THE INTEGRITY COUNCIL
FOR THE VOLUNTARY CARBON MARKET

Continuous Improvement Work Program report: Permanence

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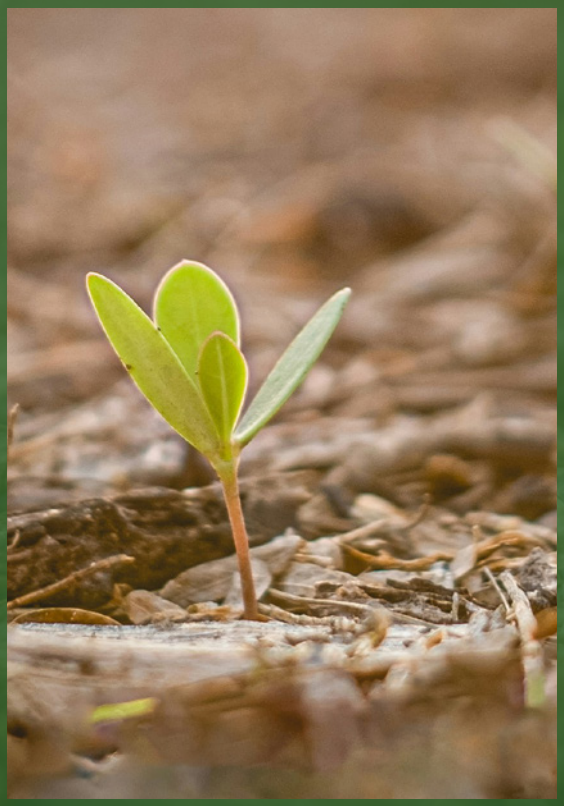
Purpose of the Continuous Improvement Work Programs

The Integrity Council for the Voluntary Carbon Market's (ICVCM) pioneering Continuous Improvement Work Programs (CIWPs) ensure that carbon markets continue to evolve by bringing together leading experts and key stakeholders in a collaborative effort to address complex challenges, provide thought leadership, and chart the next generation of solutions to accelerate high-integrity carbon markets that benefit both people and planet. The CIWPs harness the latest science, emerging technologies, and innovative approaches from across the market to inform the next generation of carbon market integrity systems and standards.

The recommendations of these multi-stakeholder, expert working groups will inform further refinement and development of the ICVCM rule book, particularly the CCP Assessment Framework. They may also refer to actions more appropriately implemented by entities other than the ICVCM, but which are nonetheless crucial for future market development and maturation.



Summary

The issue of permanence, or the length of time a carbon credit (1 tonne of carbon reduced or removed) remains out of the atmosphere, has been a fundamental and controversial part of carbon markets since their inception. To ensure that carbon reductions and removals are sustained over time periods that are meaningful for the purpose of mitigating climate change, the carbon market must adequately address and mitigate the risk of sequestered carbon being (re)emitted into the atmosphere, a concept known in the market as a reversal.

The ICVCM CIWP on Permanence explored various approaches to addressing the issue of permanence and the durability of carbon storage across a range of project types and existing carbon crediting programs. Its findings and recommendations will play a vital role in informing long-term permanence management systems that deliver meaningful impacts on climate change, allocate risks appropriately and consistently across the market, and implement new and innovative approaches to managing liability and compensation for carbon project types with a higher risk of reversal.

The ICVCM CIWP on Permanence met five times from February through June 2024 to discuss the points in the Summary for Decision Makers (SDM) and the following aspects of Permanence:

- **Monitoring and compensation periods and/or reserve requirements,** including consideration of methods to provide for longer monitoring and compensation periods (e.g., one hundred years), to consider whether monitoring and compensation periods should count from the start of the first crediting period or from the vintage of the mitigation outcome, and to consider options for transferring the monitoring and compensation oversight to the carbon crediting program or the jurisdiction, including taking into account emerging and existing best practice among carbon crediting programs;

- **Pooled buffer reserves, their design, sufficiency** (including periodic stress testing considering a range of scenarios)**, feasibility, and possible new designs;**

- **Reversal risk assessment tools and procedures** (including risks presented by climate change);

- **Insurance products and mechanisms;** and

- **Novel approaches to managing permanence and reversal risk.**

In addition, a workshop hosted by the ICVCM, Cambridge University, EDF, and the High Tide Foundation in January 2024, brought together more than 70 experts from across the market to explore a range of issues related to permanence and provided valuable inputs into the CIWP. The detailed workshop report can be found here.

Key takeaways

The CIWP on Permanence found that there is a strong foundation of approaches for addressing permanence that have been implemented across the market to date, but that those approaches are not standardised or harmonised. The existing carbon crediting programs that are CCP-Eligible have all now aligned their threshold requirements for permanence monitoring to 40 years, in line with the requirements of the ICVCM Assessment Framework.

The recommendations developed by this group address the following topics as key for the next phase of development of approaches to permanence:

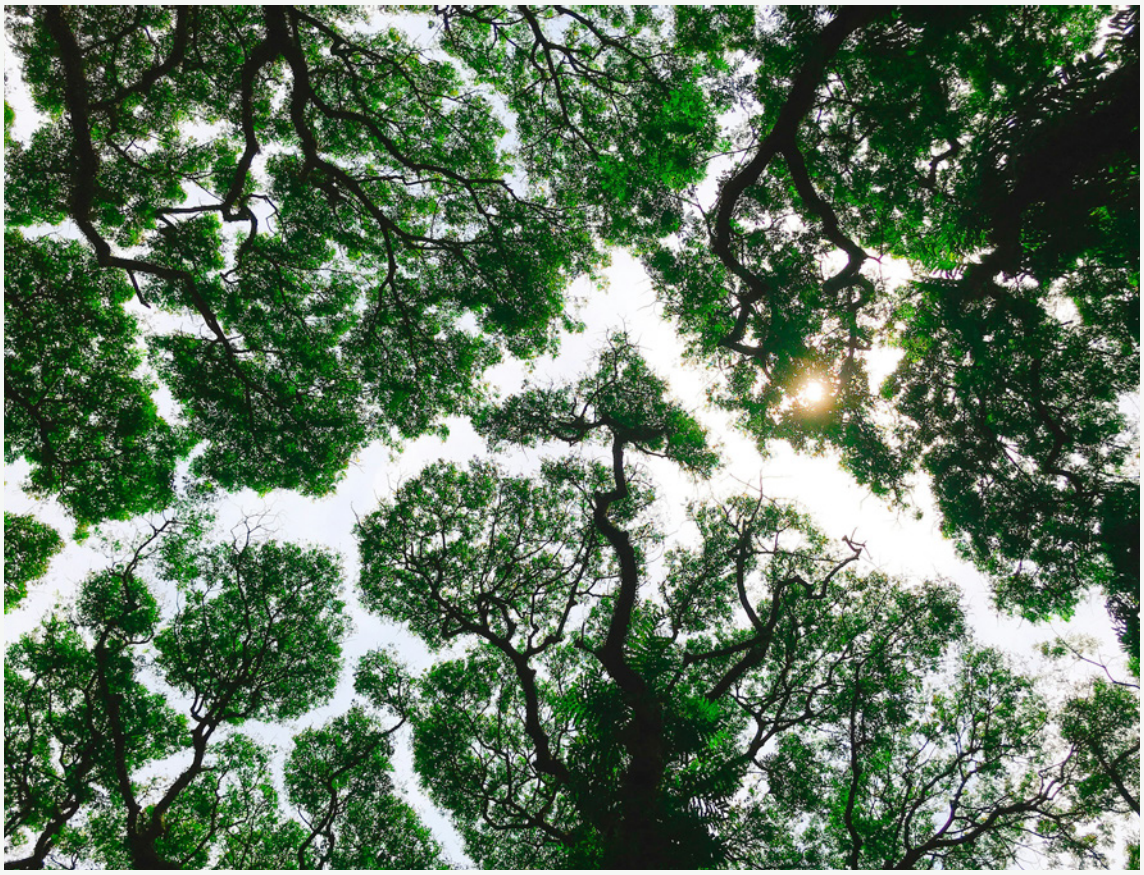
1	In future refinements to the Assessment Framework, the ICVCM should include a standard definition of what is classified as an avoidable reversal and what is classified as an unavoidable reversal.
2	In future refinements to the Assessment Framework, the ICVCM should clarify that cessation of monitoring and verification should result in a compensation liability equivalent to the amount of credits that a project previously contributed to a pooled buffer reserve.
3	The ICVCM should pilot stress testing for pooled buffer reserves, and, based on the results of the pilot, consider whether and how to incorporate mandatory stress testing into the Assessment Framework.
4	The ICVCM should provide guidance on the types of risks addressed and acceptable data sources used in project-level risk assessments conducted by carbon crediting programs.
5	The ICVCM should explore options for extending the 40-year monitoring and compensation period tied to the beginning of the project crediting period in a way that distributes liability amongst other market participants and allows for the use of novel compensation mechanisms.
6	The ICVCM should explore the creation of an innovation sandbox that could be used to pilot new, innovative changes to the CCP-Approved methodologies while retaining the CCP-Approval.

These recommendations will be further expanded in the second part of the Permanence CIWP (Monitoring and Compensation), which will kick off in 2025.

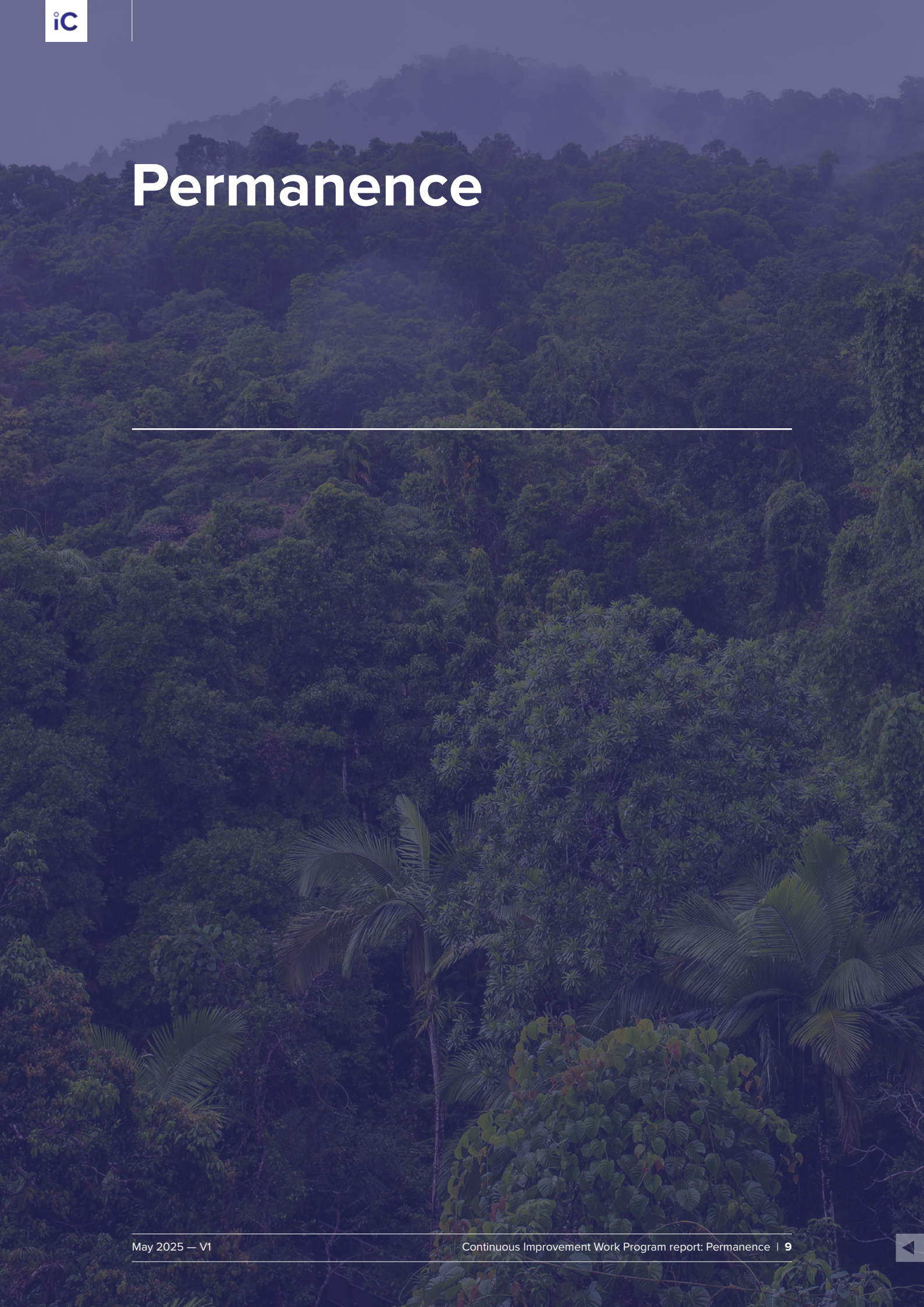
What's next?

The outputs of the CIWPs will inform further development and refinement of the ICVCM's Assessment Framework. They will also provide recommendations on broader evolutions and adaptations required in the market, which may be implemented by entities other than the ICVCM.

The second batch of CIWPs are now in progress, and more will begin throughout 2025.



Permanence



Introduction

The Integrity Council for the Voluntary Carbon Market (ICVCM) is committed to fostering a high-integrity voluntary carbon market that expedites a just transition to a 1.5°C world. We aim to ensure that high-quality carbon credits effectively unlock private financing for emission reduction and removal initiatives. By establishing a definitive global threshold for the voluntary carbon market, we contribute to the goals outlined in the Paris Agreement.

After publishing the Core Carbon Principles (CCPs) and corresponding Assessment Framework in July 2023, the Continuous Improvement Work Programs (CIWPs) were launched to consider key issues related to the future of the carbon markets and to develop recommendations to inform further development of the CCPs and Assessment Framework. The recommendations outlined in this report will serve as a key input into future refinements to the Assessment Framework. In the Assessment Framework, there are definitive criteria for carbon crediting programs and their respective methodologies that dictate the qualities of high-integrity carbon credits. One of the CCPs is Permanence, a concept that ensures the durability of CCP-credits issued.

In the carbon market, permanence and durability refer to how long a carbon credit – representing one tonne of carbon dioxide reduced or removed – stays out of the atmosphere. Different types of carbon projects create these credits, but not all of them guarantee that the CO_2 reduction will remain sequestered forever. Some projects have a higher risk that the stored or avoided CO_2 will be released back into the atmosphere after the credit has been sold or retired. This is called a reversal. While reversals are a known risk in the carbon market, how and who is responsible for addressing them varies depending on the project and the crediting program. To ensure integrity, the ICVCM's CCP requires that carbon credits come from projects where emissions reductions or removals are either scientifically proven to be permanent, or have mechanisms in place to adequately manage and compensate for reversals. The CCP states:

"The GHG emission reductions or removals from the mitigation activity shall be permanent or, where there is a risk of reversal, there shall be measures in place to address those risks and compensate for reversals."

Section 9 of the Assessment Framework details how the ICVCM ensures that the requirements under the CCP on Permanence are met. The text first defines categories of mitigation activities for which permanence requirements apply, based on their reversal risk. For project types with a material risk of reversal, the text has criteria for compensation of reversals, monitoring and compensation period requirements, and compensation mechanism requirements. The goal of the CIWP on Permanence was to examine gaps and best practices in the market, and make recommendations on how the requirements included in the Assessment Framework could be updated to raise the integrity threshold on how permanence is addressed in the market.

More specifically, the Permanence CIWP was launched to bring together different perspectives and stakeholders to drive consensus around the following:

- A shared understanding among the expert community on:

    1) the different approaches to addressing the issue of permanence for carbon crediting purposes among crediting programs; and

    2) key open questions or gaps in understanding or knowledge.

- Recommendations for addressing permanence (including risk assessment, allocation, and mitigation) to drive "investment-grade" carbon credits that maintain scientific rigour in delivering climate impact while balancing complex policy, legal, financial, equity, and implementation trade-offs.

These objectives for the CIWP on Permanence underscore the ICVCM's overarching mission of setting definitive global standards using the best available science and expertise, so that high-quality carbon credits can serve as a financing mechanism for genuine and additional greenhouse gas (GHG) reductions and removals. This CIWP process was designed to address key outstanding questions regarding permanence and durability and set updated rules that incorporate the latest science, data, and thinking on:

- How the voluntary carbon market should value and account for carbon held for different periods of time.

- What mechanisms exist or should exist to ensure appropriate certainty of impact.

- The current tools and approaches used to mitigate the risk of reversals and non-permanence and how effective they are.

Background on the Continuous Improvement Work Program on Permanence

Following the release of the Assessment Framework in July 2023, work on anticipating likely areas for further development began in early 2024. Future refinements to the Assessment Framework will draw on recommendations from the CIWPs, in which multiple stakeholders, carbon crediting programs, project developers, academics, representatives of Indigenous Peoples and local communities participate, as well as making use of existing external analysis.

The CIWP on Permanence was launched with the Cambridge Permanence and Durability Workshop, a 2-day in-person event that convened actors from across the market in a rigorous stakeholder engagement process and continued for six months with select members of that group meeting virtually in the CIWP meetings. The CIWP began by examining how the ICVCM addressed issues of Permanence in the Assessment Framework.

Scope of work

The Assessment Framework acknowledges that “permanent mitigation of GHG emissions is essential for maintaining net anthropogenic emissions in line with the long-term temperature goals of the Paris Agreement.” However, the text accounts for the fact that many carbon reservoirs experience varying degrees of reversal risk. In the Assessment Framework, project types are split into two binary categories: “mitigation activity (that) are considered to have a material risk of reversal” and those without.[1] The ICVCM tailored permanence requirements to account for varying degrees of reversal risk for different Categories of credit types.[2] In the Summary for Decision Makers (SDM), the ICVCM signalled work to be developed before future refinements to the Assessment Framework to further explore these requirements.[3]

The CIWP on Permanence considered some of the potential updates in the SDM for such refinements to the Assessment Framework, including extending monitoring and compensation periods (e.g., up to one hundred years), transferring monitoring and compensation oversight to the program or jurisdiction, and aligning with existing and emerging best practices in carbon crediting programs.[4] The SDM also states that upcoming development of the Assessment Framework will require carbon crediting programs to implement measures ensuring the continued operation of pooled buffer reserves. These provisions will apply until the latest expiry date of the monitoring and compensation periods for all registered and completed mitigation activities, including scenarios where the carbon crediting program ceases to exist or is unable to operate the pooled buffer reserve.[5]

1 CCP-Section-4-V1.1-FINAL-15May24.pdf
2 Ibid.
3 CCP-Section-3-V2-FINAL-6Feb24.pdf
4 CCP-Section-3-V2-FINAL-6Feb24.pdf
5 CCP-Section-3-V2-FINAL-6Feb24.pdf

The ICVCM CIWP on Permanence met five times from February through June 2024 to discuss the points in the SDM and the following aspects of Permanence:

- Monitoring and compensation periods and/or reserve requirements, including consideration of methods to provide for longer monitoring and compensation periods (e.g., one hundred years), to consider whether monitoring and compensation periods should count from the start of the first crediting period or from the vintage of the mitigation outcome, and to consider options for transferring the monitoring and compensation oversight to the carbon crediting program or the jurisdiction, including taking into account emerging and existing best practice among carbon crediting programs;

- Pooled buffer reserves, their design, sufficiency (including periodic stress testing considering a range of scenarios), feasibility, and possible new designs;

- Reversal risk assessment tools and procedures (including risks presented by climate change);

- Insurance products and mechanisms; and

- Novel approaches to managing permanence and reversal risk.

Recommendations

The CIWP reached consensus on six recommendations – some for consideration in further development of the Assessment Framework and some for the broader market to pick up. The CIWP encourages the ICVCM to consider its recommendations holistically rather than as discrete options. The CIWP employed a systems approach to addressing challenges of permanence and durability, and several of its recommendations are mutually reinforcing or interlinked.

Recommendation 1

In future refinements to the Assessment Framework, the ICVCM should include a standard definition of what is classified as an avoidable reversal and what is classified as an unavoidable reversal.

Assessment Framework reference: *Criterion 9.4*

The Assessment Framework does not define the terms "avoidable reversal" or "unavoidable reversal" and instead requires carbon crediting programs to "define and apply clear criteria for determining whether a reversal is avoidable or unavoidable."[6, 7] To improve clarity and consistency among how carbon crediting programs address reversals, the CIWP recommends that the ICVCM update the Assessment Framework to include definitions of avoidable and unavoidable reversals in a way that preserves flexibility for carbon crediting programs to customise their definitions based on buffer operations but sets a minimum threshold for the market.

The rationale behind this recommendation is to clarify the types of reversal scenarios that must be first covered by the project proponent as described in Section 9.3 of the Assessment Framework. Currently, each carbon crediting program has arrived at related but distinct definitions of each reversal type. For example, Verra defines an unavoidable reversal as "a Reversal over which the Project Proponent has no control such as natural disasters such as hurricanes, earthquakes, flooding, drought, fires, tornados and winter storms, and human-induced events such as acts of terrorism, crime, or war. Encroachment by outside actors such as logging, mining, or fuelwood collection are considered unavoidable when demonstrably unforeseeable and out of the Project Proponent's control."[8] In its U.S. Forest Protocol, Climate Action Reserve, however, defines an unavoidable reversal as "any reversal not due to the Project Operator's negligence, gross negligence or willful intent, including wildfires or disease that are not the result of the Project Operator's negligence, gross negligence or willful intent."[9] While similar, the lack of a common definition allows for different interpretations of the minimum standard required of carbon crediting programs. The CIWP recognises that no definition will encompass all possible reversal scenarios and that this definition could change the way pooled buffer reserves are currently managed. Because of this, the CIWP recommends that the ICVCM define the terms in a way that minimises moral hazard and excludes non-credible definitions but allows for flexibility on the part of carbon crediting programs to customise the definition based on their pooled buffer reserve policies.

This recommendation should not be interpreted as a push to standardise buffer operations across carbon crediting programs. The CIWP discussed that more standardisation of how programs operate buffer pools could be an option for the ICVCM to explore in the future but is not recommended for immediate incorporation into the Assessment Framework.

The CIWP noted that as a first step, the ICVCM should further benchmark current market practice, consider incorporating elements of existing definitions across programs, and seek to converge on a minimum threshold for definitions.

6 https://icvcm.org/wp-content/uploads/2024/02/CCP-Section-4-V1.1-FINAL-15May24.pdf

7 In some cases, carbon crediting programs refer to these reversal types as "intentional" and "unintentional," and this recommendation applies to these definitions as well. For example, see the American Carbon Registry.

8 VCS Program Definitions, v4.4

9 Forest_Protocol_V5.0_Package_040921.pdf

Recommendation 2

In future refinements to the Assessment Framework, the ICVCM should clarify that cessation of monitoring and verification should result in a compensation liability equivalent to the amount of credits that a project previously contributed to a pooled buffer reserve.

Assessment Framework reference: *Criterion 9.3*

Criterion 9.3 requires carbon crediting programs to "treat cessation of monitoring and verification as an avoidable reversal," which requires programs to "draw upon the pooled buffer reserve if avoidable reversals are not compensated" by the project proponent during the minimum project term.[10] In the cases of most avoidable reversals, there is a clear approach to quantifying the reversal and therefore the amount of credits required as compensation. For example, if there was illegal harvesting in an afforestation project, the project proponent and carbon crediting program can quantify the reversal based on the amount of trees harvested. In the case of cessation of monitoring and verification, there is no apparent approach to quantifying the size of any potential reversal.

In the case of cessation of monitoring and verification, the Assessment Framework does not provide clear guidance for how programs should quantify the avoidable reversal. Some of the questions that came up in discussion included: If a project proponent ceases monitoring and verification, should all historic contributions to the buffer be cancelled? Should the program cancel just the credits for that verification period? An amount equivalent to all credits issued for the project?

The CIWP reached consensus around cancelling, at a minimum, all credits that the project had contributed to the pooled buffer reserve; however, there was discussion about taking an even more conservative approach and requiring a cancellation from the buffer equivalent to all credits the project had issued.

The solution could have significant impacts on how buffer contributions are determined by the carbon crediting programs and should not be taken lightly. The CIWP recommends that the ICVCM further develop the Assessment Framework with a clarification that the compensation liability for cessation of monitoring and verification is equivalent to the amount of credits that a project contributed to a pooled buffer reserve.

The CIWP recommends that the ICVCM indicate that the cessation of monitoring and verification during the minimum project term results in a liability equivalent to all contributions to the pooled buffer reserve made by the project up to the point of cessation.

10 https://icvcm.org/wp-content/uploads/2024/02/CCP-Section-4-V1.1-FINAL-15May24.pdf

Recommendation 3

The ICVCM should pilot stress testing for pooled buffer reserves, and, based on the results of the pilot, consider whether and how to incorporate mandatory stress testing into the Assessment Framework.

Assessment Framework reference: *Criterion 9.4*

Criterion 9.4 requires carbon crediting programs to "implement a pooled buffer reserve to compensate for reversals to which all relevant mitigation activities contribute."[11] While the Assessment Framework outlines some minimum guidance for how pooled buffer reserves must operate, carbon crediting programs are provided latitude to customise their operations. Combined with the fact that each carbon crediting program's portfolio differs based on the projects in their registry, there is a risk that while the minimum threshold for pooled buffer reserves set by the ICVCM is adequate for some carbon crediting programs, it may not be adequate for others.[12]

While several carbon crediting programs conduct stress testing of their pooled buffer reserve, it is not a requirement to achieve CCP-Approval for the relevant program. The CIWP agreed that requiring regular stress testing against transparent and objective criteria would be beneficial to the market's development. The CIWP recommends that the ICVCM collaborate with interested carbon crediting programs on a voluntary basis to pilot development of stress testing requirements for pooled buffer reserves.

In discussing the idea of buffer pool stress testing, the CIWP considered several critical questions: Are there existing protocols for buffer pool stress testing? Are there protocols that could be adapted from other industries? What would the timeframe for implementation of a stress test be and how frequently should it be conducted? How granular should the assessment of credits inside a buffer be? What lessons can be learned from stress testing in financial markets? Who should conduct buffer pool stress tests?

In discussing what this stress test may look like, the CIWP determined that with respect to the frequency of stress testing, it was agreed that at a minimum, they should be conducted every five years, which is aligned to the validation and verification cycle for enrolled projects. Several CIWP members noted that stress testing should be conducted by an independent party; however, the consensus recommendation is that the decision on who conducts a stress test should be determined after the parameters are finalised. The CIWP noted how important it is to integrate stress testing into market practice quickly and acknowledged that if specific requirements cannot be ready as the nearest refinements to the Assessment Framework, it may be worth incentivising programs to conduct a stress test and publish the results as a short-term, transparent catalyst to a more standardised approach.

The CIWP recommends that the ICVCM convene carbon crediting programs, actuarial professionals, capital markets experts and others to develop, pilot, and consider implementing a stress testing protocol for pooled buffer reserves. The pilot should focus on solidifying an overarching approach, including the parameters of the stress test, the frequency of the stress tests themselves, who should conduct the tests, and how results are treated. The CIWP encourages the ICVCM to incorporate learnings from informal, in-house stress tests that carbon crediting programs may have already conducted.

11 Ibid.

12 The ICVCM has no reason to believe that any pooled buffer reserves are currently inadequately capitalised to cover their reversal risk.

Recommendation 4

The ICVCM should provide guidance on the types of risks addressed and acceptable data sources used in project-level risk assessments conducted by carbon crediting programs.

Assessment Framework reference: *Criterion 9.4*

Criterion 9.4 of the Assessment Framework (only applying to projects deemed to have a "material" risk of reversal in Criterion 9.1) requires programs to either "ensure that the proportion of carbon credits placed in the pooled buffer reserve are at least twenty percent of the total carbon credits issued to contributing mitigation activities," or are "proportional to the reversal risk of the mitigation activity over the full length of the monitoring and compensation period and account for the risk that the mitigation activity proponents do not compensate for avoidable reversals."[13] Of the carbon crediting programs that are CCP-Eligible, only one has opted to use the blanket 20% contribution. Benchmarking conducted by the CIWP surfaced that carbon crediting programs have taken materially different approaches to which risks they evaluate as part of project-level risk assessments and the data sources used to evaluate those risks.

In the Assessment Framework, the ICVCM does not provide specific guidance around what the project-level risk assessment must entail, and each carbon crediting program has developed their own tools and approaches, which differ materially. Not all programs address the same categories of risk or use similar parameters or datasets to evaluate categories of risk. For example, when addressing financial risk, one program focuses principally on project-level dynamics (e.g., cash flow breakeven point) while another addresses financial risk by looking at the credit rating of the project proponent.

In discussing what this process could look like, the CIWP discussed several aspects. Regarding the quality of the datasets used as inputs to risk assessments, the CIWP recommended that the ICVCM explore providing guidance on the types of data, and sources, used to conduct risk assessments (e.g., evaluation of climate change risk must rely on peer-reviewed or publicly available data sets) to provide an additional layer of standardisation. When developing recommendations around the types of data used, the ICVCM should consider the availability and accessibility of data when developing its guidance.

Additionally, the CIWP recommends that the ICVCM develop guidance around how often carbon crediting programs must update their project-level risk assessment tools. The CIWP did not arrive at consensus on how frequently the project-level risk assessments should be updated; however, most members felt the appropriate timeframe was somewhere between annually and once every five years to incorporate updated science and practice. In setting their threshold, CIWP members recommended that the ICVCM look to how regulators address this issue in other industries.

The CIWP recommends that the ICVCM take steps to standardise how these assessments are conducted by providing guidance on the types of risks that should be evaluated as well as acceptable data sources used to evaluate the risks. The CIWP noted that the lack of standardisation around how project-level risk assessments are conducted could pose challenges to increasing private investment in the market, could cause difficulties in aligning with the evolving regulatory ecosystem, could introduce moral hazard, and could lead to real or perceived conflicts of interest. While the CIWP was open to further standardisation, it cautioned against creating an overly prescriptive approach in the near-term.

13 https://icvcm.org/wp-content/uploads/2024/02/CCP-Section-4-V1.1-FINAL-15May24.pdf

Recommendation 5

The ICVCM should explore options for extending the 40-year monitoring and compensation period tied to the beginning of the project crediting period in a way that distributes liability amongst other market participants and allows for the use of novel compensation mechanisms.

Assessment Framework reference: *Criterion 9.3 and 9.4*

In the SDM, it is provided that "the ICVCM will consider longer monitoring and compensation periods (e.g., one hundred years) and shifting the monitoring and compensation oversight to the carbon crediting program or the jurisdiction aligned with existing and emerging best practice among carbon crediting programs" as part of future development of the Assessment Framework.[14] The CIWP agreed that the role of the ICVCM should be to set a minimum threshold for monitoring and compensation but ensure that incentives are in place for project proponents to design their mitigation activities in a way that makes them as durable as feasible.

To that end, the CIWP developed a suite of options for the ICVCM to explore that could increase the durability of carbon credits deemed to have a "material" risk of reversal in Criterion 9. These are potential ideas that are not yet in practice, and would need significant legal work to implement:

- **Transition to issuance-based monitoring and compensation:** Criterion 9.3 requires "a monitoring and compensation period for [mitigation activities with a material risk of reversal] of at least forty years from the start of the first crediting period or to at least the end of the crediting period, whichever is later." In practice, aligning the monitoring and compensation period with the project's crediting period means that credits issued early in the crediting period are monitored and accounted for longer than credits issued at the end of the project's crediting period. In the ICVCM's public consultation in 2022, the text proposed monitoring credits starting at their vintage rather than crediting period, and this was considered by the ICVCM Expert Panel in the development of the Assessment Framework. The CIWP recommends that the ICVCM further explore transitioning to an issuance-based monitoring and compensation period instead of one tied to the project's crediting period, allowing for all credits issued by a project to receive a uniform duration of monitoring.

- **Permanence fund:** In this potential mechanism, carbon crediting programs would manage reversal risk through the first 40 years through pooled buffer reserves; however, the cost of each credit would contain a fee that would be contributed to a trust. This trust, managed by an independent third-party, would target a return commensurate with the broader market, using the high-risk portion of its portfolio allocation to invest in more durable mitigation activities. After the conclusion of the 40-year monitoring and compensation period, the permanence liability would be transferred from the carbon crediting program/project proponent to the trust. The trust would be responsible for compensating for reversals for a designated period of time, and in the event of a reversal, purchasing high-durability carbon credits as compensation.

14 https://icvcm.org/wp-content/uploads/2024/02/CCP-Section-3-V1.1-FINAL-15May24.pdf

- **Industry-wide pooled buffer reserve:** If managed by a third party and with advances and allowance for innovation in digital monitoring, the CIWP felt that an industry-wide pooled buffer reserve could increase the monitoring and compensation periods associated with a carbon credit. An industry-wide pooled buffer reserve would serve the entire market rather than individual carbon crediting programs. The CIWP noted that the use of an industry-wide pooled buffer reserve could also mitigate some of the portfolio-level risks associated with program-level buffers (e.g., geographic or natural hazard concentration risks) by broadening the number and diversity of credits in the buffer.

- **Insurance:** Similar to the CIWP's recommendation around an industry-wide pooled buffer reserve, with advances and allowance for innovation and digital monitoring, the CIWP felt that insurance as a mechanism could provide for more flexibility in the length of the monitoring and compensation period tied to each credit. The CIWP recognizes that carbon credit insurance is a nascent offering and further innovation or changes to liability allocation may be required to allow for underwriting policies that are 40+ years.

While the CIWP identified these as the most promising alternative compensation mechanisms, the group recognized that there are likely others worthy of consideration. As a first step, the CIWP recommends that the ICVCM form a working group to further explore and elaborate each of the ideas outlined above. The working group could conduct further research and data to inform future ICVCM guidance, develop an approach to pilot new compensation mechanisms, and ultimately serve as a resource to the ICVCM should it decide to incorporate these mechanisms as part of further development and refinement of the Assessment Framework. The ICVCM Governing Board has approved the continuation of this work under the CIWP on Permanence (Monitoring and Compensation) that will commence in 2025.

Recommendation 6

The ICVCM should explore the creation of an innovation sandbox that could be used to pilot new, innovative changes to CCP-Approved methodologies while retaining the CCP-Approval.

Assessment Framework reference: *N/A*

The ICVCM should explore the creation of an innovation sandbox that could be used to pilot new, innovative updates to CCP-Approved methodologies while allowing the methodology to retain its CCP-Approval. The approach would allow programs to request exemptions from a part of the Assessment Framework to pilot an innovative approach to carbon crediting, under the strict guise of the ICVCM. While not necessarily required, the CIWP noted that this could take the form of an attribute tag (e.g., CCP-I). Carbon crediting programs could voluntarily tag credits with a CCP-I and transparently disclose the innovation they are piloting.

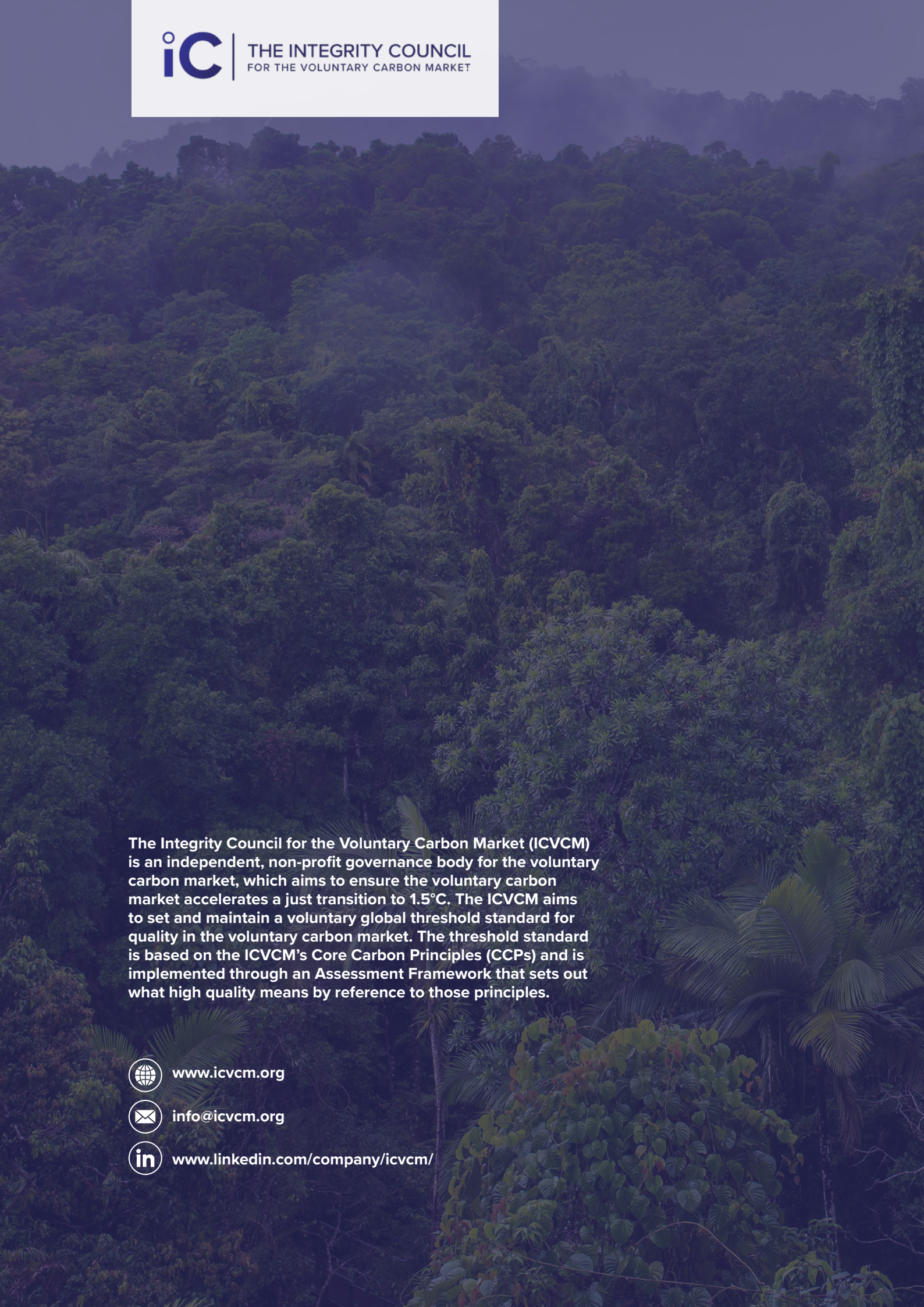
While discussed in the context of piloting some of the novel monitoring and compensation mechanisms outlined in Recommendation #5, the CIWP thought that an innovation sandbox could serve as a controlled method to pilot recommendations from other CIWPs or the ICVCM. The CIWP recognizes that this would be a departure from current practice and encourages, as a next step, a robust discussion among the ICVCM Governing Board on whether this is the appropriate method to allow for controlled innovation and whether there is sufficient demand for pilot approaches to warrant a formal sandbox.

Participants

The CIWP on Permanence was comprised of experts from:

- **American Carbon Registry**
- **American Forest Foundation**
- **Anew Climate**
- **Climate Principles**
- **Imperative Inc.**
- **Indigo Ag**
- **Isometric**
- **Kita**
- **Puro.earth**
- **Stockholm Environment Institute**
- **United Nations Environment Programme**
- **University of Cambridge**
- **Verra**
- **VNV Advisory**

The CIWP also included a two-day in-person workshop hosted by the ICVCM, Cambridge University, the Environmental Defense Fund and the High Tide Foundation in January 2024, which brought together more than 70 experts from across the market to explore a range of issues related to permanence.



THE INTEGRITY COUNCIL
FOR THE VOLUNTARY CARBON MARKET

The Integrity Council for the Voluntary Carbon Market (ICVCM) is an independent, non-profit governance body for the voluntary carbon market, which aims to ensure the voluntary carbon market accelerates a just transition to 1.5°C. The ICVCM aims to set and maintain a voluntary global threshold standard for quality in the voluntary carbon market. The threshold standard is based on the ICVCM's Core Carbon Principles (CCPs) and is implemented through an Assessment Framework that sets out what high quality means by reference to those principles.

www.icvcm.org

info@icvcm.org

www.linkedin.com/company/icvcm/