The Reconstruction of Carbon Outcomes

Resolving the Buyers' Paradox

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Preamble

While I had before me many lucrative career options, I chose to spend my professional life working on solutions to climate change. I think it is the most pressing, existential problem that humanity has ever faced. Further, it is a threat to the most vulnerable people and places on earth, that once lost, are nearly impossible to replace.

Graduating from Berkeley in 2012, I was at the epicenter of carbon markets to watch them ebb and flow. As a witness and a participant, often I was frustrated. Foremost, continually exacerbated by the increasing complexity of technical attrition: hundreds of pages of new rules, new methodologies and new standards all built on the same old model. No one ever stepped back and asked the simple question *are we building this the right way?* The answer, as today's market turmoil shows, is clearly no.

Now eighteen years in the field, sitting in both the auditor's chair and the developer's seat, I've contributed to more than fifty projects and learned two hard truths: counterfactual baselines are inherently fragile, and the market demands credibility. When my team at EP Carbon bid to develop the Kariba REDD+ Project, we lost because our proposed baseline was conservative and defensible, generating only a fraction of the credits later criticized. The worst is that the people and place may suffer because of another's poor choice in counterfactual baseline.

At the expense of my own livelihood, I have consistently chosen rigor over revenue. In founding Forest Carbon Works and Chestnut Carbon, I built each around the same principle: credible, conservative baselines that deliver outcomes both additional and permanent. The rest of the technical rigor merely serves this end.

Since stepping away from Chestnut this year, I have reflected on whether the market mechanisms built on twenty-year-old ideas could be reimagined for integrity and scale. This paper is the result of that reflection. It is more than an academic exercise; it is an attempt to rebuild the foundations of a system meant to serve the planet's most vulnerable.

1 / Executive Summary: The Buyers' Paradox and Its Resolution

The voluntary carbon market is constrained by a structural dilemma: buyers must choose between low-cost reductions with uncertain credibility and high-cost removals that strain budgets. This buyers' paradox persists because the market assumes that additionality and permanence must originate from the same activity. When a single project must both create and preserve carbon outcomes, credibility becomes expensive, affordability becomes suspect and the market remains small and volatile.

A more functional architecture emerges when these two requirements are separated. A carbon outcome can be assembled from a generative activity, responsible for additionality, and a preservative activity, responsible for permanence. Each issues its own credit, and buyers combine one of each to construct a complete, credible carbon outcome. This "deserialized" model allows each component to be optimized independently, lowering cost while strengthening integrity and enabling a more liquid, financeable and resilient carbon market.

The transition requires a clear market signal: explicit demand for preservative credits, a new class of instruments that formalize long-term carbon storage. As permanence becomes an asset in its own right, corporations adopt durable, low-effort practices that reinforce climate benefit. Because preservative credits only achieve full value when paired with generative credits, durability and additionality reinforce each other. The result is a self-sustaining system in which credibility and affordability no longer conflict.

2 / The Structural Problem

The purpose of carbon markets is to deliver credible, attributable carbon outcomes of reductions or removals of atmospheric carbon can be claimed with confidence. Yet the market's current structure was built on an assumption it never scrutinized: that a project capable of creating a carbon outcome is also responsible for ensuring its endurance. This conflation has produced inefficiency, limited scale and contributed to recurring integrity failures.

This paper reframes carbon construction by distinguishing between its two foundational keystones: additionality, which determines whether a carbon benefit exists relative to a baseline, and permanence, which determines whether that benefit persists. These keystones do not require the same technical, financial or operational capabilities. Treating them as inseparable has forced the market into a structure that is simultaneously rigid and unreliable.

The analysis begins by examining the buyers' paradox, showing that it emerges not from inherent flaws in reductions or removals, but from the expectation that creation and preservation must come from a single activity. Buyers gravitate toward clearer baselines, and the activities that offer clarity are expensive, especially engineered removals. The opportunity is therefore not to perfect a flawed structure but to redesign it altogether.

Deserialization provides this new structure. By separating creation and preservation into independent activities, each optimized for its own role, the market can deliver outcomes that are more credible, more durable and more cost-efficient. The remainder of this paper develops this architecture, explores its implications for baselines, reversals, carbon rights and duration and outlines how buyers can initiate systemic shift.

3 / Baselines and Buyer Trust

Carbon markets currently operate within a binary classification of "reductions" and "removals." This distinction has become shorthand for credibility: removals are perceived as trustworthy and expensive, reductions as inexpensive and uncertain. But this split is not intrinsic to the climate impact of the activities themselves. It is the result of how each category constructs its counterfactual baseline.

Removals tend to rely on simple baselines that do not assume the depletion of an existing carbon stock, for example, newly planted forests or direct air capture machines. These baselines require limited modeling and minimal interpretation, making them easier for buyers to trust. Reductions, by contrast, almost always rely on baselines that assume depletion — such as avoided deforestation or avoided emissions — which involve forecasting complex social, economic and ecological processes. These baselines are difficult to verify and easy to manipulate.

Buyers respond rationally: they pay more for clarity and less for ambiguity. This dynamic produces the buyers' paradox: trustworthy credits are expensive, and affordable credits are viewed with skepticism. The paradox is not a flaw in buyer strategy, but a symptom of the current market architecture.

3.1 / THE LOGICAL DRIFT TOWARD REMOVALS

Buyers increasingly gravitate toward removals because they offer simpler, more defensible baselines. Afforestation assumes no trees would grow without intervention. DAC assumes carbon would remain in the atmosphere without extraction. These assumptions are intuitive and verifiable. As a result, removals command higher prices and receive greater scrutiny from corporate net-zero commitments.

Reductions, by contrast, depend on counterfactuals that anticipate actions that were avoided: deforestation that did not happen, emissions that would have occurred. The Kariba REDD+ project, which overstated baseline deforestation and generated significant revenue before being discredited, exemplifies the risks of complex baselines. Buyers cannot reliably evaluate such baselines, and standards have struggled to produce methodologies that restore confidence.

The result is a credibility gradient: removals are seen as "clear" while reductions as "contestable." This gradient is not about additionality or permanence per se; it reflects the market's dependence on baselines that vary in interpretability.

3.2 / INCREMENTAL FIXES CANNOT BREAK THE PARADOX

To address the credibility–cost tradeoff, the market has pursued two incremental strategies. One seeks to rebuild trust in low-cost reductions by refining baselines, strengthening methodologies and expanding verification. The other seeks to expand the supply of high-credibility removals by lowering costs through innovation and scale. Both strategies attempt to improve performance within the existing structure. Neither changes the structure itself.

Methodological reform tries to solve a forecasting problem: proving what would have happened without the project. But avoided loss will always depend on counterfactual assumptions about human behavior, land use, policy and markets — systems that cannot be observed directly and cannot be predicted with confidence. Each added layer of rigor increases transaction cost faster than it increases trust. Cost-reduction efforts for removals face the opposite constraint. Their credibility rests on capital-intensive physical and institutional infrastructure, which limits how far prices can fall even under optimistic scaling scenarios.

Both paths fail for the same reason: they rely on the assumption that a single activity must simultaneously deliver additionality and permanence. As long as creation and preservation remain bundled, projects are forced to internalize two fundamentally different economic functions within one credit. Improving baselines cannot make reductions durable, and cutting costs cannot make durable storage cheap enough at scale. The buyers' paradox is therefore not a defect of individual methodologies or technologies, rather, it is a consequence of market architecture. Resolving it requires a different way of constructing carbon outcomes, not better versions of the same credits.

4 / Keystones of Credible Carbon

If carbon outcomes are to scale with integrity, they must be built on two keystones: additionality and permanence. These are the essential conditions that determine whether a carbon outcome both exists and endures. Leakage, co-benefits and other attributes are meaningful only once additionality and permanence are secured.

Each keystone has two dimensions:

- **Temporal** (how long the effect lasts), and
- **Kinetic** (what effort is required to sustain it).

Understanding carbon outcomes as functions of these dimensions reveals that additionality and permanence do not naturally align within most activities. Removals often have long temporal effects but high kinetic requirements. Reductions often have short temporal windows but may require sustained effort to prevent losses. Treating these keystones as inseparable has forced activities into roles they are not optimized to perform.

A credible carbon market must therefore design around these keystones, not assume they emerge automatically within a single project.

4.1 / CARBON DEPENDS ON A FORECAST

A carbon outcome is the attributable difference between the carbon stock created by a generative activity and the carbon stock projected under its counterfactual baseline. This difference is expressed in carbon dioxide and measured through two components:

- **Performance units**, representing realized, observed changes in carbon stocks (ex-post); and
- **Forecast units**, representing modeled changes that are expected but have not yet occurred (ex-ante).

The baseline is always composed of forecast units because it represents a scenario that never happened. This means even realized outcomes ultimately depend on the accuracy of the baseline forecast. Carbon outcomes are therefore not purely physical measurements; they are structured interpretations of differences between real and counterfactual worlds.

Any architecture that ignores this interdependence risks overstating impact.

4.2 / DEFERRAL IS THE ILLUSION OF IMPACT

Deferral occurs when an activity merely postpones the baseline's trajectory rather than altering it. Because climate impact depends on cumulative atmospheric carbon, postponement does not create meaningful benefit. An activity enters deferral when its marginal carbon outcome approaches zero while its effort remains positive.

Deferral is especially common in reductions tied to the gradual depletion of a finite stock. Once the baseline stock is exhausted, the activity can no longer generate differential benefit. At that point, only permanence can preserve the remaining carbon stock. Recognizing deferral conditions is essential for avoiding activities that create the illusion of benefit without meaningful climate impact.

4.3 / ADDITIONALITY IS NOT BINARY

Additionality exists only when a generative activity produces more carbon benefit than the baseline. It unfolds across two dimensions:

- **Temporal additionality** (Δt): the period during which the activity continues to outperform the baseline.
- **Kinetic additionality** (ΔG): the marginal effort required to create the outcome relative to the baseline.

Activities differ widely across these dimensions (Figure 1). Removals tend to exhibit long Δt but may require high ΔG. Reductions often have short Δt and may require sustained effort to prevent losses. The credibility of additionality depends entirely on the credibility of the baseline; without a defensible baseline, additionality becomes speculative.

The concept of additionality is therefore not static or binary; it is dynamic, time-bound and dependent on marginal performance.

4.4 / LONG-TERM STORAGE AS AN INDEPENDENT ACTIVITY

Permanence determines whether a performance unit remains stored over time. Like additionality, it has temporal and kinetic dimensions:

- **Temporal permanence** (ΔT): the duration of storage before reversal; and
- **Kinetic permanence** (ΔP): the marginal effort required to maintain storage.

Some activities, such as material substitution or geological storage, offer low ΔP and long ΔT. Others, such as forest-based storage, may offer long ΔT but require ongoing intervention. Critically, permanence is a distinct activity from generation. Treating it as an afterthought leads to underfunded stewardship and a high probability of reversals.

A credible system must treat permanence as an independent function with its own economics and instruments.

4.5 / THE POINT AT WHICH CARBON BECOMES SELF-SUSTAINING

Convergence occurs when the activity's effort and the baseline's effort become equivalent. At this point, additionality expires, but permanence becomes self-sustaining. Convergence is therefore the strongest form of permanence because it embeds the carbon outcome within standard practice, eliminating the need for ongoing intervention.

In a deserialized system, convergence becomes the upper bound of preservative performance.

Additionality Matrix

	Low ΔG (low generative effort)	**High ΔG** (high generative effort)
Short Δt (quick baseline convergence)	**Some reductions** • Energy efficiency (retrofits) • Fuel switching → Quickly converges with baseline as technology adoption spreads • Changes in costs, policies and laws make the technology mainstream • Upon widespread adoption, deferral risk → Low effort once installed • Requires little operational input to maintain outcome	**Other reductions** • Avoided deforestation • Industrial gas destruction → Short-lived window before baseline possibly converges • Changes in socioeconomics, policies and regulations erode the credibility of the baseline • Baseline uncertainty presents risk of deferral → Requires sustained enforcement/technology inputs • The activity must continue to achieve any possible outcome
Long Δt (slow baseline convergence or extended activity life)	**Certain removals** • Enhanced weathering • Soil carbon practices → Activity-induced time lag is long • Low risk of policy or regulatory changes to baseline • Sustained positive marginal outcomes relative to zero or negative marginal outcomes in credible baselines → Modest ongoing effort • High setup costs but very low operational costs	**Other removals** • Afforestation • Direct Air Capture → Gradual and extended carbon outcomes • Activity-induced lag approaches infinity • Sustained positive marginal outcomes with positive performance → Dependent on continuous, resource-intensive effort • High operational input in production or maintenance

FIGURE 1: COMPARATIVE MATRIX OF ADDITIONALITY WITH RESPECT TO TEMPORAL AND KINETIC DIMENSIONS INCLUDING EXAMPLES.

5 / Unbundling Carbon: Separating Creation from Preservation

The buyers' paradox emerges because the current market binds creation and preservation into a single activity. A more coherent architecture treats these functions separately. Deserialization reconstructs the carbon outcome using two independent components:

- A **generative activity**, which creates performance units through additionality; and
- A **preservative activity**, which maintains those units through permanence.

Each activity issues a separate credit. Buyers assemble complete outcomes by pairing one generative credit with one preservative credit. The activities need not share location, sector or timing; the outcome remains credible because it contains both keystones.

Deserialization unlocks combinations that were not possible under the serialized model, enabling carbon outcomes that are not only lower-cost and more durable, but also tradable, financeable, auditable and resilient to policy and reputational shocks.

5.1 / ASSEMBLING A COMPLETE CARBON CLAIM

In a deserialized market, buyers assemble carbon outcomes rather than purchase them pre-assembled. A generative credit supplies additionality. A preservative credit supplies permanence. Their pairing completes the outcome (Figure 2).

This composability transforms the carbon market from a project-dependent system into a modular system, allowing more participants, more innovation and more efficient scaling (Figure 3).

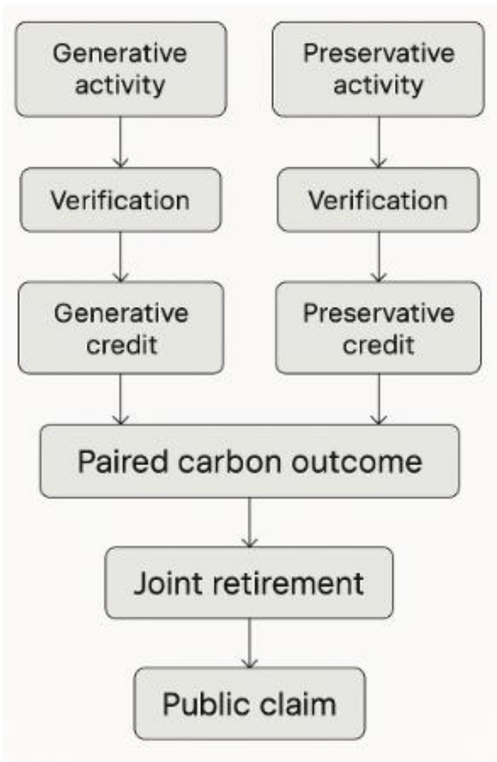

FIGURE 2: THE ASSEMBLY PROCESS FROM DESERIALIZED ACTIVITIES TO PUBLIC CLAIM.

5.2 / EXTENDING CARBON DURATION

The duration of a carbon outcome (ΔD) is the sum of:

- Δt (temporal additionality), and
- ΔT (temporal permanence).

In serialized projects, Δt and ΔT constrain each other. Deserialization breaks this interdependency. Generative activities can maximize Δt by focusing on long-lived creation. Preservative activities can maximize ΔT by focusing on low-effort durability. The result is a wider feasible range for ΔD, enabling outcomes that last far longer than any single activity could achieve.

5.3 / LOWERING THE COST OF CARBON INTEGRITY

Total kinetic effort is: $\Delta E = \Delta G + \Delta P$.

Serialized systems force a single activity to bear both burdens. Deserialization allows each activity to specialize where it is most efficient:

- Low-effort creators supply ΔG; and
- Low-effort preservers supply ΔP.

This division of labor reduces total effort and lowers the cost of achieving a credible, durable carbon outcome.

5.4 / CHANGING THE ROLE OF BASELINES

Deserialization does not eliminate baselines; it changes their function and purpose. In the serialized model, a single counterfactual forecast underwrites both the existence and long-term credibility of a carbon outcome, exposing buyers to unbounded integrity risk. In a deserialized system, the baseline governs only the window of additionality (Δt); once performance units transfer to preservative custody, long-term credibility depends on preservation performance rather than forecast accuracy. Baselines therefore become short-horizon performance benchmarks and diagnostic tools for testing deferral risk. Probabilistic methods, including Monte Carlo simulation, can be used to estimate the likelihood that marginal carbon benefit collapses toward zero, allowing deferral to be quantified ex ante. Because generators no longer internalize permanence risk, the system selects for activities with short, observable baselines, while avoided-loss baselines remain confined to the generative credit alone. Baseline error thus becomes a bounded performance risk rather than a retroactive invalidation of stored carbon.

5.5 / ALIGNING OWNERSHIP WITH LONG-TERM CLIMATE BENEFIT

Deserialization clarifies carbon rights. In the serialized model, developers claim the carbon right at the moment of creation, even though the atmospheric benefit depends on long-term preservation. In the deserialized model, generative credits represent creation, but preservative credits represent the enduring claim to climate benefit. Carbon rights therefore attach to the preservative credit, aligning accountability with function and simplifying retirement accounting.

5.6 / LOCALIZING REVERSAL RISK

Reversals occur when stored carbon is re-emitted. In a serialized system, a reversal collapses the entire carbon outcome, obscures the source of failure and introduces unbounded liability. Deserialization transforms reversals into modular events because each keystone, creation and preservation, can be evaluated independently.

Liability follows function. During Δt, the generator is responsible for maintaining marginal carbon stock relative to the baseline. A reversal during this period is a failure of additionality. When Δt expires, the baseline converges with the activity, and responsibility transitions to the preserver. Reversals after Δt represent failures of permanence, not creation.

This clear allocation of responsibility eliminates the need for large buffer pools, enables targeted insurance products and supports risk-adjusted pricing. Reversals become manageable events, not system-wide failures.

5.7 / CREATING LIQUIDITY AND TRADABILITY

In the serialized market, carbon credits are project-specific, non-fungible and thinly traded, suppressing secondary markets, price discovery and institutional participation. Because each credit bundles baseline risk, operational risk and long-duration liability, no two tonnes are economically equivalent even if they share a label. Deserialization restores tradability by separating short-duration performance risk from long-duration storage risk, creating bounded generative instruments and standardized preservative instruments. This modularity enables fungible classes, secondary markets and liquidity without forcing buyers to assume idiosyncratic project risk.

5.8 / CORRECTING THE MISMATCH BETWEEN CARBON DURATION AND FINANCE

Presently, developers finance short-term performance and multi-decade stewardship with a single revenue stream, driving up the cost of capital and underfunding long-term preservation. Deserialization aligns carbon finance with conventional markets by financing generative activities as short-duration, performance-linked projects and preservative activities as long-duration, yield-like investments. This maturity matching lowers financing costs and enables distinct investor classes to participate in the same assembled carbon outcome.

5.9 / MITIGATING MORAL HAZARD

In the serialized system, post-issuance incentives for stewardship weaken as monitoring is underfunded, enforcement is diffuse and buffer pools socialize failure, creating structural moral hazard. Deserialization restores alignment by capitalizing permanence as a paid service: carbon rights attach to preservative credits, liability remains with preservers, and economic exposure persists for the full storage duration. Stewardship becomes a compensated obligation rather than an unfunded tail risk.

5.10 / EVOLVING FROM BUFFER POOLS

Buffer pools mutualize reversal risk across uncorrelated projects, masking true risk and suppressing actuarial pricing while creating systemic fragility. Deserialization replaces socialized insurance with function-specific liability: generators bear bounded performance risk during Δt, and preservers bear bounded storage risk during ΔT. Each leg can be insured independently, making risk measurable, priced and truly insurable rather than pooled by default.

5.11 / MAKING CARBON DURATION A PRICED ATTRIBUTE

The current market treats biological, legal and geological storage as if they were equivalent forms of permanence, often implying long-term durability without commensurate enforcement or capitalization. Deserialization allows permanence to be issued explicitly by duration and enforcement strength, with preservative credits reflecting how storage is secured and for how long. Duration becomes a priced attribute of the preservative instrument rather than an implied assumption.

5.12 / CONTAINING REPUTATIONAL RISK

In the serialized market, a single integrity failure can contaminate entire methodologies or project classes because the carbon claim is bundled into one monolithic instrument. Baseline inflation, reversals or governance failures therefore propagate reputational damage far beyond the source of error. Deserialization localizes failure: baseline error affects only generative performance, and preservation failure affects only stored stock. Reputational and financial contagion is contained within the failing function rather than spreading across the entire outcome.

5.13 / LETTING NATURE AND INDUSTRY SELF-SPECIALIZE

Nature-based and engineered carbon systems are currently forced to compete within a single credit category despite radically different cost structures, durability profiles and verification regimes. This produces continual conflict over equivalence rather than constructive complementarity. Deserialization allows each domain to specialize where it is strongest. Biological systems can supply low-cost generative performance, while industrial, legal or geological systems can supply high-durability preservation. Carbon outcomes may then be assembled across domains without requiring false equivalence at the project level, dissolving the nature-versus-technology impasse.

5.14 / CONTAINING REGULATORY RISK THROUGH MODULAR DESIGN

As policy evolves, serialized credits risk being retroactively stranded, undermining confidence. Deserialization modularizes exposure so baseline changes affect only generative credits and storage changes affect only preservative instruments, containing regulatory risk rather than making it systemic.

5.15 / MAKING CLIMATE CLAIMS AUDITABLE

Current corporate climate claims bundle short-run performance with implied long-term neutrality, obscuring duration risk and complicating audits. Deserialization separates carbon performance from carbon storage as distinct instruments: generative credits represent time-bound adjustments, while preservative credits represent long-duration climate assets or liabilities. This enables duration-weighted accounting and clearer auditability.

Assembled Carbon Outcomes

Example	Generative Activity	Preservative Activity	Δt Temporal Additionality	ΔT Temporal Permanence	ΔG Kinetic Effort – Generation	ΔP Kinetic Effort – Preservation	Notes on Optimization (ΔD, ΔE)
1. Methane Capture + Renewable Energy Transition	Landfill methane oxidation — additional, credible baseline, non-permanent	Long-term renewable energy adoption — permanent, converged, non-additional	Moderate (limited to flare operation period)	High (renewable use persists)	Low (established, low-cost tech)	Very Low (self-sustaining system)	Extends duration while minimizing effort; avoids deferral by combining short-term creation with enduring permanence
2. Regenerative Grazing + Timber Substitutes in Building	Regenerative grazing practices that restore degraded grasslands and increase soil carbon — highly additional but vulnerable to reversal	Uses in long-lived products (e.g., cross-laminated timber in buildings) — low additionality but strong permanence due to structural use	High (enhanced soil carbon and ecosystem restoration)	High (wood carbon locked in durable materials for decades)	Moderate (active land management and rotational grazing)	Low (passive permanence through continued product life)	Coupling biological generation with durable biogenic storage increases ΔD through temporal complementarity while minimizing ΔE through passive preservation
3. Efficient Cookstoves + Industrial Heat Recovery	Clean cookstove program — highly additional, short device lifespan	Industrial heat recovery — long-lived efficiency gains, non-additional	Moderate (device life and usage-dependent)	High (equipment lifespan >20 years)	Moderate (program distribution and monitoring)	Low (passive operation post-installation)	Maximizes ΔD by pairing mid-term generation with long-term permanence; minimizes ΔE through declining maintenance burden
4. Improved Forest Management + Terrestrial Biomass Storage	Improved forest management (IFM) through thinning, fire management, and extended rotation — additional where such practices are not baseline	Long-term terrestrial biomass storage (e.g., bio-aggregates, stabilized compost, or engineered biocarbon for land application) — high permanence, non-additional	High (enhanced forest growth and deferred harvest emissions)	Very High (stable biomass stored over decades or centuries)	Moderate (sustained forest management and verification)	Low (low-effort preservation once stored)	Combines ecological generation with engineered terrestrial preservation; maximizes ΔD and minimizes ΔE by converting a transient biogenic stock into a stable, low-maintenance carbon sink

FIGURE 3: FOUR EXAMPLES OF POSSIBLE BUYER-ASSEMBLED OUTCOMES SHOWING COMBINED ACTIVITIES, TEMPORAL DIMENSION, KINETIC DIMENSION AND RATIONALE.

6 / Deserialization Resolves the Buyers' Paradox

The buyers' paradox persists because the existing market structure forces a single activity to deliver two incompatible roles. Deserialization dissolves the paradox by allowing specialization. Generators generate. Preservers preserve. Buyers assemble.

The decisive shift occurs when buyers demand preservative credits. This demand creates value for long-lived, low-effort durability. As preservers scale, they create new demand for generators, because generative credits are required to complete the outcome. The system becomes self-reinforcing: permanence creates a market for additionality, and additionality sustains the value of permanence.

Credibility and affordability cease to conflict. The market moves from scarcity-dependent pricing to architecture-driven scaling.

7 / Conclusion: How Buyers Can Scale Carbon with Integrity

The voluntary carbon market has spent decades attempting to reconcile credibility with affordability through better methodologies, more conservative baselines and tighter standards. These efforts have strengthened individual projects but have not resolved the buyers' paradox, because the underlying architecture of the market has remained unchanged. As long as a single activity is required to both create carbon benefit and guarantee its endurance, improvements along one dimension will continue to tighten constraints along the other. The result is a market that oscillates between doubt and scarcity, never reaching the scale climate outcomes require.

Deserialization offers the architectural shift the market needs. By separating creation from preservation, carbon outcomes become composites rather than monoliths. Additionality and permanence can be optimized independently. Baseline risk becomes time bounded. Reversal liability becomes legible. Carbon rights attach logically to long-term durability rather than to short-run performance. Costs decline, duration expands and credibility becomes a property of system design rather than of project scarcity. The market moves from a structure that rationed trust to one that manufactures it.

The transition begins with three coordinated shifts in behavior and infrastructure. First, creation and preservation must be formally separated as distinct economic functions, each with its own instrument. Second, buyers must explicitly value and procure permanence as a standalone asset, assembling carbon outcomes rather than purchasing them pre-bundled. Third, registries and standards must recognize modular construction of carbon claims and align carbon rights and liability with long-term preservation. When these shifts occur together, credibility and affordability cease to be opposing forces. The carbon market becomes capable of scaling with integrity and carbon outcomes become capable of scaling with the market.