C500 Methodology Whitepaper

Carbon Index Protocol · v1.0 · July 2026

Executive Summary

The C500 is an integrity-first benchmark of publicly traded companies materially exposed to the global carbon economy. It combines registry data, MRV reports, corporate climate disclosures, and AI-driven controversy signals into a single 0–100 composite score. Constituents are re-ranked weekly and the index is rebalanced quarterly. A company retiring millions of low-quality offsets while emissions rise is *penalised*, not rewarded.

1. Universe & Eligibility

The C500 universe is drawn from the Carbon Company Universe of 300–500 listed issuers across carbon-material sectors: energy, utilities, materials, industrials, transport, agriculture, forestry, climate-tech, and carbon-market infrastructure. Eligibility requires: (a) primary listing on a major exchange, (b) minimum 12-month trading history, (c) audited financial disclosures for the trailing fiscal year, and (d) at least one material link to the voluntary or compliance carbon market — either as a producer, consumer, retirer, financier, or enabling infrastructure provider.

2. Scoring Pillars & Weights

The composite CIP Score is the weighted sum of seven pillars:

Pillar	Weight	Description
Emissions Materiality	25%	Absolute and intensity emissions relative to revenue, sector median, and physical output.
Regulatory Exposure	20%	EU ETS, CSRD, SEC climate rules, CORSIA, FuelEU, methane rules, jurisdictional carbon pricing.
Transition Execution	15%	Decarbonisation levers, capex alignment, intensity trajectory, credible retirements.
Carbon Market Participation	15%	Credit demand, offtake agreements, registry activity, procurement infrastructure.
Disclosure Quality	10%	TCFD / ISSB / CDP reporting depth, Scope 3 coverage, SBTi alignment.
Financial & Market Strength	10%	Market cap, liquidity, revenue quality, public float.
Sentiment & Controversy Integrity	5%	Litigation, greenwashing flags, NGO actions, regulatory scrutiny (inverted).

Each pillar is normalised to a 0–100 percentile within the universe cohort before weighting. Missing data is imputed using sector medians with a transparency penalty applied to the Sentiment Integrity pillar.

3. Broader Universe Rationale

The C500 extends the C100 selection frame to the 500 most carbon-material listed issuers globally. It captures the long tail of transition-risk and transition-opportunity companies — including aviation, maritime, semiconductors, data centres, oil & gas, cement, steel, and agri-food — that do not always meet the C100's integrity threshold but are systemically important to the decarbonisation of the real economy.

4. Ranking & Selection

The top 500 by composite score are included. Sector caps limit any single GICS sector to 100 constituents. Removal threshold is rank 640 at quarterly rebalance; entry threshold is rank 460.

5. Rebalancing Cadence

Weekly score refresh · Quarterly constituent rebalance · Ad-hoc removals for delisting, bankruptcy, or unresolved severe controversies.

Transparency & Governance

All score changes are logged to the append-only Vault (see /vault). Methodology updates require publication of a redline at least 30 days before taking effect. Quarterly rebalancing decisions are published with full constituent-level attribution. No constituent — public or private — pays for inclusion; the index is not a certification and does not constitute investment advice.

Data Sources

Berkeley Voluntary Registry Offsets Database, Verra, Gold Standard, ACR, ART TREES, Climate Action Reserve, Puro.earth, Isometric, SBTi, CDP, corporate 10-K / 20-F / annual filings, ISSB / TCFD disclosures, EU ETS registry, national emissions inventories, and licensed news signals for controversy detection.

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