

Evolving permanence approach to mitigate carbon offset reversal risk

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Carbon offset markets have continued to mature and keep pace with the latest market innovations and scientific and technological developments to remove or reduce greenhouse gases ("GHGs") from the atmosphere.

Reversal, or the cancellation or invalidation of previously issued carbon offsets that represent achieved carbon benefits, remains a key risk in carbon offset transactions. Buffer pools, which hold a percentage of each carbon offset issuance based on a project's reversal risk, have traditionally been used to compensate for reversals and manage reversal risk. As carbon markets continue to evolve, registries and market participants have increasingly recognized that buffer pools may not address every project's risk profile and have utilized additional legal, contractual and financial tools.

As an example, the registry Climate Action Reserve's recent adoption of a revised permanence approach (<https://bit.ly/3RAGq1l>) reflects that shift. The revised permanence approach is intended to strengthen the integrity and transparency of carbon offsets while providing greater optionality to manage permanence and reversal risk. As carbon markets continue to mature, mitigation tools and approaches are expected to continue evolving to provide market participants tools to manage permanence and reversal risk.

Why permanence matters

A carbon offset is an instrument that represents the reduction or removal of one metric tonne of carbon dioxide from the atmosphere and is used to compensate for emissions that occur elsewhere.

Permanence is the length of time that the associated climate benefit remains out of the atmosphere and reflects the durability of the carbon benefit derived from an offset project. Many high-quality carbon offsets guarantee that the sequestered carbon will remain stored and out of the atmosphere for at least 100 years, but some protocols and registries require different, and often longer, timeframes to ensure the carbon offset is permanent.

Carbon offsets come with a degree of reversal risk because the carbon removed from the atmosphere may subsequently be released, eliminating the offset's associated climate benefit. For example, nature-based projects (e.g., forests, wetlands, soil carbon) generally have a higher degree of reversal risk than geologic sequestration projects.

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Because reversal risk varies significantly among project types, permanence is a primary risk that market participants evaluate when assessing the quality and value of a carbon offset. The legal and commercial approaches available to mitigate permanence risk therefore play an important role in carbon offset diligence, contractual negotiations, and overall market confidence.

The Reserve's revised approach to permanence

The Reserve recently adopted a new approach to enhance the ways in which permanence risk can be managed. It defines "permanence" as an attribute of a carbon offset that confirms its associated GHGs are stored out of the atmosphere long enough to benefit the climate.

The revised approach reflects the Reserve's view that permanence standards should evolve alongside scientific understanding, market innovation, and practical implementation tools. Rather than relying on a single mechanism to address reversal risk, the approach offers multiple complementary mitigation tools intended to

strengthen transparency while providing greater flexibility for risk management.

- **A standardized 40-year commitment period.** In addition to requiring contributions to a buffer pool, the revised approach establishes a “commitment period,” meaning the length of time during which a project must conduct monitoring, reporting, and verification of its carbon stocks and compensate for any reversals. The Reserve selected a 40-year commitment period to establish obligations that are intended to be practical and enforceable while still delivering meaningful climate benefits. Projects may voluntarily extend their commitment periods, and individual protocols may establish shorter minimum commitment periods where appropriate.
- **Ongoing monitoring and responsibility for reversals.** The revised approach also requires projects to monitor carbon stocks during the commitment period and to provide compensation for reversals during the commitment period. This continued project responsibility places greater emphasis on ongoing stewardship rather than relying solely on a project’s initial issuance of carbon offsets. It also provides market participants greater clarity regarding who bears responsibility if reversals occur during the commitment period.
- **Buffer pools and alternative risk management tools.** Buffer pools serve to compensate for (1) unavoidable reversals and (2) avoidable reversals where the project fails to compensate the purchaser of the carbon offset for the reversal. The revised permanence approach identifies several other risk management tools. These include an eligible insurance product, the recordation of a conservation easement with appropriate legal encumbrances, or the use of a permanence trust. The permanence trust, which remains under development, would function as a pooled financial vehicle funded through project fees rather than reserve credits. Those funds would be managed collectively to monitor participating projects, mitigate reversal risks, and finance corrective actions if reversals occur. The model illustrates the market’s continued movement toward diversified approaches to permanence.
- **Managing reversal risk after the commitment period.** The revised approach addresses how projects may manage reversal risk after the commitment period. Rather than ending a project’s obligations after the commitment period, the approach identifies mechanisms projects may use to continue managing reversal risk, including conservation easements, cancellation of credits with negligible reversal risk, or transferring responsibility to a permanence trust or similar long-term entity that is able to monitor carbon stocks and compensate for reversals.

- **Increased registry transparency.** The revised approach also enhances transparency by requiring the registry to disclose the length and end date of project commitment periods, how projects will monitor carbon stocks and compensate for losses in the event of a reversal during the commitment period, and whether and how projects will manage reversal risk after the commitment period. These disclosures provide greater visibility into the permanence risk of carbon offset projects. As a result, market participants should be able to more easily compare projects based not only on the carbon reductions or removals, but also on the reversal and permanence risk.

Commercial and legal Implications

Permanence standards and risk mitigation options continue to evolve to adapt to the variety of carbon offset projects with different risk profiles that are available in the carbon market.

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The increasing transparency required by registries regarding commitment periods, buffer contributions, and the mechanisms used to manage reversal risk will help inform market participants. Therefore, it will be up to the market participants to perform appropriate due diligence on the projects generating carbon offsets to fully understand their permanence characteristics and overall risk profile. This includes understanding how reversal risk is addressed, what monitoring obligations apply throughout the commitment period, whether insurance or other financial assurance mechanisms are available, and what protections remain in place after the commitment period concludes.

Market participants should also consider other tools beyond buffer pools to manage reversal risk. While buffer pools remain a primary mechanism, insurance, contractual protections, and other financial assurance mechanisms can also play an important role in risk management.

Looking ahead

As voluntary carbon markets continue to mature, registries are expected to continue refining the applicable standards to reflect market developments and incorporate new

risk-management tools. The Reserve's revised approach reflects a shift towards greater transparency, flexibility, and enforceability. Companies that understand these standards and tools and incorporate them into their diligence, contracting, and investment decisions will be better positioned

to evaluate carbon offset opportunities and manage long-term reversal risk.

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Pamela Wu, a partner at **Morgan Lewis**, represents companies in the energy industry in matters involving rates, market rules and regulation, and energy commodity trading before the Federal Energy Regulatory Commission (FERC) and Commodity Futures Trading Commission (CFTC). She advises clients seeking to reduce their carbon footprint through new infrastructure assets, clean energy technologies, and transacting carbon credits and carbon offsets. She is based in Washington, D.C., and can be reached at pamela.wu@morganlewis.com.

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