RECOMMENDATIONS TO THE ARTICLE 6.4 SUPERVISORY BODY

ON ACTIVITIES INVOLVING REMOVALS

The Conference of the Parties (COP) serving as the meeting of the Parties to the Paris Agreement (CMA), by its decision "Guidance on the mechanism established by Article 6, paragraph 4, of the Paris Agreement," invited parties and observers to submit their views on "activities involving removals, including appropriate monitoring, reporting, accounting for removals and crediting periods, addressing reversals, avoidance of leakage, and avoidance of other negative environmental and social impacts, in addition to the activities referred to in chapter V of the rules, modalities and procedures."

This note presents recommendations for consideration by the Article 6.4 Supervisory Body as it continues its work to develop guidance to the CMA on removal activities under the mechanism. It complements a previous submission by The Nature Conservancy, Conservation International, and Environmental Defense Fund on this topic, as well as a submission by Wetlands International.

Definition of removals

The initial recommendations advanced by the Article 6.4 Supervisory Body echoed the Intergovernmental Panel on Climate Change (IPCC) definition of carbon dioxide removals,[1] while expanding it to encompass all greenhouse gasses (GHGs).[2,3] This definition includes durable storage in geological, terrestrial, or ocean reservoirs, or in products. We see the wisdom in relying on the IPCC's approach. All options to remove emissions from the atmosphere—all tools in the toolbox—should be considered eligible under the Article 6.4 mechanism to contribute to the achievement of the Paris Agreement, provided they meet the forthcoming requirements elaborated by the Article 6.4 Supervisory Body.

It is imperative, however, that the 6.4 Supervisory Body adopt strong safeguards to ensure that activities under the mechanism deliver verified mitigation benefits and avoid potential negative environmental and social impacts.

[1] Special Report: Global Warming of 1.5C, glossary. https://www.ipcc.ch/sr15/chapter/glossary/.
[2] Activities involving removals under the Article 6.4 mechanism, page 2. https://unfccc.int/sites/default/files/resource/a64-sb003-a03.pdf.
[3] As noted in the Information Note on Removal Activities under the Article 6.4 mechanism, there are currently no mature removal methods for non-CO_2 GHGs. https://unfccc.int/sites/default/files/resource/a64-sb004-aa-a04.pdf.

Rationale for nature-based removals

Nature-based removals can play a particularly important role in near-term action, not only for their mitigation benefits, but also for their ability to enhance adaptation and resilience, as they can provide additional environmental and social benefits. Therefore, they must not be overlooked or excluded as the Supervisory Body develops its recommendations. These activities include restoring tree cover, improving forest management, enhancing soil carbon sequestration in croplands and grasslands, and protecting and restoring peatlands and coastal wetlands, among other methods.[4]

Nature-based removal activities are particularly important in the near term for the following reasons:

- Maturity. Methods for nature-based removals have been widely tested and refined over the past decades and, to date, the vast majority of removal activities are biological in nature (vs. geochemical or chemical).[5] IPCC's Working Group III report notes that "afforestation, reforestation, improved forest management, and soil carbon sequestration are currently the only widely practiced [carbon dioxide removal] methods (*high confidence*)."[6]

- Cost-effectiveness. Natural climate solutions (NCS) in many cases generate both reductions and removals, are immediately implementable, often lower risk, and are cost-effective when compared with technological removals. For example, the protection, improved management, and restoration of forests and other ecosystems have the potential to reduce emissions and/or sequester 7.3 $GtCO_2e$ each year between 2020 and 2050 (up to $100 USD per tCO_2e), while agricultural practices can reduce emissions and/or sequester 4.1 $GtCO_2e$ each year.[7] In contrast, direct air carbon capture and storage costs $100 to $300 USD per $tonCO_2e$.[8]

- Dual mitigation benefits. Emission reductions and removals are often intricately linked. Wetlands restoration, for example, first and foremost reduces and eventually halts ongoing emissions from the carbon rich soils that continue to emit GHGs upon degradation while also sequestering carbon. Long-term sequestration is possible on the back of emission reduction activities, for instance, the rewetting of drained peatlands.

- Sustainable development. Nature-based removal activities are uniquely positioned to deliver substantial benefits beyond climate change mitigation. Co-benefits of these activities could include reduced biodiversity loss, increased soil fertility, protection against flooding and other storm-related damages, and improved food and water security,[9] as well as a wide range of other

[4] IPCC WGIII Report, page TS-97. https://www.ipcc.ch/report/ar6/wg3/downloads/report/IPCC_AR6_WGIII_SPM.pdf.
[5] IPCC WGIII Summary for Policymakers, page 40. https://www.ipcc.ch/report/ar6/wg3/downloads/report/IPCC_AR6_WGIII_SPM.pdf.
[6] IPCC WGIII Summary for Policymakers, page 40. https://www.ipcc.ch/report/ar6/wg3/downloads/report/IPCC_AR6_WGIII_SPM.pdf.
[7] IPCC WGIII, page 108. https://www.ipcc.ch/report/ar6/wg3/downloads/report/IPCC_AR6_WGIII_FullReport.pdf.
[8] IPCC WGIII, page 115. https://www.ipcc.ch/report/ar6/wg3/downloads/report/IPCC_AR6_WGIII_FullReport.pdf.
[9] Smith, P. et al. Land-management options for greenhouse gas removal and their impacts on ecosystem services and the sustainable development goals. Annu. Rev. Environ. Resour. 44, 255–286 (2019).

ecosystem services. In addition, if implemented appropriately, these activities can lead to increased employment opportunities and socioeconomic benefits.[10]

- Equity. While most of the finance for engineering removals will flow to companies in the global north, the restoration of ecosystems can provide a key source of climate finance for developing countries. Generating investments in nature is critical to Indigenous Peoples and local communities (IPLCs), as well as women and other underserved communities, who are the stewards of many globally critical ecosystems.[11]

I. Addressing reversals

When do reversals occur?

A reversal "occurs when a mitigation activity enhances or preserves carbon stocks in carbon reservoirs but, at a later point in time, some or all of the additional increments in stock caused by the mitigation activity are released to the atmosphere."[12] Reversals can occur due to natural processes (e.g., wildfires) or anthropogenic drivers (e.g., land conversion, climate change), and many mitigation activities, including non-NCS activities, carry some risk of reversal.

Better detection techniques, more accurate predictive models, and more granular data collection has made tracking long-term storage outcomes easier and cheaper for many natural climate solutions,[13] though quantifying removals for some solutions (e.g., agricultural soil carbon sequestration) remains expensive.[14] As monitoring techniques and technologies continue to evolve, some activities may become easier to credit with high levels of confidence.

Credible standards require projects and programs to report on reversals. At least one carbon standard (Verra) is developing a long-term monitoring system to detect reversals for 50 to 100 years after the carbon project/program has ceased to operate, and to compensate the atmosphere accordingly.[15]

What can be done about reversals?

First and foremost, the risk of reversal does not mean that reversal is a foregone conclusion, or that activities with a risk of reversal should be ineligible for crediting under the Article 6.4 mechanism. In forests, for example, about 98% of carbon that was present in the world's forests in 2000 is still in those

[10] Leavitt, S.M. et al. (2021). Natural Climate Solutions Handbook: A Technical Guide for Assessing Nature Based Mitigation Opportunities in Countries. The Nature Conservancy, Arlington, VA, USA. https://www.nature.org/content/dam/tnc/nature/en/documents/TNC_Natural_Climate_Solutions_Handbook.pdf.
[11] The Risk of Diverting Carbon Finance from Nature to Technological Carbon Removals, Ecosystem Marketplace. https://www.ecosystemmarketplace.com/articles/shades-of-redd-risk-of-diverting-carbon-finance-from-nature-to-technological-carbon-removals/.
[12] CCQI Methodology, page 72. https://carboncreditquality.org/methodology.html.
[13] NCS Handbook, Section 3.2
[14] Agricultural Soil Carbon Credits, page 15. https://www.edf.org/sites/default/files/content/agricultural-soil-carbon-credits-protocol-synthesis.pdf.
[15] Development of Long-Term Monitoring System Begins. https://verra.org/development-of-long-term-monitoring-system-ltms-begins/.

forests today, suggesting that the global risk of reversal is low.[16] However, certain risk factors are more geographically localized, and they may shift over time to new areas, creating higher-than-average risks of reversals under certain conditions.

2/CMA.3 stipulates that Article 6.4 activities shall "minimize the risk of non-permanence of emission reductions over multiple NDC implementation periods and, where reversals occur, ensure that these are addressed in full." The International Civil Aviation Organization's emissions unit eligibility criteria similarly require that, if there is a risk of reversal, "mitigation measures are in place to monitor, mitigate, and compensate any material incidence of non-permanence."[17]

The recognition of the risk of reversal has led to the development of policy approaches that can mitigate the risk of reversals and compensate for reversals when they occur.[18] Most—but not all—crediting programs combine these two approaches to address the potential for reversals. Taken together, they can constitute "systems to address the risk of reversal," as specified in the Article 6 decision texts. This paper also describes another approach, the generation of temporary credits, which Parties have employed with limited success.

Mitigating the risk of reversals

1. **Require mitigation activity owners to conduct (and regularly update) a risk assessment**, following a pre-defined methodology that includes a climate impact assessment. The outcome of the assessment may be used in several ways. Activities with high risk may be deemed ineligible for crediting. And the determined level of reversal risk may also inform the amount of credits contributed to the buffer pool or the discount rate applied to emission removals.[19]

2. **Assist project stakeholders to have legal title or other rights to the land**, increasing their ability to secure relevant carbon reservoirs over time.

3. **Require the use of legal covenants, agreements, or policies that restrict, prevent, or discourage land management practices that would result in net reversals** by project owners, policymakers, or other parties.[20] Options include conservation easements or trusteeships, which can be achieved through contract design.

4. **Prioritize benefit sharing and stakeholder consultations**. Inequitable benefit sharing agreements and insufficient stakeholder consultations can increase the risk of later reversal, demonstrating inattention to the legitimate interests of potential stakeholders. Mitigation activities should be required to ensure full and effective participation of stakeholders as active partners,

[16] Harris et al. 2021 and Xu et al. 2021.
[17] ICAO CORSIA Emissions Unit Eligibility, page 3. https://www.icao.int/environmental-protection/CORSIA/Documents/ICAO_Document_09.pdf.
[18] CCQI Methodology, page 75. https://carboncreditquality.org/methodology.html.
[19] CCQI Methodology, page 85. https://carboncreditquality.org/methodology.html.
[20] CCQI Methodology, page 85. https://carboncreditquality.org/methodology.html.

compliance with the Cancun Safeguards, and a level of compensation that is fair and sufficient to minimize risk.

5. **Employ conservative baselines for removals,** which would result in fewer credited removals. Removal activities have little statistical history to draw upon, so baselines should conservatively account for the possibility of future reversals.[21]

6. **Prioritize jurisdictional approaches,** smoothing out the statistical risk of reversals across a geography. Further, compared to project-based REDD+ programs, jurisdictional REDD+ programs have the potential to reduce the risk of reversals by addressing underlying drivers of deforestation and forest degradation at a larger scale, beyond individual project sites. Jurisdictional REDD+ programs also typically involve broader stakeholder engagement and the development of longer-term plans and strategies for sustainable land use, which can help to address systemic drivers of deforestation and forest degradation.

Compensating for reversals when they occur

1. **Require compensation for all types of reversals by either the carbon crediting program or the mitigation activity developer** through the cancellation of other carbon market units. This can be achieved through landowner liability, pooled or non-pooled buffer reserves, and/or insurance.[22] In addition, credits held in a buffer reserve at the end of a program's monitoring period should be canceled.[23]

   Voluntary standards have converged around the use of appropriately sized buffer pools to address the risk of reversals, which requires some credits from projects and jurisdictional programs to be set aside and pooled together. Then, if a reversal happens, the credits can be replaced by those from the pool. To be most efficient, the percentages of credits allocated to the buffer should match the actuarial risk of reversal for all activities covered by the buffer. The allocation should take into account how reversals are detected, quantified, and reported.

   See **Annex I** for a comparison of systems to address the risk of reversals among REDD+ standards.

2. **Encourage the use of financial instruments for risk management, with a view to potentially mandating the use of these instruments at a later stage.** This refers to the idea of making insurance or some other backstop (like a bond) mandatory for project managers under contractual design. To discourage risky practices, insurance companies frequently set management requirements for insured projects. In theory, NCS project managers could purchase insurance to cover the risk of reversals, though very few insurers currently provide this service.

[21] CCQI Methodology, page 75. https://carboncreditquality.org/methodology.html.
[22] CCQI Methodology, page 75. https://carboncreditquality.org/methodology.html.
[23] CCQI Methodology, page 78. https://carboncreditquality.org/methodology.html.

Generating temporary credits

Temporary credits expire after a certain period and need to be replaced, regardless of whether a reversal occurred. In principle, this is a conservative approach to address the risk of reversals as long as procedures remain in place to ensure the replacement of credits. These credits do, however, carry buyer liability and are therefore less attractive for compliance by sovereigns.

In the case of the Clean Development Mechanism (CDM), which was developed under the Kyoto Protocol, the temporary crediting approach encountered numerous challenges and demonstrated limited effectiveness, putting forestry projects at a de facto disadvantage compared to projects in other sectors.[24] The need to replace temporary credits, as well as their limited fungibility, discouraged investors, depressed credit prices, disincentivized projects with long-term sequestration goals and, overall, reduced both demand for and supply of forestry credits.[25] Going forward, the obligation to replace temporary CERs with other units will be dependent on a smooth transition from the CDM to the Article 6.4 mechanism.

II. Appropriate monitoring, reporting, and accounting

The emissions reductions associated with removals must be monitored to ensure that GHG impacts are credible and verifiable, as well as to detect and compensate for reversals. Standards typically set minimum data collection thresholds and monitoring requirements, which may be carried out by project owners or with the help of government and local communities.

While the monitoring techniques and technologies needed to accurately quantify projected or claimed GHG impacts vary widely across ecosystems and specific NCS pathways, there are two main categories of approaches. The first is direct monitoring, involving physical site visits to record measurements and changes in carbon stocks or other proxies. The second is remote sensing, usually aided by advanced technological sensors and capable of collecting data across vast and inaccessible landscapes. A robust system combines inventory approaches and remote sensing to estimate emissions and removals.

[24] World Bank. BioCarbon Fund Experience: Insights from Afforestation and Reforestation Clean Development Mechanism Projects (2011). https://openknowledge.worldbank.org/handle/10986/27108.
[25] World Bank. BioCarbon Fund Experience: Insights from Afforestation and Reforestation Clean Development Mechanism Projects (2011). https://openknowledge.worldbank.org/handle/10986/27108

III. Avoiding leakage

Leakage refers to the risk that mitigation actions displace production, and directly or indirectly increase emissions elsewhere. For example, a project developer of a peatland conservation project needs to ensure that the degradation drivers (e.g., palm oil production) do not simply move into peatland areas outside the project perimeter. Similarly, reforestation of productive agricultural land can lead to deforestation, if agricultural production shifts elsewhere. Leakage considerations are, among others, behind the drive to move from projects to jurisdictional programs and to find transformational solutions for structural degradation problems.[26] They may be addressed through conservative estimation, rather than calculations based on empirical data, or calculated and accounted for in the crediting process.

Scale can be an important determinant of the environmental impact of credits, regardless of sector. Larger-scale programs are better positioned than individual projects that are not nested into jurisdictional-scale crediting to mitigate risks of leakage and non-additionality, as well as reversals.[27]

IV. Avoiding negative environmental and social impacts

To avoid negative environmental and social impacts, the Supervisory Body can draw from existing COP decisions on REDD+ (e.g., the Cancun Safeguards), as well as multiple international REDD+ programs, bilateral and multilateral agreements, and other experiences. The Cancun Safeguards, in particular, constitute precedent under the United Nations Framework Convention on Climate Change (UNFCCC) and, as such, the Article 6.4 mechanism safeguards must not fall below this standard.

Social impacts

While poorly designed or outright predatory projects have resulted in land grabs, forced resettlement, loss of resource access, and deceptive legal agreements,[28] carbon credit standards have generally addressed these risks through a combined approach of **avoiding negative social outcomes** and **ensuring positive ones**. Most requirements to date have focused on the former, with more work needed on the latter, in addition to enhancing Indigenous Peoples' and local communities' right to own and transact carbon credits—or to opt out of carbon markets if they wish.

Thus far, few standards offer defined metrics or require the monitoring, reporting and verification of social outcomes, though that has been changing in recent years. In addition, while standards require project developers to comply with local laws and to show some sort of ownership over the project, few standards address the murky legal situation of unclear, unenforced, or undefined rights for IPLCs.

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[26] 4 Reasons Why a Jurisdictional Approach for REDD+ Crediting is Superior to a Project-Based Approach. https://www.wri.org/insights/insider-4-reasons-why-jurisdictional-approach-redd-crediting-superior-project-based.

[27] Tropical Forest Credit Integrity Guide for Companies. https://tfciguide.org/wp-content/uploads/2023/02/Guide-2023-EN-fin.pdf.

[28] The 'carbon pirates' preying on Amazon's Indigenous communities. https://www.theguardian.com/environment/2023/jan/21/amazon-indigenous-communities-carbon-offsetting-pirates-aoe

Table I: Overview of common requirements for carbon credit projects on social outcomes[29]

Avoiding negative outcomes	*Ensuring positive outcomes*
Safeguards: most standards ensure projects do not have negative impacts (no net harm)	**Safeguards**: a handful of standards encourage or require projects to report on positive social impacts, including impacts related to the Sustainable Development Goals
Stakeholder consultation: most standards require projects to consult with communities or Indigenous Peoples' affected by or part of the project	**Benefits sharing**: a handful of standards encourage or require projects to develop plans, in consultation with stakeholders, to share either monetary and/or non-monetary benefits from the project
Consent: most standards require project owners to obtain the free, prior, and informed consent of Indigenous, tribal, or traditional peoples impacted by a project	
Grievance Mechanisms: if harm occurs or is perceived to have occurred, most standards ensure stakeholders can raise these grievances	
Legal compliance: most standards require projects to adhere to legal requirements of the country	

At a minimum, social safeguard provisions should be addressed through two approaches: (1) ex ante consultation, and (2) ex post mechanisms to report and address grievances. These two approaches should always be in place and used in tandem. Stakeholders need to be aware of and have easy access to the grievance mechanism—this is a key factor for ensuring the integrity and credibility of mitigation activities.

Environmental impacts

Strong safeguards are particularly important to ensure harmful activities options remain excluded from the Article 6.4 mechanism due to their potential to cause harms such as biodiversity loss, soil degradation, water pollution, ocean acidification, or loss of ocean-based benefits to people.

[29] An Overview of Approaches: Ensuring safeguards and assessing sustainable development impacts in the voluntary carbon market. https://allianz-entwicklung-klima.de/wp-content/uploads/2022/03/220301_Stiftung_Allianz_oeko_Ensuring_-safeguards.pdf

An emerging proposed solution with unknown environmental impacts is ocean carbon dioxide removal (oCDR). A variety of oCDR methods are being developed and tested in laboratory and limited-scale field trials, focusing primarily on the methods' carbon capture ability, cost, and scalability. Certain types of oCDR are proposed with unproven ability to remediate ocean acidification and decrease atmospheric carbon dioxide levels. Yet ocean acidification, ocean warming, and oxygen loss are already driving a variety of stress responses on marine life that negatively impact a variety of marine ecosystems and species, such as coral reefs and hard-shelled bivalves.

There are many unknowns surrounding oCDR methods, including the ability of these methods to lock carbon dioxide away durably and whether the methods lock away additional CO_2 beyond what natural processes can achieve—estimates of both these characteristics currently rely on model simulations. The impacts of these methods on ocean ecosystems, species, and the people who depend on them remain largely unknown, because the research on these topics is in early stages. Further, the applicability of existing ocean policies to these oCDR methods is still largely unresolved.

ANNEX I:

SYSTEMS TO ADDRESS THE RISK OF REVERSALS

REDD+ STANDARDS

ART/TREES	Under TREES, a reversal occurs when a Participant's annual reported emissions are higher than the crediting level at any time after TREES credits are issued to the Participant. To maintain conservativeness under TREES, reversals are reported and a volume of credits from the buffer pool equivalent to the reversed volume is retired to permanently remove the credits from circulation and negate the reversal. If a Participant exits ART, any unused buffer pool contributions are retired to account for any possible future reversals.[30]
CALIFORNIA TROPICAL FOREST STANDARD	A sector-based crediting program must ensure the permanence of any GHG emissions reductions. GHG emissions above the implementing jurisdiction's crediting baseline will constitute a reversal. The sector-based crediting program must include a mechanism to compensate for any reversal. Such a mechanism must include a contribution of sector-based offset credits to a jurisdictional buffer pool. The ETS shall establish its own Sector-Based Crediting Program Buffer Pool to accept sector-based offset credits transitioned from the jurisdictional buffer pool.[31]
FCPF CARBON FUND	ERs from the ER Program are deposited in an ER Program CF Buffer, managed by the Carbon Fund, based on a Reversal risk assessment. ERs generated during the Crediting Period and deposited in the ER Program CF Buffer (Buffer ERs) will not be transferred. In the event that a Reversal event occurs, an amount of Buffer ERs will be canceled from the ER Program CF Buffer equivalent to the amount of transferred ERs affected by the Reversal event.[32]

[30] The REDD+ Environmental Excellence Standard (TREES), page 41. https://www.artredd.org/wp-content/uploads/2021/12/TREES-2.0-August-2021-Clean.pdf.
[31] California Tropical Forest Standard, page 22. https://ww2.arb.ca.gov/sites/default/files/classic/cc/ghgsectors/tropicalforests/ca_tropical_forest_standard_english.pdf..
[32] Carbon Fund Methodological Framework, page 15. https://www.forestcarbonpartnership.org/system/files/documents/fcpf_carbon_fund_methodological_framework_revised_2020_final_posted.pdf.

GREEN CLIMATE FUND REDD+ PILOT	The summary of information on safeguards provides information on how the following safeguard was addressed and respected in a way that ensures transparency, consistency, comprehensiveness, and effectiveness: Actions to address risk of reversals.[33]
VERRA's VCS	Non-permanence risk in Agriculture, Forestry, and Other Land Use (AFOLU) projects is addressed through the use of a project risk analysis, using the AFOLU Non-Permanence Risk Tool, which determines a number of credits to be deposited in the AFOLU pooled buffer account. The pooled buffer account holds non-tradable buffer credits to cover the non-permanence risk associated with AFOLU projects. It is a single account that holds the buffer credits for all projects.[34]
VERRA's JURISDICTIONAL NESTED REDD+ (Scenario 1)	Under this scenario, non-permanence risk and natural disturbances requirements do not apply to jurisdictional reference levels, because there is no crediting to the jurisdiction. Nested projects shall deposit buffer credits into the AFOLU pooled buffer account and lower-level jurisdictions shall deposit credits into the jurisdictional pooled buffer account, except where requirements in JNR Scenario 2 or JNR Scenario 3 Requirements take precedence.[35]

[33] Terms of reference for the pilot programme for REDD+ results-based payments, page 21. https://www.greenclimate.fund/sites/default/files/document/terms-reference-pilot-programme-redd-results-based-payments.pdf.
[34] VCS Standard, page 5. https://verra.org/wp-content/uploads/2022/12/VCS-Standard-v4.4-FINAL.pdf.
[35] JNR Requirements, Scenario 1, page 34. https://verra.org/wp-content/uploads/2021/04/JNR_Scenario_1_Requirements_v4.0.pdf.

VERRA's JURISDICTIONAL NESTED REDD+ (Scenarios 2 & 3)	Jurisdictional proponents shall prepare a non-permanence risk report in accordance with the VCS Program document JNR Non-Permanence Risk Tool. Recognizing that non-permanence risk ratings may change over time; jurisdictional proponents shall perform a non-permanence risk analysis at every verification event. Where an event occurs that is likely to qualify as a loss event (see the VCS Program document Program Definitions for definition of loss event) and VCUs have been previously issued, the jurisdictional proponent that has experienced a potential loss shall notify Verra of the loss within 6 months of discovering the event. Although buffer credits are canceled to cover carbon known or believed to be lost, the VCUs already issued to jurisdictional programs that subsequently experience a reversal are not canceled and do not have to be canceled. Rather, all VCUs issued to jurisdictional programs are permanent. Note: these requirements are optional for Scenario 2b.[36]
GOLD STANDARD	In the case of a reversal event, the GS Secretariat shall lock the equivalent volume of issued PERs and/or GS VERs units lost due to the reversal event. This also applies to the corresponding units in the compliance buffer account of the project.[37]

[36] JNR Requirements, Scenario 2, page 45. https://verra.org/wp-content/uploads/2021/04/JNR_Scenario_2_Requirements_v4.0.pdf. And JNR Requirements, Scenario 3, page 32. https://verra.org/wp-content/uploads/2021/04/JNR_Scenario_3_Requirements_v4.0.pdf.
[37] Performance Shortfall Guidelines, page 7. https://globalgoals.goldstandard.org/standards/501G_V1.0_PR_Performance-Shortfall-Guidelines.pdf.