopted by the CMA on Article 6.

¹³ Paragraph 22c of Annex to Decision 2/CMA.3

4.1.2. Effectiveness of CAs as an Accounting Tool

CAs would ensure full wall-to-wall accounting of ERRs if all Parties had ambitious economy-wide emission reduction targets. However, problems occur if, e.g., Article 6 activities generate ERRs outside of the scope of the host country's NDC or if NDCs lack ambition and do not require substantial mitigation action to be taken.

The Article 6.2 Guidance provides: *"A participating Party that first transfers ITMOs from emission reductions and removals that are not covered by its NDC shall apply corresponding adjustments consistently with this guidance."*¹⁴ Therefore, any authorized transfer of mitigation outcomes, even if it was achieved outside of the transferring Party's NDC, implies the application of CAs by that Party – **a rule that discourages ERRs outside of a Party's NDC and implicitly punishes host countries that wish to tap into "non-NDC" ERRs.** It has also been described as *"a way in which to slowly kill off the 'common but differentiated responsibilities' principle"* (Zaman & Quek, 2021) that characterizes the differences between developed and developing countries under the UNFCCC.

In contrast, a country whose targets lack ambition and can be met without additional effort will not have any problems with authorizing CAs. **ITMOs, which do not require an additional mitigation effort, may be considered "hot air."** Hot air refers to the transfer of units (ITMOs, in this case) that are not backed by real ERRs. This creates a problem for the environmental integrity of the system, in the same way that the transfer of surplus assigned amount units under the Kyoto Protocol constituted an environmental effectiveness problem of the Protocol (Schiermeier, 2012; Woerdman, 2005).¹⁵ The delinking of the obligation to make CAs from the ambition of a country's NDC effectively constitutes a disincentive for the adoption of stronger and more ambitious NDCs.

There are three observations to be made in that regard:

- (a) In a situation where a mitigation outcome is achieved outside of the scope of the NDC, there is no risk of double counting since the resulting ERRs would not be counted toward the host country's NDC targets in any case. By definition, NDC accounting only considers those activities and measures that are within the scope of the NDC.
- (b) The fact that the Article 6.2 Guidance requires host countries to apply CAs for ITMO transfers – even when the underlying activity is outside the scope of the NDC – signifies that those transferring Parties will effectively have to achieve additional ERRs within the scope of their NDC to compensate for the application of those CAs.
- (c) Making a CA relating to an ITMO is significantly more costly for a country with an ambitious emission reduction target than for a country with an inflated or weak emission reduction target. The requirement of making CAs serves as a disincentive for countries to adopt strong targets.

It follows from these observations that developing country Parties that have not yet adopted economy-wide NDC targets would be at a considerable disadvantage if they were to agree to authorize the transfer of ITMOs from sectors not included in their NDCs. The Article 6.2 Guidance seeks to encourage countries to adopt economy-wide emission targets. In doing so, intendedly or not, **the Article 6.2 Guidance effectively discriminates against least developed and other poorer countries without economy-wide NDC targets and rewards countries with economy-wide, vague, and unambitious emission reduction targets.**

¹⁴ Paragraph 14 of Section III.B. of Article 6.2 Guidance.

¹⁵ Authors offer very different interpretations regarding the practical implications of hot air trading and its impact on the effectiveness of the Kyoto Protocol. While Schiermeier (2012) describes the Protocol as policy failure, Woerdman (2005) offered at the time optimistic interpretations that downplayed the problem of hot air trading. With the benefit of hindsight, it can be said that the Protocol, while allowing for some learning, was overall an ineffective legal instrument to mitigate global climate change, whereby significant amounts of hot air were one problem among many.

In sum, these examples show that CAs are a political instrument. They achieve the primary goal of avoiding double counting of ERRs against NDCs but may have unintended and undesirable side effects that can negatively affect the overall effectiveness of the Paris Agreement.

4.2. The VCM and Double Counting

4.2.1. Double Counting Provisions in the VCM

Credible VCM standards provide rules and operational processes to avoid instances of double issuance and double use. Project proponents must cancel units in one registry if projects register or transfer to another GHG program. Standards such as the VCS, the Gold Standard (GS), ACR, and the Climate Action Reserve (CAR) also recognize the problem of double claiming and have defined specific rules in that regard. They all take measures to ensure that there is no double counting of credits used under CORSIA. However, they take different stances when it comes to addressing double counting between corporate GHG accounting and international climate treaties.

The **VCS** has historically addressed the issue of double claiming under the Kyoto Protocol (Verra, 2012). In that context, Verra required operators of projects implemented in Annex-I countries under the Kyoto Protocol (i.e., countries with emission reduction and limitation targets) to provide evidence that a relevant regulatory authority would cancel assigned amount units allocated under the Kyoto Protocol equivalent to the ERRs generated by the project. While this requirement would correspond to a mandatory requirement to apply CAs for VCM projects under the Paris Agreement, Verra has refrained from adopting such requirement under its current program rules. Verra's Kyoto Protocol double claiming rules had the effect of an indirect ban on projects from Annex I countries, an outcome that led Verra to adopt a more cautious and nuanced position with respect to CAs. To enable VCM actors to be transparent about the avoidance of double claiming, Verra offers voluntary Article 6 labels for VCS credits to indicate they have been authorized for specific uses by host countries under Article 6 of the Paris Agreement (Verra, 2023a). Such labels are issued once project developers can show a valid host country authorization for CA. They are not a requirement for international transfers of VCU.

Verra also recognizes the risk of double claiming between Scope 3 corporate emissions and VCM projects, and is currently revising its double claiming rules. Currently, there is not a clear pathway for transitioning the ERRs generated from carbon credit projects to Scope 3 interventions that can be counted in a corporate inventory (Verra, 2022). Verra convened the Scope 3 Working Group (Verra, 2022) to inform the development of its Scope 3 Program, which is intended to bring increased integrity and assurance of ERR projects within company supply chains. January 2024 is the planned effective date for the VCS Program's Scope 3 emissions double claiming requirement.

To avoid the double claiming of emissions reduction/removals by two Parties or non-Parties (e.g., CORSIA), the **ACR** Standards state that CAs may be applied (American Carbon Registry, 2023).¹⁶ While CAs are not mandatory for ACR units, the ACR will post the national UNFCCC focal point letter of assurance and authorization of transfer/cancellations on their registry.

Similarly, **CAR** states in their Program Manual that to conform with CORSIA, "the Reserve will adhere to any future requirements established by the [UNFCCC], the [International Civil Aviation

¹⁶ See Section 10.B.

Organization], and any relevant emission reduction project's host country to prevent double counting" (Climate Action Reserve, 2023).

The jurisdictional REDD+ Environmental Excellence Standard (**TREES**), the standard used by the Architecture for REDD+ Transactions (ART),¹⁷ also provides guidance on how to avoid and transparently communicate on instances of double counting. It posits that "ART Participants may authorize transfers of TREES Credits for compliance purposes to buyers outside of the Participant's country by submitting a Host Country Letter of Authorization to ART and subsequently applying an accounting adjustment in biennial transparency reports to the UNFCCC" (ART, 2021). However, ART/TREES does not require any CAs to be applied to TREES Credits.

The **GS** has had double counting guidelines in place since 2015 (Gold Standard, 2015) and provides best practice guidelines for Scope 3 emissions management (Science Based Targets et al., 2018). It also has published a Claims Guideline (Gold Standard for the Global Goals, 2022) and a draft Optional Requirement that formulates Double Counting Requirements and Procedures (Gold Standard for the Global Goals, n.d.). The GS is the only standard that suggests that CAs may become mandatory for international transfers of GS-certified units. The draft Double Counting Requirements suggests that "[i]n order for GS VERs with a vintage of 2021 or later to be eligible / recognized for such uses, projects must apply Gold Standard's 'Requirements for Credits Authorised for Use Under Article 6 of the Paris Agreement' set out in Annex A." The draft requirements and procedures also formulate rules to avoid double claiming with national policies and with progress toward a voluntary climate mitigation pledge.

Since the adoption of the Paris Agreement, various proposals that seek to replace offsetting claims with non-offsetting or "contribution claims" have been put forward. The contribution claims model was first proposed to address instances of double claiming between NDCs and the VCM (Fearneough et al., 2020; Hermwille & Kreibich, 2016; Kreibich & Obergassel, 2019 and later to avoid offsetting altogether.

For example, in 2017, the GS published "A new Paradigm for Voluntary Climate Action: Reduce within, Finance beyond" (Verles et al., 2017) in which it emphasized that the concept of offsetting as a call to action for voluntary climate action was no longer appropriate and a reframing was needed. In addition to repurposing the VCM, the GS also clearly indicated that any VCM engagement should represent corporate finance that is supplemental to mitigation efforts taking place within value chains.

4.2.2. Effectiveness of VCM Double Counting Provisions

The VCM has a long history of addressing the risk of double counting, including double claiming. While the double counting rules of the Paris Agreement, are only concerned with avoid double counting within the rules that govern NDC accounting, the VCM standards address the risk of double claiming (i.e., double claiming among different accounting systems).

Since the operationalization of Article 6, some stakeholders have argued that VCM credits that are backed by CAs (and therefore transferred as ITMOs) are of higher quality than those that are not, because they avoid the risk of double claiming between host country Party's NDCs and corporate climate goals (Blum, 2020; Broekhoff et al., 2019; Brander et al., 2022b; Carbon Market Watch, 2020; Hermwille & Kreibich, 2016; Kreibich & Hermwille, 2021). As a result, VCM stakeholders and commentators are discussing the impact of CAs on VCM credits, with some wondering if offsetting claims should only be allowed if based on the use of CA-backed ITMOs. VCM standards have

¹⁷ More information about ART/TREES is available at: www.ARTREDD.org.

reacted to this concern and offer labels for host country authorized VCM credits, assuming that such authorization leads to a CA in the host country's NDC accounting. The GS, the second largest voluntary carbon crediting standard globally, has concluded that CAs are necessary and will begin requiring CAs on credits it certifies for offsetting uses (Gold Standard, 2021).

However, the labelling of VCM units as authorized does not necessarily limit the risk of double counting. First, double counting only occurs if the ERR falls within the scope of the host country's NDC goals. Second, it has to be reflected in the country's GHG inventory. If both of these conditions apply, the ERR is reflected both in the host country's NDC accounting and the transferred carbon credit. Third, if double counting is likely, double claiming between host country NDCs and the non-state user of VCM units can be avoided by linking VCM units to CAs. However, a CA is only a valuable accounting tool if the related ITMO is not linked to hot air and the NDC goals of the transferring countries are ambitious enough to demand real mitigation action.

It is also important to remember that CAs are not tailored to the VCM. Their primary purpose is to safeguard the environmental (GHG) integrity of Article 6 activities, as they seek to ensure *“that participation in cooperative approaches does not lead to a net increase in emissions across participating Parties within and between NDC implementation periods; and that corresponding adjustments shall be representative and consistent with the participating Party's NDC implementation and achievement.”*¹⁸

Applying CAs to the VCM is not straightforward and there are a number of operational challenges associated with using host country authorizations as a tool to avoid double claiming. The issuance of ITMOs and reporting of CAs depend on the underlying VCM project or program to be communicated as an Article 6.2 cooperative approach or Article 6.4 activity. Further, the host country will have to meet the Article 6.2 participation requirements. Finally, authorizations can also be conditional or revoked later. It is therefore essential for VCM standards not only to label units, but also to verify whether CAs have indeed happened.

4.3. Corporate Double Counting

Accounting for corporate climate targets is complicated by the risk of double counting, in particular in relation to Scope 3 emissions. Companies generally use process-based life cycle assessment to evaluate indirect emissions (Hertwich & Wood, 2018). Life cycle assessment is used to quantify emissions along the individual stages of the supply chain by tracking specific corporate production conditions and inputs (e.g., the electricity company supplying the energy necessary to power a company's operations). On a more macro scale, input-output analysis can be used to quantify emissions embodied in trade and carbon footprints. Input-output analysis reflects the average of a specific industry sector in a chosen country and helps to avoid double counting at the macro level by allocating production emissions solely to final demand.

To avoid double counting of indirect emissions both within and between companies, it is critical for companies to define their organizational boundary and operational boundary (GHG Protocol, 2004).¹⁹ An operational boundary defines the scope of direct and indirect emissions for operations that fall within a company's established organizational boundary. The operational boundary (scope 1, scope 2, scope 3) is decided at the corporate level after setting the organizational boundary.

¹⁸ Annex to UNFCCC, Decision 2/CMA.3, para. 7. Available via: <https://unfccc.int/documents/460950>

¹⁹ See Chapters 3 and 4.

For corporate reporting, two distinct approaches can be used to consolidate GHG emissions: the equity share approach and the control approach (GHG Protocol, 2004).²⁰ Under the equity share approach, a company accounts for GHG emissions from operations according to its share of equity in the operation. Under the control approach, a company accounts for 100 percent of the GHG emissions from operations over which it has control. It does not account for GHG emissions from operations in which it owns an interest but has no control.

Double counting is considered a minor problem in voluntary corporate public reporting as long as there is adequate disclosure from the company on its consolidation approach (GHG Protocol, 2004). However, double counting of emissions should be avoided in mandatory emission reduction, trading and certain mandatory government reporting programs. Whether or not double counting matters, depends on how the reported information is used reporting as long as there is adequate disclosure from the company on its consolidation approach (GHG Protocol, 2004, page 34).

Companies are also encouraged to establish a “target double counting policy” (GHG Protocol, 2004 Step 8 in setting a GHG target). Such policy “*should specify how reductions and trades related to other targets and programs will be reconciled with their corporate target, and accordingly which types of double counting situations are regarded as relevant*” (GHG Protocol, 2004, page 82).”

Double counting is often unavoidable but should be addressed if it undermines the integrity of a target or ERR investment. To clarify rights and obligations in relation to ERR accounting, companies involved in joint operations can address the issue through contracts that specify how the ownership of emissions or the responsibility for managing emissions and associated risk is distributed between the parties (GHG Protocol, 2004).²¹

4.4. Summary of Doubling Counting Strategies

Table 1 summarizes the measurement methodologies, accounting rules, and double counting provisions used by the systems described in the sections above – UNFCCC national GHG inventories, NDCs under the Paris Agreement, VCM programs or projects, and corporate climate goals.

²⁰ See Chapter 3.

²¹ See Chapter 4.

Table 1. Summarizing measuring methodologies, accounting rules, and double counting provisions

	MEASUREMENT METHODOLOGIES	ACCOUNTING RULES	DOUBLE COUNTING PROVISIONS
NDC ACCOUNTING	Indicators are measured through GHG estimates from the national GHG inventory (in the case of economy-wide NDC and/or sectorial NDC)	Rules established by Decision 4/CMA.1 and Decision 18/CMA.1 (in particular Section III on "Information necessary to track progress made in implementing and achieving NDC")	Provisions established by Decision 2/CMA.3 (in particular Section III on CAs)
VCM PROGRAMS AND PROJECTS ACCOUNTING	Through eligible methodologies under each VCM program	Specific rules established under each VCM standard	Specific provisions established by carbon standards address double issuance and double use. Option to avoid double claiming between NDCs and corporate goals through host country authorizations. Potential requirement to apply CAs.
CORPORATE ACCOUNTING	Through sector specific calculation tools (such as those provided by the GHG Protocol) based on IPCC equations and parameters to estimate GHG emissions/removals in Scopes 1, 2 and 3	GHG Protocol guidance	The GHG Protocol defines rules for companies to avoid double counting when setting GHG targets. The Protocols also defines the scope of their GHG emissions and relies on corporates to allocate responsibilities for emissions and ERRs among themselves.

5. DISCUSSION: ACCOUNTING RULES AS POLICY INSTRUMENTS

Box 7. Key takeaways of Section 5.

- **The extent to which overlapping of GHG measurement and accounting systems are problematic depends on whether such systems:**
 - lead to double claiming of ERRs;
 - have implemented effective double counting rules;
 - undermine the effectiveness of the mitigation action.
- **When deciding on whether CAs should be applied to the VCM, decision makers should first analyze whether and when double counting occurs.** This is particularly relevant for policymakers that are considering using carbon markets as tool to achieve and go beyond their NDCs. They should also review existing double counting rules and assess whether these rules effectively address double counting.
- **Policy makers should then consider the implications of CA authorizations in the context of their national policy goals.** Whether CAs will incentivize or disincentivize climate change action depends on a country's NDC, the accuracy of its inventory and MRV system, and its plans, finance and progress in implementing national climate policies. Table 3 summarizes policy arguments in favor and against use of CAs.
- **Countries may be advised to pursue a cautious approach when it comes to authorizing CAs** to ensure that national NDC compliance is not put at risk and carbon finance is effectively used to generate ERRs that can be counted towards national climate targets.
- **The debate about double counting is not actually about accounting but rather about setting the right incentives for mitigation action.** Opinions on such incentives differ. CAs are one tool that could incentivize or disincentivize climate change mitigation. Public policy is very hard to predict, and carbon accounting may only play a small role in a government's climate policy decisions.

5.1. ERR Accounting and Policy Assumptions

GHG accounting rules are an instrument of climate policy. As such, they reflect political assumptions about how carbon emissions are accounted for and how ERRs can or should be traded. The speculative nature of many of those assumptions makes them difficult to verify.

The extent to which policies consider overlapping of GHG measurement and accounting systems as problematic depends on whether such systems:

- (i) lead to double claiming of ERRs;
- (ii) have implemented effective double counting rules;
- (iii) undermine the effectiveness of the mitigation action.

The previous sections have considered points (i) and (ii). However, much of the discussion around double claiming of ERRs is driven by point (iii). This section examines the policy assumptions that influence the discussion around double counting – and double claiming. For example, the GHG Protocol's Scope 3 Frequently Asked Questions clarifies that "*by allowing for GHG accounting of*

direct and indirect emissions by multiple companies in a value chain, scope 1, scope 2, and scope 3 accounting facilitates the simultaneous action of multiple entities to reduce emissions throughout society” (GHG Protocol, 2022). By double counting emissions – and ERRs – more entities are encouraged to invest in mitigation action. This generates additional incentives for GHG mitigation. These rules also have implications for double claiming. For example, multiple mitigation actions might be taken to compensate for the same emission: where companies offset scope 3 emissions, such emissions may also be reduced or compensated by another company. Both companies may claim the benefit of such reductions. This form of double counting and double claiming is permitted because it results in more emissions mitigation overall.

Similarly, double claiming of ERRs generated by governments and by corporates is permitted under many climate policy frameworks. Policies that address double claiming go beyond narrow considerations of GHG reporting systems in which the initial rights to claims are allocated, and instead consider the broader implications of different entities claiming the achievement of the same environmental goal. Such broad policy considerations are a common feature of accounting rules. Governments encourage companies to invest in voluntary GHG reductions and provide incentives for such reductions through reporting and disclosure standards (Peters-Stanley, 2012). Such ERRs are claimed by corporates in their non-financial disclosures and by the host government in their GHG inventories and, possibly, in their NDCs. This means that outside of carbon markets, double claiming of ERRs is not only accepted but encouraged in policy to create incentives for investments in mitigation. However, it is important to note that because of such double claiming, ERRs cannot be aggregated across companies or between governments and companies.

Like public climate policy, the accounting rules of the VCM and the Paris Agreement seek to influence the behavior of those using carbon crediting systems. In contrast to the assumption that double counting and double claiming of ERRs between companies or across companies and governments is permissible, opinions are not aligned in their assumptions about double counting and CAs for the VCM. Some policymakers and other participants in the VCM are in favor of public policy requiring CAs for VCM transactions, and others are opposed.

Proponents of CAs in the VCM believe that the VCM can discourage ambitious public mitigation action. They argue that allowing carbon markets to contribute to host countries’ NDC targets would displace public action. In other words, they worry that VCM activities disincentivize host country governments from adopting and implementing more ambitious climate policies and activities because countries rely instead on the voluntary actions of private organizations to generate ERRs within host countries’ territories, which the countries then count toward their NDC targets. The assumption here is that, absent the VCM project or program, the ERRs may have been achieved through host country climate policies. Therefore, *“overall emissions to the atmosphere will not be lower if the project displaces alternative abatement policies and actions”* (Brander et al., 2022a).

According to this position, the only way to generate genuine offset credits would be to apply CAs to the GHG emissions balance reported to the UNFCCC by the host country as part of its NDC accounting. This would ensure that voluntary projects do not replace public policies or actions, as the host country would have to implement an additional mitigation measure or activity to compensate for the application of the CA (Kreibich & Hermwille, 2021).

The GS, for example, addresses the concern that the VCM could *“displace or defer separate mitigation action that would have otherwise occurred to achieve the plan or target of one or more entities”* (Gold Standard for the Global Goals, n.d.) by asking project developers to seek CAs to reduce such displacement risk. However, the GS also clarifies that *“the potential for displacement is likely to be reduced under certain scenarios, including when a project takes place outside the scope of the host country’s NDC or within a conditional component of the host country’s NDC, when this has been, or can be, identified”* (Gold Standard for the Global Goals, n.d.).

While the GS, consequently, may not require CAs for project activities from non-NDC sectors, others argue that requiring the application of CAs for ERRs outside of NDCs creates incentives for countries to adopt more ambitious NDCs. The proponents of the use of CAs for reductions achieved outside of NDCs argue that applying CAs *“to both NDC-origin and non-NDC-origin transfers would support [Paris Agreement] Article 4.4’s encouragement to move toward economy-wide targets, since non-NDC sectors would then not be at risk of generating double-countable credits”* (Environmental Defense Fund, 2018).

Critics of CAs in the VCM believe that the VCM can mobilize additional mitigation and positively influence public policy. Those that argue against CA-backed credits in the VCM claim that CAs discourage private investment in mitigation. They also argue that there is no evidence that private sector involvement in the VCM would displace public sector action in achieving NDC targets. On the contrary, offset markets support additional ERRs beyond NDCs and encourage public policy action by lowering the costs of policy implementation. Critics further claim that depriving developing country host countries of the benefits of voluntary private action deprives them of much needed private climate finance. VCM stakeholders often invest in innovative projects, methodologies, and technologies that host country governments have not yet been able to develop, and investors also often come from the wealthiest countries. In other words, it would be more than equitable for these VCM investors to support the NDC achievement of developing host countries (Ebert, 2022; Moura Costa, 2022; Sandeep Roy Choudhury, 2021), especially if they do so in countries where their supply chains are responsible for large quantities of GHG emissions (Verra, 2021). Following this line of argument, investments in the VCM can be seen as private contributions to developing countries in line with the Paris Agreement’s principle of common but differentiated responsibilities and respective capabilities (CBDR-RC).

Opponents to CA-backed carbon credits also fear that the immense institutional burden of requiring countries to create complex systems to issue CAs for VCM credits would discourage developing country host countries from any engagement in the VCM (Choudhury, 2021). One of the key benefits of private carbon finance, they argue, is its relative flexibility and rapidity – especially when compared with public climate finance. This is particularly important in developing countries, where the need for financial support to achieve climate ambition is great and urgent. Opponents of CAs also raise concerns that the uncertainties surrounding host countries carbon market policies will delay investments as it is not certain that projects will be able to generate tradeable credits (ICROA, 2020; Choudhury, 2021). It is also important to note that discussions on CAs in the context of the VCM have been framed around the ability and willingness of developing countries to offer CAs, yet few developed economies have indicated their readiness to authorize VCM projects under the modalities of Article 6.

In sum, in the debate about CAs in the VCM, CAs are treated as a policy instrument to achieve ambitious climate action. Most arguments in this debate do not deal with (double) accounting but rather with setting the right incentives for mitigation action. Opinions, assumptions, beliefs, and positions on such incentives differ. Public policy is very hard to predict, and carbon accounting may only play a small role in a government’s climate policy decisions. There are no studies that back the assumption that carbon markets would discourage public policy. So far, there is no evidence on whether applying CAs on VCM transactions will have any effect beyond “cooling” the market.

5.2. When to Authorize CAs for VCM Activities

This paper has explained the different types of GHG accounting systems, where and why double counting and double claiming occurs, and the use of CAs as a political tool to avoid double claiming that some argue will incentivize climate change mitigation and others argue will disincentivize it. Double claiming and the use of CAs apply both to the realities of carbon accounting systems and to policy goals founded in diverse and unverified assumptions. This section summarizes the implications of authorizing CAs for host countries.

5.2.1. Accounting Goals

Double counting occurs in many GHG accounting systems. It is generally considered permissible in corporate accounting systems where multiple corporates may compensate for the same emissions, because it occurred in different scopes for each corporate. Double counting also occurs because government, corporate, and VCM GHG accounting systems overlap, and the same ERRs may be counted in multiple systems. Countries reporting progress on their NDCs avoid double claiming (one form of double counting) of mitigation outcomes by applying CAs if mitigation outcomes are transferred between countries. Host countries have the right to decide if and how CAs can be applied to mitigation outcomes generated by VCM activities.

When deciding on whether CAs should be applied to the VCM, decision makers should first analyze whether and when double counting occurs. This is particularly relevant for policymakers from developing countries that are considering using carbon markets as tool to achieve and go beyond their NDCs. When CAs are offered without sufficient prior consideration, host countries may have to “pay double” for the transferred ITMO: first in the form of a CA within their NDC accounting and, second, in the form of an additional ERR that needs to be achieved within their NDC. This can lead to a situation where an ITMO is backed by two ERRs – one within the NDC achieved by the host country and one outside of the NDC. In addition, where host country NDC targets are unambitious, the promise of a CA may be of little value to an acquiring company since the application of a CA will not lead to an additional host country mitigation effort.

Table 2 below summarizes the instances when double claiming related to NDC achievements is likely and when it is less likely. The table comes with two important caveats. First, it does not consider the quality of host country measurement, reporting, and verification (MRV) and GHG accounting. Whether double claiming occurs or not depends on whether a GHG inventory includes a VCM ERR, which is not always the case. Second, the table does not consider the nature of the corporate goal and whether the ERR is used to offset emissions within Scope 3 of corporate GHG accounting.

Table 2. The likelihood of VCM double claiming in the context of NDC accounting.

NDC Coverage and Ambition	VCM ERRs achieved within the climate Target	Ambitious target or policies	Corporate ERRs that are to be offset relate to GHGs outside of the host country	Double counting likely	CA necessary to avoid double counting
Economy-wide climate target	Yes	Yes	Yes	Yes	Yes
			No	No	No
		No	Yes	Depends on a strict additional test	Possibly
			No	No	No
Sectoral or policy-based climate targets	Achieved outside the scope of NDC goals	Irrelevant consideration		No	No
		Achieved within the scope of NDC goals	Yes	Yes	Yes
	No			No	No
	Achieved within the scope of NDC goals	No	Yes	Depends on a strict additional test	Possibly
No			No	No	

5.2.2. Policy Goals

Policy makers should also consider the implications of CA authorizations in the context of their national policy goals. They should review the arguments in favor of and against applying CAs to transactions of VCM carbon credits in the context of national policies and implementation circumstances. Whether CAs will incentivize or disincentivize climate change action depends on a country's NDC, the accuracy of its inventory and MRV system, and its plans, finance and progress in implementing national climate policies. Whether CAs should be applied to VCM transactions depends on beliefs, assumptions, and hypotheses in relation to the effect that CAs have on mitigation action, which are easier to verify in a specific national context rather than at the global level. Consequently, general rules as to whether CAs should apply to VCM activities may be ill-advised. Countries may want to pursue a cautious approach when it comes to authorizing CAs to ensure that national NDC compliance is not put at risk and carbon finance is effectively used to generate ERRs that can be counted towards national climate targets. Table 3 summarizes policy arguments in favor of and against CAs.

Table 3. Summary of policy arguments regarding CAs used in the VCM.

Policy arguments for the use of CAs	Policy arguments against the use of CAs
<ul style="list-style-type: none"> • CAs prevent VCM actions from displacing public policy by preventing countries from relying on voluntary actions to generate ERRs. • CAs incentivize countries to adopt more ambitious NDCs because they cannot rely on voluntary action. • CAs therefore support Article 4.4's guidance to move toward economy-wide targets. • CAs boost the integrity of offsetting as it ensures that corporates claim ERRs that are not contributing to the NDC of the host country. 	<ul style="list-style-type: none"> • There is no evidence that private sector VCM activity would displace public sector action in achieving NDC targets. VCM activity may actually tap into additional ERRs and encourage public action by lowering policy implementation costs. • CA-backed credits place a large institutional burden on developing host countries, possibly discouraging engagement in the VCM by governments that cannot manage the burden and by companies that withhold investment because they are uncertain about whether VCM activities will be able to generate carbon credits. • CAs may deprive host countries of rapid and flexible private finance for climate change mitigation. This especially harms developing countries that often lack capacity to develop mitigation activities. • Private VCM activity supports the common but differentiated responsibilities and respective capabilities (CBDR-RC) principle through transfer of resources from developed countries to less developed ones; and requiring CAs for VCM investments conflicts with equity considerations of the Paris Agreement.

Participation in cooperative approaches under Article 6.2 or in the mechanism provided for by Article 6.4 is voluntary in nature. As a result, Parties currently have complete discretion whether and how to authorize CAs. When designing approval and authorization requirements, and the relevant legal and regulatory framework, participating Parties must decide which mitigation activities, programs or policies would be eligible for authorization, as well as which actors would be allowed to apply for authorization. Such criteria could therefore also include VCM activities, as cooperative approaches can be designed as sectoral or jurisdictional programs that allow for the authorization of some (or all) ERRs generated on the VCM.

In any event, the choice to authorize VCM activities for the application of CAs and transfer mitigation outcomes as ITMOs belongs uniquely to host countries. While a number of factors need to be considered in making that decision, including the impacts on host countries' abilities to achieve their own NDCs and considerations of equity in the spirit of CBDR. Host countries should demand (and buyer countries and VCM investors should provide) guarantees of financial and capacity support in achieving climate change mitigation targets – with or without the transfer of CA-backed ITMOs. The VCM in its current form is a channel for finance from wealthy countries to mitigation activities in poorer countries. If buyers require CAs (or even simply express a preference for them), this finance flow could be cut off, resulting in developing countries shouldering the burden of reducing the global GHG emissions for which they are least historically responsible.

5.3. Considerations for VCM Investors

While private and public decision makers should avoid double counting that undermines climate policy and carbon markets, the assumptions that underlie guidance on carbon accounting merit a close review. When it comes to double claiming, decision makers should decide when double claiming is considered acceptable and when it is not. In the context of NDC accounting and VCM activities, not all ERRs generated by VCM projects or programs lead to double claiming with host country NDC reporting and accounting. Only where double claiming is a risk and is deemed unacceptable should it be addressed. In these cases, CAs can be a tool to avoid double claiming of ERRs between corporates and host countries. However, before requesting CAs, private entities should consider the implications for host countries and potential risks of non-delivery of authorized carbon credits (i.e., ITMOs) because authorizations may be conditional, withdrawn, or not obtained. The following considerations may help VCM participants to decide whether a CA is indeed necessary or not.

VCM participants should avoid offsetting claims altogether. Where the acquisition of a carbon credit is driven by the aim of counteracting GHG emissions somewhere else, the carbon credit must be at least equivalent to the original emissions. Offsetting compensates for harm (i.e., GHG emissions) without generating any additional climate benefits, which makes it highly controversial. Whether double claiming is a risk in offsetting or not, the controversy can be avoided by forgoing the option to use VCM carbon credits for GHG compensation or offsetting. Investors may instead use “contribution” claims that highlight the achieved ERR but avoid the offsetting dimension of climate claims. A contribution claim allows investors to certify and demonstrate that they have provided support for climate change mitigation activities in line with corporate commitments, beyond value chain mitigation targets, or other climate goals.

Contribution claims acknowledge the role of the VCM in achieving NDCs in developing countries. Many developing countries depend on private investments to achieve their NDC goals. Cooperation with private investors through VCM investment may motivate governments to increase their NDC ambition. Private entities can work in partnership with host country governments and agree to generate ERRs that (partly) contribute to NDC targets. Private VCM participants should carefully consider whether the authorization of ERRs to ensure CAs are made is indeed needed. If they determine that such authorization is needed, they should ensure that a fair price is paid for the authorized ERRs.

In many cases, there may not be any risk of double claiming. Before requesting Article 6 CA authorizations, VCM investors and corporates that wish to make offsetting claims should carefully evaluate whether there is indeed a risk of double claiming between achieved VCM ERRs and a host country’s NDC. If there is no risk of double claiming (e.g., because the VCM activities are not covered by the host country’s NDC) host country authorization may not be necessary.

Developing countries should not be required to forgo the benefits of VCM investments while developed countries take advantage of the benefits. So far, no developed country has authorized CAs to be applied to its UNFCCC NDC accounting. The reasons for this reluctance are not clear and may differ from country to country. However, so far, entities that invest in VCM activities in developed countries can export carbon credits without any controls or trade barriers. The requirement to authorize CAs could disrupt the free trade of VCM carbon credits. Against this backdrop, it seems dubious that experts, investors, and other market participants exercise significant pressure on developing countries to authorize CAs in the context of the VCM.

Article 6 authorizations do not mean that CAs will be automatically applied. Authorizations may be canceled or withdrawn by host country governments. If a host country realizes that additional ERRs are needed to meet its NDC, the government may re-consider its decision to authorize CAs for VCM

activities. Investors should consider and accept this risk. Driving host countries into NDC non-achievement should not be an acceptable outcome of VCM engagement.

Governments and VCM participants should engage with a cooperative and integrative spirit.

Investors should seek to ensure that their engagement leads to additional, scalable, and long-term ERRs and mitigation actions. While the assumptions as to when this is the case may differ, investors should engage in dialogue with host countries and local actors to ensure that their VCM investments lead to long-term climate benefits. These considerations are always more important than short-term concerns about double claiming of emissions. In the end, accounting considerations should facilitate, not create barriers for, mitigation action.

The ultimate purpose of Article 6 of the Paris Agreement is to facilitate cooperation between countries that supports higher climate change mitigation ambitions and sustainable development.

Corresponding adjustments are one mechanism to help achieve these goals, but they are neither the only nor the best approach in all scenarios. This paper has provided guidance to help public and private decision makers evaluate assumptions about carbon accounting and determine whether, when, and how to apply CAs.

WORKS CITED

- ADEME. (2016). *Understanding the issues around quantifying GHG emissions in the financial sector: Volume 3*. https://www.ca-cib.com/sites/default/files/2022-05/volume_3_eng_understanding_the_issues_around_quantifying_ghg_emissions_in_the_financial_sector.pdf
- American Carbon Registry. (2023). *The American Carbon Registry Standard Version 8.0: Requirements and Specifications for the Quantification, Monitoring, Reporting, Verification, and Registration of Project-Based GHG Emissions Reductions and Removals*. <https://acrcarbon.org/wp-content/uploads/2023/10/ACR-Standard-v8.0.pdf>
- Andrew Howard & Sandra Greiner. (2021). *Accounting Approaches for the Voluntary Carbon Market*. https://vcm-gd.org/wp-content/uploads/2021/10/VCM_Accounting-1.pdf
- ART. (2021). *The REDD+ Environmental Excellence Standard (TREES)*. <https://www.artredd.org/wp-content/uploads/2021/12/TREES-2.0-August-2021-Clean.pdf>
- Blum, M. (2020). The legitimization of contested carbon markets after Paris – empirical insights from market stakeholders. *Journal of Environmental Policy & Planning*, 22(2), 226–238. <https://doi.org/10.1080/1523908X.2019.1697658>
- Brander, M., Broekhoff, D., & Hewlett, O. (2022a). The Future of the Voluntary Offset Market: The Need for Corresponding Adjustments. *Edinburgh Research Explorer*. https://www.pure.ed.ac.uk/ws/portalfiles/portal/263687558/Brander_Broekhoff_and_Hewlett_2022_The_Future_of_the_Voluntary_Carbon_Market_The_Need_for_Corresponding_Adjustments.pdf
- Brander, M., Broekhoff, D., & Hewlett, O. (2022b). *The Future of the Voluntary Offset Market: The Need for Corresponding Adjustments*. <https://www.research.ed.ac.uk/en/publications/the-future-of-the-voluntary-offset-market-the-need-for-correspond>
- Broekhoff, D., Gillenwater, M., Colbert-Sangree, T., & Cage, P. (2019). *Securing Climate Benefit: A Guide to Using Carbon Offsets*. Stockholm Environment Institute & GHG Management Institute.
- Carbon Market Watch. (2020). *Carbon Market Watch response to Verra 's proposal for scaling voluntary carbon markets and avoiding double counting post-2020*.
- Choudhury, S. R. (2021, June 10). Corresponding Adjustments, Equity, and Climate Justice. *Shades of REDD+*. <https://www.ecosystemmarketplace.com/articles/shades-of-redd-corresponding-adjustments-equity-and-climate-justice/>
- Climate Action Reserve. (2023). *Reserve Offset Program Manual*. https://www.climateactionreserve.org/wp-content/uploads/2023/09/Reserve_Offset_Program_Manual_Septmeber-2023-Final.pdf
- Ebert, C. (2022, January 10). *Corresponding Adjustments: Bad Idea at the Wrong Time—Climate Action Reserve: Climate Action Reserve*. Climate Action Reserve. <https://www.climateactionreserve.org/blog/2022/01/10/corresponding-adjustments-bad-idea-at-the-wrong-time/>
- Environmental Defense Fund. (2018). *Global Emissions Within and Outside the Scope of Nationally Determined Contributions: A Preliminary Analysis of “Double Counting” Risks for Internationally Transferred Mitigation Outcomes*. https://www.edf.org/sites/default/files/documents/EDF_NDC%20Emissions%20Coverage%20Analysis_0.pdf
- Fearnehough, H., Kachi, A., Mooldijk, S., Warnecke, C., & Schneider, L. (2020). *Future role for voluntary carbon markets in the Paris era*. German Emissions Trading Authority (DEHSt).
- GHG Management Institute, & SEI. (n.d.). Exclusive Claim to GHG Reductions. *Carbon Offset Guide*. Retrieved October 24, 2023, from <https://www.offsetguide.org/high-quality-offsets/exclusive-claim-to-ghg-reductions/>

- GHG Protocol. (2004). *The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard*. World Business Council for Sustainable Development & World Resources Institute.
<https://ghgprotocol.org/sites/default/files/standards/ghg-protocol-revised.pdf>
- GHG Protocol. (2005). *The GHG Protocol for Project Accounting*.
https://ghgprotocol.org/sites/default/files/standards/ghg_project_accounting.pdf
- GHG Protocol. (2022). *Scope 3 Frequently Asked Questions*. <https://ghgprotocol.org/sites/default/files/2022-12/Scope%203%20Detailed%20FAQ.pdf>
- Gold Standard. (2015). *Double Counting Guideline*.
https://www.goldstandard.org/sites/default/files/documents/2015_12_double_counting_guideline_published_v1.pdf
- Gold Standard. (2021). *Treatment of Double Counting and Corresponding Adjustments in Voluntary Carbon Markets: Version 0.5*.
https://www.goldstandard.org/sites/default/files/documents/gold_standard_guidance_correspondingadjustments_feb2021.pdf
- Gold Standard for the Global Goals. (n.d.). *Optional Requirement: Double Counting Requirements and Procedures*.
https://www.goldstandard.org/sites/default/files/documents/consultation_double_counting_requirements_and_procedure_post_2020_0.pdf
- Gold Standard for the Global Goals. (2022). *Claims Guidelines*. <https://globalgoals.goldstandard.org/105-par-claims-guidelines/>
- Hermwille, L., & Kreibich, N. (2016). *Identity Crisis? Voluntary Carbon Crediting and the Paris Agreement* (02/2016; JIKO Policy Brief). Wuppertal Institute for Climate, Environment and Energy.
- Hertwich, E. G., & Wood, R. (2018). The growing importance of scope 3 greenhouse gas emissions from industry. *Environmental Research Letters*, 13(10), 104013. <https://doi.org/10.1088/1748-9326/aae19a>
- ICROA. (2020). *ICROA RESPONSE TO GOLD STANDARD'S BRIEF ON 'OPERATIONALISING AND SCALING POST-2020 VOLUNTARY CARBON MARKET'*.
https://www.goldstandard.org/sites/default/files/documents/comments_from_icroa.pdf
- Kreibich, N., & Hermwille, L. (2021). Caught in between: Credibility and feasibility of the voluntary carbon market post-2020. *Climate Policy*, 21(7), 939–957. <https://doi.org/10.1080/14693062.2021.1948384>
- Kreibich, N., & Obergassel, W. (2019). *The Voluntary Carbon Market: What may be Its Future Role and Potential Contributions to Ambition Raising?* (p. 36). German Emissions Trading Authority (DEHSt) at the German Environment Agency.
- Moura Costa, P. (2022, March 9). Corresponding Adjustments and their Impact on NDCs and Additionality. *Ecosystem Marketplace*. <https://www.ecosystemmarketplace.com/articles/opinion-corresponding-adjustments-impact-ndcs-additionality/>
- Peters-Stanley, M. (2012). *Bringing it Home: Taking Stock of Government Engagement with the Voluntary Carbon Market*. Forest Trends' Ecosystem Marketplace. https://www.forest-trends.org/wp-content/uploads/imported/EM_GovernmentMarkets_2012_FINAL_3-21-12.pdf
- Sandeep Roy Choudhury. (2021). Corresponding Adjustments, Equity, and Climate Justice. *Shades of REDD+*. <https://www.ecosystemmarketplace.com/articles/shades-of-redd-corresponding-adjustments-equity-and-climate-justice/>
- Schiermeier, Q. (2012). The Kyoto Protocol: Hot air. *Nature*, 491(7426), 656–658.
<https://doi.org/10.1038/491656a>
- Schneider, L., Duan, M., Stavins, R., Kizzier, K., Broekhoff, D., Jotzo, F., Winkler, H., Lazarus, M., Howard, A., & Hood, C. (2019). Double counting and the Paris Agreement rulebook. *Science*, 366(6462), 180–183.
<https://doi.org/10.1126/science.aay8750>
- Schneider, L., Kollmuss, A., & Lazarus, M. (2015). Addressing the risk of double counting emission reductions under the UNFCCC. *Climatic Change*, 131(4), 473–486. <https://doi.org/10.1007/s10584-015-1398-y>

- Schneider, L., & Theuer, S. L. H. (2019). Environmental integrity of international carbon market mechanisms under the Paris Agreement. *Climate Policy*, 19(3), 386–400. <https://doi.org/10.1080/14693062.2018.1521332>
- Science Based Targets, Gold Standard, & Navigant. (2018). *Value Change in the Value Chain: Best practices for Scope 3 Greenhouse Gas Management*. https://sciencebasedtargets.org/resources/files/SBT_Value_Chain_Report-1.pdf
- Paris Agreement, (2015). https://unfccc.int/files/essential_background/convention/application/pdf/english_paris_agreement.pdf
- UNFCCC. (2019a). *Decision 4/CMA.1: Further guidance in relation to the mitigation section of decision 1/CP.21*. https://unfccc.int/sites/default/files/resource/4-CMA.1_English.pdf
- UNFCCC. (2019b). *Report of the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement on the third part of its first session, held in Katowice from 2 to 15 December 2018: Decisions adopted by the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement*. https://unfccc.int/sites/default/files/resource/cma2018_3_add2_new_advance.pdf
- UNFCCC. (2021a). *Decision -/CMA.3: Guidance on cooperative approaches referred to in Article 6, paragraph 2, of the Paris Agreement*. https://unfccc.int/sites/default/files/resource/cma3_auv_12a_PA_6.2.pdf
- UNFCCC. (2021b). *Decision -/CMA.3: Rules, modalities and procedures for the mechanism established by Article 6, paragraph 4, of the Paris Agreement*. https://unfccc.int/sites/default/files/resource/cma3_auv_12b_PA_6.4.pdf
- UNFCCC Secretariat. (2022). *Reference Manual for the Enhanced Transparency Framework under the Paris Agreement: Understanding the enhanced transparency framework and its linkages (Version 2)*. https://unfccc.int/sites/default/files/resource/v2_ETFreferencemanual.pdf
- Verles, M., Leugers, S., Hewlett, O., Olsen, K., & Büerer, M. (2017). *A New Paradigm for Voluntary Climate Action: 'Reduce Within, Finance Beyond.'* Gold Standard.
- Verra. (2012). *Double Counting: Clarification of Rules*. https://verra.org/wp-content/uploads/2018/03/VCS-Policy-Brief-Double-Counting_0.pdf
- Verra. (2022). *Scope 3 Working Group: Terms of Reference*. <https://verra.org/wp-content/uploads/verra-s3wg-terms-of-reference-final.pdf>
- Verra. (2023a). *Article 6 Label Guidance*. <https://verra.org/wp-content/uploads/2023/08/Article-6-Label-Guidance-Documents-final-for-publication.pdf>
- Verra. (2023b). *VCS Standard: V4.4*. <https://verra.org/wp-content/uploads/2022/12/VCS-Standard-v4.4-FINAL.pdf>
- Verra. (2021). *The Future of the Voluntary Carbon Market*. <https://verra.org/the-future-of-the-voluntary-carbon-market/>
- Woerdman, E. (2005). Hot Air Trading under the Kyoto Protocol: An Environmental Problem or Not? *European Energy and Environmental Law Review*, 14(Issue 3), 71–77. <https://doi.org/10.54648/EELR2005010>
- Zaman, P., & Quek, R. (2021). *COP 26: Article 6 and its impact on voluntary carbon markets*. HfW.

Climate Focus is an advisory company committed to the development of policies and projects that reduce greenhouse gas emissions. Our international and multidisciplinary team works closely with companies, governments and non-governmental organizations on reducing emissions in energy, households, industry, transport, agriculture and forestry.

Climate Focus is an independent expert in international and national climate law, policies, project design and finance. We have been pioneering carbon markets ever since their inception. We aim to find a creative and unique solution for every single client, ranging from the development of policies to protect the rainforest to structuring greenhouse gas mitigation projects in the energy sector. Our advice is rooted in a profound knowledge of climate change policies, emission trading schemes and project development.

Climate Focus has offices in Amsterdam, Rotterdam, Washington DC, Berlin, and Bogotá. Our core team is complemented by a broad network of in-country and specialized partners.



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