

REBUILDING THE CLIMATE CODE FOR THE DIGITAL AGE

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The diagnosis

Carbon accounting and the verified carbon market were built by different communities, for different purposes, on incompatible logics. Carbon accounting is a system of data without property. The VCM is a system of property without data. Neither built the layer between them. Verified environmental performance is still not a thing under private law — not a res that can be owned, pledged, cleared or recovered — so a company that achieves a real reduction has no object to sell. The barrier to scaling the transition economy is therefore not ambition, science, price or measurement. It is the absence of a coordination architecture.

The frame: a DICE house with three floors

The paper treats the standards, programs and systems the private sector has built as one Digital Infrastructure for Climate Ecosystem, or “DICE”, and analogizes it to a house. The first floor is the information layer: what an attribute is, what its MRV record must contain, how it is attributed, who attests. The second floor is market coordination: constitution, custody, transfer, finality and default management. The third floor is applications: inventories, targets, disclosures, tariffs and tax. The second floor was never built and nobody was ever chartered to build it, so the third floor rests its weight on the first.

The core arguments

- **Six things are routinely confused as one.** The outcome, the fact, the MRV data, the controlled evidentiary record, the tradable instrument, and the downstream application. Only the fifth can be owned and sold.
- **Coverage and clearance are orthogonal.** The GHGP requires multi-attribution by design; clearance requires single-point attribution. No methodological refinement reconciles the two, and comparability as a disclosure virtue is not fungibility.
- **Five conditions govern whether an intangible can clear.** Constitutive issuance against a verified record; a governed authoritative system of record; single-point, controllable, rivalrous attribution; take-free circulation; and a default-management layer. Contract-based registries satisfy some. The GHGP satisfies none and violates the third on purpose.
- **Rights in emissions data do not ride along with the product.** A sale moves title to the goods and nothing else. Electricity markets learned this and answered with severance. The e-ledger convention’s tokenization proposal rebuilds the same error in software.
- **Contract cannot substitute for property.** A license binds its signatories, does not extinguish the seller’s own claim, does not survive insolvency, and gives a lender nothing to perfect against. Contract scales linearly; property scales.

The innovations

- **Constitutive issuance instead of reification.** Once validly issued, the instrument’s legal character is fixed; later factual defects affect value and usability rather than validity. Bankability is the test that decides between the two views.
- **One object, two aspects — the CER and its EAC.** A sealed MRV evidentiary record is deposited and controlled as a CER, and the EAC is issued as certificate of title to that deposit, the way a warehouse receipt embodies control of grain. Merger avoids the two-estate, two-priority-contest problem federation creates.
- **Deposit MRV Records instead of publish information.** Verification happens inside the producer’s own environment; only the sealed record crosses the fenceline. The EAC circulates, the record stays licensed, and proprietary data never becomes a public good.
- **A defined order in which a defect falls.** Issuer and verifier warrant the payload, with governance remedies rather than retroactive voiding — the answer to the integrity critique and to reversal risk that accounting rules allocate but cannot enforce downstream.
- **Allocation decided at issuance.** Who owns the achievement in the first instance becomes a constitutive rule inside the system, rather than the outcome of bilateral bargaining power.
- **Object, operator, ledger — in that order.** An industry-built SRO with a neutral operating utility barred from taking positions, on the pattern of the DTCC, the warehouse receipt and the independent system operator.
- **Adoption by payoff, not exhortation.** A minimum viable coalition of a few dozen counterparties, network effects and irreversibility, and suppliers who measure because they end up owning something — not because an iteration count converges.

The through-line

The carbon accounting and market reform proposals now in play are not wrong so much as misplaced. The e-ledger convention and product-level carbon accounting are first-floor source code — the classification system a system of record runs on — not a replacement third-floor framework. Solving for clearance rather than coverage makes them coherent. And once environmental performance sits on a governed record as a controllable object with a resolvable pointer to its evidence, it becomes machine-readable: a climate context graph built on warranted records rather than estimates, which is where decarbonization and digitization converge. Somebody will build the DICE. The open questions are who, on what terms, and whether the industries that have to live in it are in the room when the rules are written.