# The Last Mile LMCX™

# Why The Highest Quality Carbon Avoidance Token Exceeds Industry Standards

LAST MILE

# Beyond Net Zero:
# Defining the Future of Carbon Avoidance

Fortune 500 companies face increasing pressure to meet net-zero goals under frameworks like the Science Based Targets initiative (SBTi) and Corporate Sustainability Reporting Directive (CSRD). While Renewable Energy Certificates (RECs) dominate the voluntary carbon market, valued at $2.8 billion in 2024 (Bloomberg NEF, 2024), their reliance on modeled outcomes and lack of permanence expose buyers to reputational and compliance risks. The Last Mile LMCX Carbon Avoidance Token (CAT) offers a superior alternative, delivering immediate, verified methane avoidance with financial-grade credibility. This white paper outlines how LMCX CAT exceeds industry qualifiers, positioning it as the world's highest-quality carbon avoidance asset.

## Why LMCX CAT Exceeds Industry Standards

**The LMCX CAT aligns with and surpasses global regulatory and certification standards, ensuring unmatched integrity for corporate buyers.** Unlike RECs, which often lack rigorous verification, LMCX CAT's adherence to these standards provides legal certainty and audit-ready documentation. **Below, we detail each standard and how LMCX CAT exceeds its requirements:**

### ISO 14064-2 and 14064-3 *(ISO, 2019)*

**What It Is:** ISO 14064-2 establishes principles for quantifying and reporting greenhouse gas (GHG) emission reductions, requiring clear project boundaries, baseline scenarios, and conservative crediting with uncertainty below 10%. ISO 14064-3 specifies validation and verification processes, mandating independent audits to ensure data accuracy and compliance.

**How LMCX CAT Exceeds:** LMCX CAT employs direct sensor-based measurements (Kuva OGI + SCADA) validated by Enovate AI engineers, achieving uncertainty levels below 5%, surpassing the 10% threshold. Third-party verifiers, adhering to ISO 14064-3, audit methane containment data before token issuance, ensuring precision beyond standard requirements. RECs often rely on modeled projections, lacking such rigorous, real-time validation (Carbon Market Watch, 2023).

## OGMP 2.0 Level 5 *(UNEP, 2020)*

**What It Is:** The Oil & Gas Methane Partnership (OGMP) 2.0 Level 5 is the highest tier of methane emissions reporting, requiring direct, source-level measurement, continuous monitoring, and uncertainty management for all emission sources. It emphasizes transparency and quantifiable reductions.
**How LMCX CAT Exceeds:** LMCX CAT achieves Level 5 compliance through continuous monitoring with Kuva OGI sensors and SCADA systems, providing real-time methane flow data. Unlike Level 5's minimum annual reporting, LMCX CAT integrates real-time data into blockchain metadata, offering instant transparency. RECs, focused on $CO_2$, rarely meet such methane-specific standards (Last Mile, 2025).

## US EPA Subpart W *(EPA, 2020)*

**What It Is:** Part of the US EPA's GHG Reporting Program (40 CFR Part 98), Subpart W mandates methane emissions reporting for oil and gas facilities, requiring standard cubic feet per hour (SCFH) to $CO_2$-equivalent conversion using a Global Warming Potential (GWP) of 25 over 100 years.
**How LMCX CAT Exceeds:** LMCX CAT complies with Subpart W by using precise SCFH measurements and applies a 20-year GWP of 120 (IPCC, 2021) for conservative impact reporting, exceeding the EPA's 100-year GWP 25 standard. This ensures higher climate impact recognition. RECs typically lack methane-specific reporting, relying on less stringent $CO_2$ metrics (Verra, 2022).

## EU Taxonomy for Sustainable Activities *(European Commission, 2020)*

**What It Is:** The EU Taxonomy classifies activities contributing to climate change mitigation under Environmental Objective #1, requiring "substantial contribution" through verifiable GHG reductions and alignment with technical screening criteria.
**How LMCX CAT Exceeds:** LMCX CAT's methane avoidance delivers immediate, measurable reductions, verified by third parties and recorded on the blockchain, surpassing the Taxonomy's verification requirements. Its focus on high-impact methane (120X $CO_2$ over 20 years) exceeds the Taxonomy's $CO_2$-centric criteria, offering superior climate benefits. RECs often fail to demonstrate such direct, high-impact contributions (European Commission, 2020).

## **Corporate Sustainability Reporting Directive** *(CSRD)*
## *(European Commission, 2022)*

**What It Is:** CSRD mandates large EU companies to report Scope 1 (direct) and Scope 3 (supply chain) GHG emissions, requiring verifiable data and alignment with net-zero goals.
**How LMCX CAT Exceeds:** LMCX CAT supports CSRD by providing blockchain-verified Scope 1 methane reductions from oil and gas operations, with third-party audits and insurance-backed permanence ensuring compliance with reporting standards. Its transparency exceeds CSRD's audit requirements, unlike RECs, which often lack verifiable permanence (Carbon Market Watch, 2023).

## **Paris Agreement Articles 6.2 and 6.4** *(UNFCCC, 2015)*

**What It Is:** Article 6.2 enables bilateral agreements for internationally transferred mitigation outcomes (ITMOs), requiring robust accounting to avoid double-counting. Article 6.4 establishes a global carbon market mechanism for certified emission reductions, emphasizing transparency and verification.
**How LMCX CAT Exceeds:** LMCX CAT complies with Article 6.2 through blockchain records, ensuring no double-counting in ITMOs. For Article 6.4, CATs meet global market standards with third-party verified reductions and conservative buffers (±8.6% uncertainty, 10% reserve). Unlike RECs, which may not align with Article 6's stringent accounting, CATs provide auditable, permanent reductions (Last Mile, 2025).

## **Insurance Standards** *(Last Mile, 2025)*

**What It Is:** Mirroring global energy commodity insurance, these standards guarantee the permanence of climate benefits, protecting against reversal risks and ensuring financial enforceability.
**How LMCX CAT Exceeds:** LMCX CAT's insurance policies cover methane containment for the asset's life, adjusting to resale value. This exceeds typical carbon market practices, where RECs lack insurance, leaving buyers exposed to reversal risks (Science, 2022). CAT's commodity-grade coverage ensures financial-grade status.

# Superior Value Over RECs

## LMCX CAT outperforms RECs in impact, credibility, and financial utility

**120X Climate Impact**: One ton of methane avoided equals ~120 tons of $CO_2$ equivalent over 20 years (IPCC, 2021), far surpassing RECs' $CO_2$-based offsets, which rely on long-term projections and carry reversal risks (Science, 2022).

**Measured, Not Modeled**: CATs are issued post-verification using Kuva OGI and SCADA sensors, validated by Enovate AI under ISO 14064-3, unlike RECs' speculative estimates (Carbon Market Watch, 2023).

**Financial-Grade Asset**: Backed by property titles, insured for permanence, and tokenized on the blockchain, CATs are securitizable and bookable under GAAP/IFRS, unlike non-financeable RECs (Bloomberg NEF, 2024).

**Transparent Sales Process**: Unlike RECs' ISDA-based trades, CATs are sold as asset-backed instruments with full metadata provenance, eliminating forward speculation and double-counting risks (Verra, 2022).

In 2024, high-integrity credits like CATs saw a 15% demand increase due to stricter ESG reporting (Ecosystem Marketplace, 2024), making them ideal for corporate portfolios.

# Financial-Grade Asset Certifications

**To position LMCX CATs as financial-grade assets, far surpassing standard certifications,** Last Mile ensures robust environmental, financial, and regulatory frameworks, enabling confident use by corporate and institutional investors. **Unlike RECs, which lack permanence and financial utility, CATs are designed as tradable, financeable assets with protections that exceed industry norms:**

## Environmental Compliance

**Why It Enables Financial-Grade Status:** Certifications like ISO 14064-2/3, OGMP 2.0 Level 5, US EPA Subpart W, and American Carbon Registry (ACR) Leak Detection and Repair (LDAR) eligibility provide the environmental integrity required for financial recognition (ISO, 2019; UNEP, 2020; EPA, 2020; ACR, 2023). These standards ensure methane reductions are accurately measured, verified, and compliant with global regulations, giving investors confidence in the asset's climate impact.

**How LMCX CAT Exceeds:** LMCX CAT uses Kuva OGI and SCADA sensors for real-time methane measurement, validated by Enovate AI under ISO 14064-3, achieving uncertainty below 5%—surpassing ISO's 10% threshold. OGMP Level 5 compliance is enhanced with continuous blockchain-integrated monitoring, exceeding annual reporting requirements. EPA Subpart W's GWP 25 is outdone by CAT's use of a 20-year GWP of 120, reflecting higher impact. ACR LDAR eligibility is met with rigorous site-specific verification, unlike RECs, which often rely on modeled $CO_2$ reductions without such precision (Carbon Market Watch, 2023). This robust environmental foundation ensures CATs are credible for financial markets, unlike RECs' speculative nature.

## Financial Structuring

**Why It Enables Financial-Grade Status:** Property titles and insurance-backed permanence enable CATs to be recognized as tangible or intangible assets under GAAP/IFRS standards, allowing balance sheet booking, collateralization, and securitization (Last Mile, 2025). Conservative buffers (±8.6% ISO uncertainty, 10% market reserve) prevent overstatement, ensuring financial reliability. This transforms CATs from environmental credits into capital assets, unlike RECs, which are typically expensed due to lacking enforceable rights (Bloomberg NEF, 2024).

**How LMCX CAT Exceeds:** Each CAT is tied to a legally enforceable property title for a methane containment site, mirroring commodity contracts in energy markets. Insurance guarantees permanence for the asset's life, adjusting to resale value, unlike RECs, which lack reversal protection (Science, 2022). Conservative buffers exceed standard accounting requirements, ensuring audit-ready valuation. In 2023, high-integrity credits commanded a 30-50% price premium, supporting CATs' revaluation potential (Ecosystem Marketplace, 2023). This financial structuring enables CATs to be pooled into green bonds ($270 billion issued in 2023) or used as loan collateral, offering liquidity and investment value RECs cannot match (Climate Bonds Initiative, 2023).

## Blockchain Registry

**Why It Enables Financial-Grade Status:** The blockchain's immutable ledger records project site details, verification reports, insurance policies, and ownership history, providing anti-fraud protection and transparency required for financial markets (Last Mile, 2025). This eliminates double-counting risks, a common issue with

RECs (Verra, 2022), and ensures CATs meet the due diligence standards of institutional investors.

**How LMCX CAT Exceeds:** CATs are tokenized through B4ECarbon, embedding engineering data hashes on-chain, linked to a digital vault/wallet. This provides real-time, publicly accessible provenance, surpassing traditional registries' fragmented systems. Unlike RECs, which rely on opaque ISDA-based trades, CATs' blockchain records ensure instant auditability, protecting against tampering and enhancing market trust. This transparency supports securitization and trading, making CATs a preferred financial instrument.

## Regulatory Considerations

**Why It Enables Financial-Grade Status:** Compliance with Paris Agreement Articles 6.2 and 6.4 ensures CATs are recognized in international carbon markets, supporting bilateral transfers and global trading without double-counting (UNFCCC, 2015). For investment purposes, CATs may fall under SEC securities regulations if marketed for returns, requiring broker-dealer licensing in some jurisdictions (SEC, 2023). This regulatory alignment ensures CATs meet global financial standards, unlike RECs, which lack such frameworks.

**How LMCX CAT Exceeds:** CATs' blockchain records align with Article 6.2's robust accounting, preventing double-counting in ITMOs. Article 6.4 compliance is achieved through third-party verified reductions and conservative buffers, exceeding global market standards. Unlike RECs, CATs are structured to navigate SEC oversight by emphasizing compliance/retirement over speculative investment, reducing regulatory friction. This ensures CATs are market-ready for corporate and institutional use, with legal certainty RECs cannot provide.

**These certifications and protections position LMCX CATs as financeable, tradable assets, far surpassing RECs, which lack property rights, insurance, and transparent registries.** CATs' financial-grade status enables Fortune 500 companies to confidently integrate them into ESG portfolios, leveraging their environmental and financial value.

## Conclusion: The Gold Standard for Climate Finance

**The LMCX CAT redefines carbon avoidance by delivering immediate, verified methane reductions with 120X the climate impact of $CO_2$ offsets.** Its compliance with ISO, OGMP, EPA, EU, and Paris Agreement standards, coupled with blockchain transparency and insurance-backed permanence, surpasses RECs' limitations. Recognizable as a capital asset, CATs empower Fortune 500 companies to achieve net-zero goals while unlocking financial value.

## Executive Summary

For companies committed to achieving net-zero goals and delivering real ESG outcomes, today's carbon credit options often fall short. Renewable Energy Certificates (RECs) and traditional offsets are increasingly viewed as symbolic—they lack enforceability, permanence, and measurable impact. **That's why sustainability officers, ESG leads, and corporate procurement teams are turning to the Last Mile LMXC Carbon Avoidance Token (CAT): a new class of carbon asset designed for transparency, credibility, and immediate climate benefit.**

**Every LMXC CAT represents verified methane containment—120 times more potent than $CO_2$ over 20 years—making it one of the most effective ways to slow global warming in the near term**. Unlike offsets based on forest growth or energy projects, these tokens are backed by titled property rights, monitored with real-time sensors, insured for permanence, and recorded on blockchain from source to sale. **Each credit meets or exceeds international standards such as ISO 14064-2/3, OGMP 2.0 Level 5, EPA Subpart W, CSRD, the EU Taxonomy, and Paris Agreement Article 6, providing buyers with full audit and compliance assurance.**

**Beyond environmental impact, the LMXC CAT is designed for financial-grade performance. Its structure allows for asset recognition on the balance sheet, use as collateral, and future inclusion in securitized climate instruments—turning what was once a cost center into a capital-ready asset.** For corporate buyers seeking more than carbon symbolism, the LMXC CAT delivers unmatched credibility, climate performance, and long-term strategic value.

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**For more information contact:**

Zach Wagner, Chief Executive Officer, zach@lastmile-tx.com, 817-559-7079

www.lastmile-tx.com