CLIMATE ACTION RESERVE

Permanence Work Program: Revised Approach

June 30, 2026

1 Purpose

This document presents the revised approach to permanence by the Climate Action Reserve ("Reserve").

2 Scope

The scope of the revised approach includes protocols developed by the Reserve (i.e., voluntary protocols) and excludes protocols developed by third parties that the Reserve administers (i.e., compliance protocols).

The scope of the revised approach includes protocols with non-negligible reversal risk (e.g., forestry).

3 Summary of Revised Approach

Permanence is a fundamental attribute of the Reserve's carbon crediting program, which is designed to evolve alongside the latest scientific understanding, market innovations, and practical implementation instruments. Over the past quarter-century there have been significant evolutions across all three dimensions.[1] Today, it is widely understood that the urgency and scale of the climate crisis demand the mobilization of all activity types—including natural climate solutions—to store greenhouse gases (GHGs) out of the atmosphere and that the climate can benefit from storing GHGs out of the atmosphere across different time horizons.

Under the revised approach, the Reserve defines "permanence" as an attribute of a carbon credit that confirms its associated greenhouse gases (GHGs) are stored out of the atmosphere long enough to benefit the climate.[2] The Reserve also establishes a comprehensive framework that:

[1] For example, Joos et al. found that carbon dioxide does not have a fixed atmospheric lifetime but instead a sizable portion decays rapidly at first (and approximately 50% after 40 years) but a substantial fraction persists for centuries to millennia. Joos et al. (2013). Carbon dioxide and climate impulse response functions for the computation of greenhouse gas metrics: A multi-model analysis. Atmospheric Chemistry and Physics, 13(5), 2793–2825. https://doi.org/10.5194/acp-13-2793-2013.

[2] The Reserve is aware of ongoing efforts to distinguish between "permanence" and "durability". The Reserve generally favors the concept of "durability" on the basis that: (a) it is technically more accurate, as all carbon storage is inherently probabilistic; and (b) "durable" enables greater differentiation when describing carbon storage lengths, versus the binary implication of "permanent". That said, the Reserve notes that "permanence" is embedded in various third-party frameworks, reflecting its status as the preferred term in earlier generations of carbon standards. Accordingly, the Reserve is concerned that prematurely abandoning the term "permanence" could inadvertently exclude credible and high-quality activity types—particularly natural climate solutions—from eligibility under these frameworks. On balance, the Reserve will retain the term "permanence", while clarifying its meaning in the context of carbon markets, until such time that "permanence" is replaced with "durability" in these third-party frameworks.

- Sets a standard commitment period of 40 years;
- Requires projects to remain responsible for monitoring carbon stocks and compensating for reversals throughout their commitment period;
- Requires projects to continue to contribute credits to a buffer pool and/or to use alternative approaches such as insurance;
- Provides for mechanisms for projects to manage permanence after their commitment period, such as through a long-term conservation easement, cancellation of credits with negligible reversal risk, or a permanence trust; and
- Transparently discloses on its registry the length and end date of project commitment periods, how projects will monitor carbon stocks and compensate for losses in the case of a reversal, and whether and how the project will manage reversal risk after the commitment period.

Such an approach reflects the meaningful climate value provided by GHG storage across a range of time horizons through a combination of practical commitment periods and viable long-term management approaches, thereby credibly managing the risk of non-permanence. The evaluation of a claim is a policy decision determined by the applicable policy frameworks in which the credits are used and the entities making the claims to meet their respective commitments: credits can be used to support a range of claims with varying expectations on carbon storage length. The Reserve believes carbon storage should be long enough to align with the associated claim.

4 Process

In September 2025, the Reserve launched its work program on permanence, releasing a document that summarized the Reserve's existing definition of, and approach to, permanence, listed questions for consideration, opened a call for public comments, and invited expressions of interest to join a workgroup.[3]

The revised approach has been developed in consultation with the workgroup, which comprises carbon market leaders, climate scientists, and community representatives, and has met repeatedly over the past nine months. A second public comment period focusing on the revised approach was held in June 2026.

Implementation details, such as eligibility criteria for mechanisms for managing reversal risk, will be defined as the revised approach is finalized, adopted, and implemented.

[3] Climate Action Reserve (September 3, 2025), "Permanence Work Program Document". https://climateactionreserve.org/permanence-work-program.

5 Commitment Period

5.1 Definition

The “commitment period” is the length of time over which a project must conduct monitoring, reporting and verification of its carbon stocks and compensate for any reversals.

A project may generate credits for storing GHGs out of the atmosphere only during its commitment period, not before or after.

5.2 Length

The standard commitment period for each project will be 40 years, starting at project commencement. This length will ensure that the project’s obligations are practical and enforceable. Individual protocols may allow for shorter commitment periods.

Each protocol will establish a minimum commitment period in order to ensure an adequate timeframe for additionality.

Projects can—and are encouraged to—extend their commitment periods or engage in activities to manage reversal risk after their commitment periods, as discussed below, to deliver long-term climate benefits. A project can extend its commitment period at any time, provided that the extension does not exceed 40 years from the time of the extension. For example, if a project has a 40-year commitment period at the time of project commencement, the project can, in year 10, extend its commitment period so that the commitment period runs for 50 years.

6 Managing Reversal Risk During the Commitment Period

6.1 Definition

A “reversal” occurs if previously credited GHGs are released into the atmosphere. A reversal may be avoidable (i.e., due to an intentional act or gross negligence by the project owner) or unavoidable.

6.2 Quantifying the Compensation Amount

For any reversal during the commitment period, the compensation amount is equivalent to the reversal regardless of when it occurs: a reversal of 100 tonnes in year 1 requires compensation of 100 credits, as does a reversal of 100 tonnes in year 40.

This approach is the most conservative of the three approaches considered in the Reserve’s work program. The Reserve also considered two alternative approaches:

1) Lowering the compensation amount over time in consideration of the time value of storing carbon out of the atmosphere.[4] Under this alternative, a reversal of 100 tonnes in year 1 would require compensation of roughly 93 credits, while a reversal of 100 tonnes in year 40 would require compensation of roughly 50 credits.
2) Distinguishing between avoidable and unavoidable reversals. Under this alternative, the compensation amount for an avoidable reversal would be equivalent to the reversal regardless of when it occurs, but the compensation amount for an unavoidable reversal would be lowered over time, in consideration of the time value of storing carbon out of the atmosphere.

6.3 Buffer-pool Contributions and Alternatives

Each project must implement and maintain one or more actions that address the risk of reversals.

It may contribute credits to a buffer pool, which exists to compensate for unavoidable reversals as well as avoidable reversals where the project owner fails to compensate (e.g., insolvency). Buffer-pool contributions are a percentage of each credit issuance and correspond to a project's quantified risk of a reversal.

Alternatively, projects can reduce and potentially eliminate their buffer-pool contributions by implementing and maintaining alternative actions. Such actions may include an eligible insurance product, the recordation of a conservation easement with appropriate legal encumbrances, or the use of a permanence trust. The Reserve's program and protocols will specify how such actions are reflected in a project's reversal risk rating.

6.4 Disposition of Buffer-pool Contributions

Buffer-pool contributions will be cancelled at the end of the project's commitment period. This approach is the most conservative of the three approaches considered in the Reserve's work program. The Reserve also considered two alternative approaches:

1) Buffer-pool contributions would remain in the buffer pool until used, potentially in perpetuity. This is the status quo.
2) Buffer-pool contributions, or a portion thereof, would be returned to the project at the end of its commitment period.

The Reserve will revisit this approach if a permanence trust is established and if it would be appropriate for buffer-pool contributions to be transferred to this trust instead of being cancelled.

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[4] The time value of storing carbon out of the atmosphere can be modelled after, inter alia, a reabsorption curve (i.e., the proportion of an initial emission of carbon remaining in the atmosphere and the portion of carbon that has been reabsorbed in terrestrial ecosystems at a given point in time). Joos et al., *supra* note 1.

7 Managing Reversal Risk After the Commitment Period

7.1 Definition

"Reversal risk after the commitment period" refers to a project's storage of greenhouse gases (GHGs) out of the atmosphere after its commitment period ends. The Reserve's registry will state whether and how a project is managing reversal risk after the commitment period. Continued management of reversal risk after the commitment period is strongly encouraged to increase long-term mitigation value and incentivize the continuation of project activities.

7.2 Approaches

Reversal risk after the commitment period may be managed if the project elects one or more of the following approaches:

1) Implement an action that sufficiently mitigates reversal risk, as specified in an individual protocol. For example, a forestry project may record a long-term conservation easement with appropriate deeded encumbrances on forest management.
2) Cancel credits with negligible reversal risk. The number of cancelled credits would be based on the reabsorption curve for atmospheric carbon.[5] For example, for a project with a 40-year commitment period, 50 credits with negligible reversal risk (from any project type) may be cancelled to account for reversal risk after the commitment period of 100 reversible credits issued in year one of the project.
3) Transfer the commitment to monitor carbon stocks and compensate for reversals to an entity that is eligible to do so over the long term. This approach is intended to be forward-compatible with methods under development (e.g., permanence trust).

Other approaches may be added program-wide or in individual protocols (e.g., tonne-year accounting).

8 Disclosures

The Reserve's registry will indicate:

- The length and end date of a project's commitment period;
- How a project will monitor carbon stocks and compensate for reversals during its commitment period (e.g., buffer-pool contributions, insurance product);
- Whether and how a project will manage reversal risk after the commitment period (e.g., conservation easement, cancellation of credits with negligible reversal risk, use of a permanence trust).

[5] Joos et al., *supra* note 1.

The Reserve's registry is anticipated to link the above information to each credit.

9 Transitional Arrangements

Existing projects operating under the Reserve's current permanence approach may choose to remain under the existing approach (including for renewed crediting periods) or to transition to the revised approach.