The Blockchain Framework:
A Transparent Architecture for Alberta's Oil and Gas Assets

(Version 1.1 | March 2026)[1]

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This Blockchain Framework (the "**Blockchain Framework**") advances the **Theaus Global Sequestration Methodology ("TGSM")**) by outlining Theaus Global's framework for creating more robust, digitally-native carbon markets. It directly supports the **Wildwood Sequestered Carbon-Intensive Oil Project Design Documents (PDD)**; however, the framework only becomes actionable upon completion of independent **Validation and Verification** by an accredited Validation and Verification Body ("VVB"). Until the VVB issues its final validation and verification report, no carbon credits can be issued, no tokens can be minted, and no on-chain activity occurs. Thus, this document (and the digital infrastructure it describes) is contingent on that independent third-party determination. This sequence is deliberate: the TGSM defines the methodology, the PDD documents the project design, the VVB independently validates and verifies both, and only then does this Blockchain Framework activate to provide the issuance, tracking, and transparency layer that follows. Once activated, this digital pipeline—the movement of real-world assets into a natively digital environment—will be used in all carbon pathways Theaus Global develops, including methane abatement and solid-form bitumen, but today we can see its value proposition most clearly in sequestered oil. As the first assets produced using this pipeline, the sequestered oil carbon credits demonstrate how every stage can be publicly tracked: from the underlying oil assets quantified by petroleum engineers, through the applied carbon credit methodology, project design documentation, and then validation and verification, to the carbon credits issued on the blockchain and distributed across institutional platforms, regulated exchanges, and direct self-custody. This digital pipeline represents a new paradigm in carbon markets and digital assets and in January 2026, Theaus Global became the first entity to complete validation and verification under the TGSM and in accordance with ISO 14064-2:2019. The TGSM, however, is public and extensible to any comparable oil deposit, further incentivizing the sequestration of some of the world's most carbon-intensive crude and strengthening Alberta's role in the transition economy.

The carbon markets face structural problems that have created a cycle of weak accountability, low transparency, and declining integrity. The absence of market confidence has discouraged serious investment and allowed lower-quality assets to proliferate—leaving the world dangerously behind its emissions targets. Even in a G7 nation with strong institutional capacity, progress is not assured: more than half of Canada's measurable SDG indicators are off-track or deteriorating, with nearly one in four having worsened since 2015 (Statistics Canada, 2025). At the same time, a nine-month investigation by The Guardian, Die Zeit, and SourceMaterial found

[1] This document serves as a technical annex to: (i) the Methodology for In Situ Sequestration of GHG Emissions from Planned Production of Carbon-Intensive Oil (Version 1.0, June 2025), and (ii) the Project Design Document for Wildwood Sequestered Carbon-Intensive Oil – CCA1 Project.

that up to 90% of the REDD+ carbon credits approved by the world's largest certifier likely do not represent real emission reductions. Even projects attempting to use blockchain to address these failures have fallen into the "blockchain trap"—building on obscure, venture-backed chains that introduce unnecessary tokens, unproven consensus mechanisms, and smart contract risk rather than solving the underlying transparency problem.

Theaus Global and DIGTL believe that restoring market integrity requires solving two problems simultaneously. First, the underlying asset must be independently verifiable, quantifiable by established scientific methods, and geologically permanent—eliminating the measurement uncertainty and reversal risk that undermine most carbon credit categories. Second, the accounting infrastructure must provide real-time, public, immutable records of every credit from issuance through retirement—eliminating the opacity and double-counting that registries and compliance markets[2] have failed to prevent. Neither alone is sufficient. A high-quality asset on an opaque registry still suffers from failures of tracking and trust. A transparent ledger issuing credits backed by speculative counterfactuals still lacks credibility. Theaus Global solves both problems by anchoring the digital pipeline to sequestered carbon-intensive oil and by tracking every asset on the Liquid Network, from barrel to retirement. The foundation is OIL: the on-chain representation of the carbon-intensive oil that underpins every carbon credit and which is secured by legal and regulatory instruments that ensure the resource remains permanently unextracted. Thus, OIL establishes the provenance chain and from that foundation, three classes of carbon credits are derived: the verified credits, eligible for retirement (CRBNC), validated credits that convert to CRBNC upon verification (CRBNX), and the credits in future crediting periods that convert to CRBNX when the project is renewed every five years (CRBNP). At all times, the total of these three classes of carbon credits equals the Total Credits Outstanding: the supply defined in the PDD and validated and verified by the VVB.

However, even the highest-quality carbon assets suffer from "a number of difficulties related to the effectiveness, accountability, transparency and operability" (Sustainability, 2023) of the compliance and voluntary markets in issuing, tracking, and retiring credits. Blockchain technology resolves these difficulties by providing the public, immutable accounting layer that existing market infrastructure lacks. This Blockchain Framework addresses the following:

1. How sequestered carbon-intensive oil resolves supply-side issues in carbon markets
2. How blockchain addresses the remaining structural issues in carbon markets
3. Why the Liquid Network is the optimal blockchain for carbon credit issuance
4. Theaus Global's vision for the future of carbon markets
5. Credit issuance, distribution, and lifecycle management
6. Legal ownership, platform records, and public issuance disclosures

[2] Compliance carbon markets (CCMs) are government-mandated emissions trading systems in which regulated entities must hold allowances covering their emissions; voluntary carbon markets (VCMs) allow entities to purchase carbon credits on a discretionary basis to offset emissions or support climate objectives, and are largely unregulated at present (IOSCO, 2022).

1. HOW SEQUESTERED CARBON-INTENSIVE OIL RESOLVES SUPPLY-SIDE ISSUES IN CARBON MARKETS

The best climate policy is to purchase fossil-fuel deposits and preserve them. (Harstad)

1.1 CRBNC credits are generated by sequestering carbon-intensive oil from the Athabasca Oil Sands, which is approximately 25% more carbon intensive than the global average and approximately 20% above the North American substitute oil baseline (Prest et al., 2024). The project's oil volumes were quantified by GLJ Ltd., one of the world's leading petroleum engineering consultancies. Resource evaluation in the petroleum industry follows the SPE Petroleum Resources Management System (PRMS, 2018)—the globally recognized standard for hydrocarbon resource classification, co-sponsored by seven professional societies, whose principles have underpinned how governments, public companies, and financial institutions classify, report, and transact petroleum resources since SPE first codified reserves definitions in 1965. PRMS is referenced for national reporting and regulatory disclosures across producing jurisdictions worldwide and provides the commodity-specific specifications under the United Nations Framework Classification for Resources. This combination of established scientific methods, independent third-party quantification, regulatory infrastructure, and geological permanence makes sequestered oil the ideal underlying asset for a carbon credit and makes it uniquely suited for issuing on-chain because the data that defines the credit's value is independently verifiable by any market participant using publicly available information.

a. Leakage: Credits backed by sequestered oil are uniquely positioned to account for both direct and market leakage because the supply and demand dynamics of global oil markets are well understood and extensively modelled. Prest et al. (2024) derive the project's leakage parameter from 1.53 million Monte Carlo simulations of supply and demand elasticities, producing a mean leakage rate of 56.9%. This is materially more conservative than the 10–30% leakage rates commonly found in the broader peer-reviewed literature (Beck, Kruse-Andersen, and Stewart, 2023). By contrast, nature-based and agricultural credit methodologies either do not address market leakage at all—implicitly treating it as zero—or apply substantially lower factors derived from less empirically grounded models.

b. Carbon intensity and quantification: The established methods petroleum engineers use to model oil extraction provide a robust basis for quantifying the GHG[3] emissions that do not occur when carbon-intensive oil is sequestered. Unlike credits based on forestry, agriculture, or cookstove projects in which emissions factors depend on complex, locally variable, and often unverifiable counterfactual

[3] Greenhouse gases (GHGs) are atmospheric gases that trap heat by absorbing and re-emitting infrared radiation, increasing the Earth's surface temperature beyond what incoming solar energy alone would produce.

models, the Wildwood project[4] derives its carbon intensity values and market leakage parameters from a single peer-reviewed source[5] (Prest et al., 2024), ensuring methodological consistency across the entire emissions calculation. The underlying OCI+ database[6] provides annual field-level time-series estimates of life-cycle emissions for 586 oil and gas fields representing two-thirds of global supply, enabling transparent quantification that any petroleum engineer or climate scientist can independently reproduce.

c. Baseline figures: Baseline figures for oil are established through the same resource evaluation discipline used across global energy markets—seismic interpretation, reservoir simulation, and production modelling with decades of validation. This makes baseline determination independently verifiable by any qualified petroleum engineer, unlike nature-based projects where baseline figures depend on counterfactual growth models that are inherently speculative. The distinction is critical for on-chain representation: a digital asset is only as credible as the underlying data it represents, and carbon-intensive oil baselines are derived from the most well-tested quantification methods available in any carbon credit category.

d. Permanence: The TGSM defines permanence as the foundational standard against which all project integrity is measured, stating that it "reflects the commitment to maintaining emissions reductions beyond the GHG Project's lifespan or over a defined monitoring period, thereby addressing risks of reversal due to natural, human, or system-related factors." As described in detail in Section 6.1, Theaus Global's permanence is enforced through Surmont's binding non-extraction shareholder covenants and director resolutions committing to the full 100-year sequestration period, a dual-layer financial assurance framework, and publicly accessible Alberta Energy Regulator production data that enables any third party to independently verify that no extraction has occurred.

    i. The nature of the underlying asset makes these governance commitments unique. Oil in the Athabasca Oil Sands requires active SAGD[7] intervention (injecting steam at high temperature and pressure) to extract.

[4] The Wildwood Sequestered Carbon-Intensive Oil (WSCIO) Project comprises eighteen Carbon Credit Areas (CCAs), each registered as a separate Project Activity under the Wildwood Sequestered Carbon-Intensive Oil Program of Activities (PoA). Carbon intensity values are calculated at the project level—applying uniformly across all CCAs—because the carbon intensity is derived from the characteristics of the Carbon-Intensive Oil Deposit and the global substitute oil market, not from CCA-specific parameters.

[5] Prest et al. (2024) found that Canadian oil sands fields are among the most carbon-intensive in the world—roughly a quarter more than the global average.

[6] The Oil Climate Index plus Gas (OCI+) is an open-source analytical tool maintained by the Rocky Mountain Institute (RMI) that estimates and compares life-cycle greenhouse gas emissions of individual oil and gas resources worldwide, from extraction through end-use combustion.

[7] SAGD or steam-assisted gravity drainage is an extraction technique used on heavy crude oil which involves injecting steam to reduce the oil's viscosity. It is the only profitable extraction technique for recovering the crude oil in Alberta's Oil Sands.

At reservoir temperatures of 4–10°C, Athabasca oil has a viscosity of approximately one million centipoise which is five orders of magnitude more viscous than conventional crude oil, and sits well below its pour point, making it effectively solid in place (Oil Sands Magazine, 2025; Speight, 2014). Unlike conventional reservoirs where hydrocarbons flow under natural pressure (e.g., the United States' Permian Basin), this oil is geologically immobilized and cannot migrate, leak, or escape without sustained, capital-intensive industrial intervention. This eliminates the natural catastrophe reversal pathways (wildfire, drought, disease, pest infestation) that drive the high buffer requirements for biological storage projects.

e. Additionality: Additionality determines whether a carbon credit represents an emission reduction that would not have occurred without the incentive of carbon finance and is central to the integrity of all carbon credits (a credit that fails additionality is not reducing emissions, but rather subsidizing activity that was already going to happen). The International Carbon Registry (ICR) defines additionality according to five progressive levels that form one of the most rigorous frameworks available for evaluating whether a carbon credit represents a genuine climate outcome. Levels 1 through 3 are mandatory for all ICR-registered projects and while Levels 4 and 5 are optional, when demonstrated they provide the highest assurance the market can offer. In our view, the Wildwood project satisfies or exceeds all five[8].

The project meets the mandatory thresholds: it reduces emissions beyond what would occur without it (emissions additionality), no Canadian or Albertan statute mandates the sequestration of approved oil sands deposits (statutory additionality), and it is the first registered project sequestering oil from an approved extraction development, giving it 0% market penetration against a 5% threshold (common practice additionality). It also meets both optional levels: because the project has no conventional revenue stream and there is no reduced form of sequestration—the oil is either extracted or sequestered—carbon credit sales are the sole financial basis for the project to exist (financial additionality). And because Canada's NDC does not include sequestration of approved extraction projects as an implementation measure, the emission reductions are not double-claimed against national climate targets (policy additionality).

1.2 Theaus Global resolves the supply-side issues faced by both compliance and voluntary markets by generating carbon credits from the sequestration of carbon-intensive oil—a unique and first-of-its-kind underlying asset. Each of the five standards (leakage, emissions factors, baseline figures, permanence, additionality) establish a property of the underlying asset that is independently verifiable, quantifiable, and permanent. These are precisely the

[8] Theaus Global has submitted a PDD to ICR and is in the process of validation and verification.

properties that enable credible digital asset issuance: when the data defining a credit's value can be independently confirmed through public sources—government regulator data, peer-reviewed emissions factors—the digital representation of that credit on a public blockchain becomes a transparent, auditable asset whose integrity is verifiable at every layer, from the geological formation to the on-chain record. The next section examines how blockchain technology provides the accounting infrastructure required to capture and preserve this integrity across the full credit lifecycle.

2. HOW BLOCKCHAIN ADDRESSES THE REMAINING ISSUES IN COMPLIANCE AND VOLUNTARY CARBON MARKETS

First and foremost, blockchain technology can help carbon credits maintain their credibility by keeping the process clean and stopping cheating. This is crucial to avoid the problems that have plagued the sector. (Institute for Management and Development)

2.1 Section 1 establishes that sequestered oil provides a verifiable, quantifiable, and permanent underlying asset—resolving the supply-side quality problems that have undermined confidence in carbon markets. But asset quality alone is not sufficient. Even the highest-quality credits still operate within compliance and voluntary market infrastructure that faces serious challenges in effectiveness, accountability, transparency, and operability. Credits move between registries, exchanges, brokers, and counterparties through processes that are often invisible to the broader market, and no single platform has visibility across all the others. Blockchain technology addresses this by providing a public, immutable accounting layer that records every issuance, transfer, conversion, and retirement on-chain and which is accessible to any market participant, through any platform, at any time, without requiring permission from or reliance on any single registry or intermediary.

a. Effectiveness: Blockchain-based carbon registries that record every issuance, conversion, and retirement enable market participants to view a transparent digital record of every credit in the system, making global price and supply coordination possible (World Economic Forum, 2023). When paired with digital tools for measurement, reporting, and verification, these systems can provide real-time visibility into the actual effectiveness of ongoing sequestration efforts. For CRBNC, this visibility extends beyond the on-chain record: the non-extraction commitment underlying each credit is independently verifiable through annual, publicly accessible monitoring data, and that verification status is reflected on-chain through the conversion of CRBNX to CRBNC after each verification cycle.

b. Accountability: The World Bank explains that "[b]lockchain-enabled distributed ledgers [could] provide transparency and robust rule implementation …to address the array of regulations and standards, and provide both the accountability and

transactional efficiency required by regulators, investors, and market participants." For CRBNC, accountability is structural, not aspirational: every issuance, transfer, conversion, and retirement is permanently recorded on the blockchain, and the total supply across all credit classes (CRBNC + CRBNX + CRBNP) is constrained by the figures in the PDD that have been validated and verified by a third party. No credit can be created, duplicated, or retired without an auditable on-chain transaction. Retirements are executed on the applicable carbon registry (e.g., ICR, NTCE) as the registry of record, and Theaus Global mirrors each retirement on-chain by burning the corresponding CRBNC units, ensuring that on-chain supply always reflects the current state of the registry and that the retirement record is permanently preserved on an immutable public ledger.

c. Transparency: Transparency in carbon markets requires more than disclosure—it requires that disclosed information can be independently verified without relying on the disclosing party. Public blockchains achieve this through their permissionless and immutable ledgers, meaning any market participant can query the record at any time and the on-chain data cannot be altered after the fact. For sequestered oil credits, this architecture enables transparency across the full credit lifecycle: from initial issuance (traceable to PDD validation and verification by the VVB), through distribution to registries and exchanges (traceable to designated wallet addresses), to conversion between token classes (traceable to burn-and-mint transactions), to retirement (traceable to registry records and mirrored by corresponding on-chain burns). This level of end-to-end transparency is not achievable within existing registry infrastructure, where credit movements between channels are often invisible to the broader market. Adopting this architecture across compliance and voluntary markets would enable participants to "differentiate across a spectrum of quality," monitor project status, and most importantly, aggregate transactions and thereby remove the potential for "double counting."[9]

d. Operability: Blockchain provides the foundation for carbon credit settlement platforms that facilitate transparent settlements while preventing double counting through publicly visible credit records (RMI). For CRBNC, operability is enhanced by the Liquid Network's native support for asset issuance, fractionalization to eight decimal places, and metadata anchoring. Credits can move between registries, exchanges, brokers, and self-custody holders with every movement recorded on-chain, and the Blockstream Asset Management Platform (AMP) enforces issuer-defined transfer controls without requiring smart

[9] The ICVCM's Core Carbon Principles identify three distinct forms of double counting — double issuance, double use, and double claiming — all of which persist in current market infrastructure and all of which CRBNC's on-chain architecture is designed to prevent.

contracts—eliminating the audit burden and failure risk associated with smart contract-based carbon credit platforms.

2.2 While blockchain could always improve the effectiveness, accountability, transparency, and operability of carbon markets, until recently most discussions focused on using it to improve the tracking and management of credits. This changed in 2024 when Northern Trust, the world's 17th largest asset manager, launched its Carbon Ecosystem (NTCE)—a blockchain-powered platform introducing real-time carbon credit generation, direct transactions, smart legal contracts, and secure and efficient settlements. CRBNC is currently listed on NTCE.

Theaus Global builds on that foundation by using blockchain to track not only the credits but also the sequestered oil upon which those credits are based, making both the asset and the credit auditable on-chain. McDaniel & Associates Consultants Ltd. prepared the original independent evaluation of the Wildwood property in 2011, estimating approximately 1.49 billion barrels of oil initially-in-place—the total volume contained in the geological formation. In 2025, GLJ Ltd. prepared an independent evaluation determining that approximately 376 million barrels could be economically extracted. The full 1.49 billion barrels are represented on the Liquid Network under the ticker OIL. The 376 million sequestered barrels that generate the project's carbon credits are held in a separate, designated wallet, creating a publicly verifiable link between the geological resource, the producible volume, and the carbon credits that volume generates.

But the value of this detailed tracking depends on what is being tracked. A transparent ledger tracking credits derived from speculative forestry counterfactuals still cannot verify the underlying emissions reduction. A transparent ledger tracking credits derived from sequestered oil can because the underlying data (carbon intensity, volume, non-extraction status, regulatory approvals, financial assurance) is independently verifiable through public sources that exist outside the blockchain itself. This is the fundamental insight: blockchain alone does not create credibility; it preserves and transmits the credibility of the underlying asset. Thus, combining a verifiable underlying asset *and* an immutable public ledger, means that market participants do not need to trust Theaus Global's claims: they can verify them independently at every layer. The CRBNC credits, along with supply totals and vintage breakdowns, can be viewed on-chain through the Blockchain Tracker[10] on the Theaus Global website.

2.3 Few governments have explicitly supported the use of blockchain technology and digital assets. At the 2024 Canadian Blockchain Consortium, Premier Smith stated that the Government of Alberta is "always looking for ways to improve regulations and policies. …We're ready to be as creative as we need to be." Alberta's combination of world-class petroleum engineering infrastructure, a mature regulatory framework (under the Alberta

[10] The Blockchain Tracker (theausglobal.com/our-project/blockchain-tracker) provides real-time visibility into the full distribution of carbon credit assets on the Liquid Network. It displays supply totals across all three credit classes (CRBNC, CRBNX, CRBNP), buffer pool accounting, vintage-level breakdowns by crediting period, and balances across distribution channels. Figures are pulled from on-chain data.

Energy Regulator), Crown mineral rights ownership that enables structured lease management, and an expressed willingness to support blockchain innovation makes it the ideal jurisdiction for pioneering this approach. The same regulatory infrastructure that provides independently verifiable baseline and non-extraction data for the credit's underlying asset also provides the public data layer that makes on-chain verification meaningful.

3. WHY USE THE LIQUID NETWORK

[Liquid Network] #bitcoin sidechain provides Confidential Transactions, and… allows capital markets participants transparency on issuance for securities, commodities and RWAs [Real World Assets]." (Dr. Adam Back via X[11])

3.1 Sections 1 and 2 establish that carbon markets require both a verifiable underlying asset and a public accounting layer to function with integrity. The choice of blockchain determines whether that accounting layer can deliver on its promise. Most blockchain projects in carbon markets are built on smart-contract platforms—Ethereum, Solana, Polygon—that introduce risks unrelated to the asset itself: smart contract vulnerabilities, unpredictable transaction costs, and dependence on networks whose governance is concentrated among foundation teams, venture investors, and validators who can alter protocol rules in ways that affect every asset issued on them. Theaus Global and DIGTL selected the Liquid Network because it is the only blockchain that provides compliant asset issuance, re-issuance control, issuer-controlled transfer restrictions, and on-chain metadata without smart contracts or a speculative native token, all on a Bitcoin-native network with over fifteen years of production security.

The Liquid Network is a sidechain of Bitcoin built on Elements, an open-source protocol forked from the Bitcoin codebase. It is not a competing cryptocurrency. To use the Liquid Network, participants "peg in" Bitcoin, meaning that Liquid Bitcoin (L-BTC), the asset used for transaction fees, is represented one-to-one by Bitcoin held on the main chain. There is no pre-mined token, no venture-backed founding allocation, and no speculative asset underpinning the network. The money on the Liquid Network is Bitcoin—the oldest, biggest, and most decentralized digital asset—thus eliminating an entire category of counterparty and platform risk for every asset issued on the Liquid Network.

The following subsections describe the specific capabilities of the Liquid Network that make it suitable for issuing carbon credits and managing those lifecycles. These capabilities map directly to the four requirements identified in Section 2 (effectiveness, accountability, transparency, operability) and explain why Theaus Global and DIGTL

[11] Dr. Adam Back is the only person cited in the Bitcoin white paper and CEO of the largest Bitcoin infrastructure firm in the world, Blockstream.

believe the Liquid Network is the only blockchain currently capable of meeting all four simultaneously.

a. Native asset issuance without smart contracts: On most blockchains, issuing a digital asset requires deploying a smart contract—a piece of code that defines how the asset is created, transferred, and destroyed. Smart contracts introduce a surface area for bugs, exploits, and audit failures. The Liquid Network eliminates this risk entirely. Elements, the protocol on which the Liquid Network operates, includes native transaction types for issuing, reissuing, and burning assets. This means that when Theaus Global issues digital carbon assets (CRBNC, CRBNX, CRBNP, collectively the **"Digital Carbon Assets"**), the issuance, conversion (burn-and-mint), and retirement of those assets are validated by the full network using the same consensus mechanism that secures every other transaction. There is no separate contract to audit, no code to exploit, and no dependency on a third-party development framework. For high-value financial assets such as CRBNC, this is a material reduction in operational risk.

b. Reissuance control and supply integrity: Carbon markets have historically struggled with supply-side integrity. IOSCO identifies the absence of centralized registries and the risk of double issuance as structural concerns, and the ICVCM's Core Carbon Principles require programs to prevent double issuance, double use, and double claiming across registries. These problems persist because no single party has visibility across all the platforms where credits are held, traded, and retired and there is no common reference point against which to reconcile competing claims. Theaus Global and DIGTL using the Liquid Network address this directly. When an asset is issued on the Liquid Network, the protocol enables the issuer to generate a reissuance token that grants exclusive authority to create additional supply. Theaus Global holds the reissuance token in its secure enclave, ensuring that no other party on the network can mint new credits regardless of their technical capability. Additionally, the total supply that exists on-chain can be verified by anyone running a full Elements node. Thus, because the on-chain record is public and immutable, it functions as the common reference point that carbon markets have lacked. If a registry, exchange, or custodian reports holdings that exceed or contradict the on-chain supply, the discrepancy is immediately visible. The blockchain does not depend on any individual platform to report accurately but provides an independent record against which every platform's claims can be verified. This keeps all downstream actors honest, because the total issued supply is always public, reconcilable, and cannot be altered after the fact.

c. Issuer-controlled transfer restrictions: Carbon credits are not permissionless assets. They require compliance with KYC/AML[12] regulations,

[12] Know Your Customer (KYC) and Anti-Money Laundering (AML) are regulatory requirements that obligate financial institutions and regulated entities to verify the identity of their clients and monitor transactions for illicit

jurisdiction-specific transfer rules, and, in the case of CRBNC, issuer-defined restrictions on who can hold and transfer credits across different distribution channels (e.g., NTCE, ICR, MERJ, self-custody). On most blockchains, enforcing these restrictions requires building them into a smart contract, which reintroduces the code risk described above. The Liquid Network addresses this through the Blockstream Asset Management Platform (AMP), which enables issuers to define and enforce transfer restrictions at the protocol level. AMP provides two asset management models: Transfer Restricted assets, where transfers are restricted based on registered user records and category assignments or through an issuer authorization endpoint that validates each transfer request before it is executed; and Issuer Tracked assets, where transfers require only that the receiving destination is a valid account, and AMP tracks ownership and transfer history on the issuer's behalf. Both models ensure that every transfer is co-signed and recorded in AMP, maintaining a complete chain of custody. CRBNC is issued as a Transfer Restricted asset, meaning that no transfer can occur without issuer authorization. Requiring issuer authorization and whitelisting (permissioning) of addresses as part of the Transfer Restricted issuance allows CRBNC to trade on regulated exchanges such as MERJ, allocate to institutional registries like NTCE and ICR, and be held in self-custody wallets, all while maintaining compliance and preventing unauthorized distribution. AMP also provides the issuer with a complete ownership and transfer history for every asset, enabling Theaus Global to trustlessly show the movement of assets across channels, generate the supply reports and maintain the anti-double-counting controls described in Section 6.

d. Anchoring to on-chain metadata: A carbon credit's value depends on its provenance—the specific project, vintage year, credit class, and verification status that define what emission reduction it represents. On the Liquid Network, this provenance is established through a two-layer system. At the time of issuance, the issuer defines a contract containing the asset's metadata—PDD identifier, vintage year, credit type, credit class, issuer public key, entity domain, asset name, ticker, and precision (see section 5 for details on the credit metadata). That contract is hashed (SHA-256), and the hash is passed as a parameter in the issuance transaction itself, permanently committing it to the blockchain. The full metadata is then published on the Liquid Asset Registry, an open-source server that feeds asset information to wallets, block explorers, and other Liquid Network services, creating a publicly queryable record of exactly what each credit represents. Because the contract hash is an input to the asset ID calculation, credits with different metadata produce different asset IDs on the Liquid Network. A CRBNC1-22 is a distinct on-chain asset from a CRBNC1-25, and both are distinct

activity. These requirements apply to carbon credit transactions when credits are treated as financial instruments or commodities under applicable jurisdictions.

from a CRBNC2-26, reflecting that carbon credit area (CCA) and vintage are independent dimensions of provenance, both of which are encoded directly in the ticker and committed immutably in the contract hash[13]. This is what enables the structure described in Section 5: any participant who queries the Liquid Asset Registry can trace a specific credit back to its PDD, vintage, and type, and verify that the metadata has not been altered since issuance.

e. Settlement finality and transaction economics: Practical carbon market infrastructure requires predictable settlement times and manageable transaction costs. The Liquid Network produces blocks every minute with deterministic finality. Thus, once a transaction is included in a block, it is final and cannot be reversed. This is materially faster than Bitcoin's main chain (where transactions require multiple confirmations over 10+ minutes for settlement certainty) and more predictable than Ethereum (where including a transaction depends on gas price competition and can be delayed or reordered during periods of network congestion). Transaction fees on the Liquid Network are a few cents, making it economically viable to record every issuance, conversion, transfer, and retirement on-chain, including the annual burn-and-mint conversions from CRBNX to CRBNC that occur with each verification cycle. On chains with higher or more volatile fee structures, the cost of recording granular lifecycle events on-chain can become prohibitive, forcing issuers to batch transactions or move data off-chain, both of which reduce the transparency that blockchain is supposed to provide.

f. Federated consensus and operational continuity: The Liquid Network operates on a federated consensus model, in which a geographically distributed set of functionaries including large exchanges, financial institutions, and Bitcoin-focused companies validate transactions and produce blocks. This model preserves the key properties of decentralization (no single entity controls the network) while enabling the settlement speed and transfer restriction capabilities described above. For CRBNC, where credits move through an active lifecycle, the operational continuity of the underlying network is paramount. The Liquid Network's federated model does not depend on a speculative token to incentivize participation. Functionaries operate the network because they use it for their own business operations, creating a self-sustaining economic model that does not require continuous token price appreciation to remain viable. By contrast, non-Bitcoin chains that rely on inflationary token rewards or staking mechanisms face a structural risk: if the native token loses value, the economic incentive to operate the network degrades, potentially disrupting the infrastructure on which digital assets depend. Issuing on the Liquid Network ensures reliable on-chain operations for CRBNC.

[13] Each Digital Carbon Asset ticker combines three components: the class designation (CRBNC, CRBNX, or CRBNP), the carbon credit area (CCA), and a two-digit vintage year, producing the format CRBN[C/X/P][CCA#]-[YY]. See Section 5.1 for a complete discussion of the ticker structure and its rationale.

4. THEAUS GLOBAL'S VISION FOR THE FUTURE OF CARBON MARKETS

"Voluntary carbon credits are recorded on different registries depending on the certification standard body which has issued the credit. This can lead to issues such as double counting as the projects may be recorded on several registries that do not speak to one another." — International Organization of Securities Commissions (IOSCO), *Voluntary Carbon Markets Discussion Paper*, November 2022

4.1 Theaus Global's thesis is that carbon markets will not recover integrity through incremental reform of existing infrastructure. The structural failures—fragmented registries, opaque credit movements, unverifiable counterfactuals, and the absence of any common reference point for reconciling competing claims[14]—are not bugs in an otherwise functional system. They are consequences of a market built on assets that resist verification and infrastructure that resists transparency. Restoring confidence requires replacing both simultaneously: the underlying asset must be independently verifiable by any market participant using publicly available data, and the accounting infrastructure must make every issuance, transfer, conversion, and retirement visible without reliance on any single intermediary[15]. Sections 1 through 3 establish that CRBNC achieves this—sequestered oil provides the verifiable asset, the Liquid Network provides the transparent ledger, and neither alone is sufficient[16].

The infrastructure that restores integrity also creates the conditions for financialization. The essential components are already emerging: independent ratings agencies (BeZero Carbon, Calyx Global, Sylvera) provide project-level quality assessments modeled on traditional credit ratings; Northern Trust provides institutional-grade custody and settlement through the Northern Trust Carbon Ecosystem; MERJ Exchange enables regulated secondary market trading in alignment with IOSCO standards as an affiliate member of the World Federation of Exchanges[17]; and regulatory frameworks increasingly treat carbon credits as financial assets eligible for balance sheet

[14] IOSCO identifies "double counting and absence of centralised registries" as a structural vulnerability in voluntary carbon markets, noting that "projects may be recorded on several registries that do not speak to one another." IOSCO, *Voluntary Carbon Markets Discussion Paper* (November 2022), Section 3.1.2. The ICVCM's Core Carbon Principles require that emission reductions "shall not be double counted" and define three forms: double issuance, double claiming, and double use. ICVCM, *Core Carbon Principles, Assessment Framework and Assessment Procedure* (2023).

[15] Bassi et al. reach a complementary conclusion: "blockchain can hard-code provenance; it cannot, by itself, guarantee that the underlying measurements are sound." CRBNC addresses both requirements—the blockchain provides provenance and auditability, while the PDD's ISO 14064-2:2019-aligned quantification, independent VVB verification, and SPE PRMS-compliant reserve evaluation provide the measurement integrity. Bassi, E., Lustenberger, M. & Letina, S. (2025). "Blockchain-based voluntary carbon market: strategic insights into network structure." *Frontiers in Blockchain*, 8.

[16] For the complete permanence framework, quantification methodology, financial assurance structure, and verification requirements, see WSCIO—CCA1 PDD (January 2026), prepared under the Theaus Global Sequestration Methodology (TGSM) in alignment with ISO 14064-2:2019.

[17] MERJ Exchange has also submitted its application for a VASP license that will allow them to trade non-securities digital assets such as carbon credits. Approval is pending, but is expected in 2026.

recognition and collateralization. As these components mature, Theaus Global sees a natural trajectory: if sequestered oil can be quantified, verified, and issued as a transparent digital asset, the carbon value embedded in that resource can ultimately anchor a carbon-denominated monetary instrument—a unit of account grounded in a verifiable, permanent underlying asset rather than sovereign policy alone.

Yet a verifiable asset on a transparent ledger—even one positioned for financialization—is still incomplete without the institutional commitments that guarantee its durability. The following subsections address the capabilities that complete this framework: the cross-platform auditability that makes credit movements legible across the fragmented market landscape, the financial assurance framework that backstops the 100-year sequestration period, and the stewardship governance that ensures these commitments persist across generational timeframes.

4.2 **Platform-Agnostic Auditability.** Section 3 describes how the Liquid Network enforces supply integrity at the protocol level—that no credit can be created, duplicated, or retired without an auditable on-chain transaction—but carbon credits do not stay in one place. They move across registries, exchanges, brokers, and counterparties, and the market's persistent visibility problem is not just whether supply is honest at issuance but whether it remains reconcilable as credits disperse across channels that do not share a common ledger[18].

CRBNC's on-chain architecture extends supply integrity into this multi-channel reality. When credits are allocated from Theaus Global to market participants, whether exchanges, registries, brokers, institutional buyers, or sold into direct self-custody, every such movement is recorded on the Liquid Network. The Blockchain Tracker reinforces this, allowing market participants to reconcile all asset movements against on-chain wallet balances at any time. On-chain wallet segregation (one designated wallet per distribution channel) and Allocation Statements by the CEO (**"Allocation Statements"**) create a framework in which no credit can be simultaneously allocated to multiple channels[19]. If any platform's reported holdings contradict the on-chain record, the discrepancy is immediately visible to every market participant and not because a centralized authority flagged it, but because the decentralized record holds every participant accountable to the same public ledger.

4.3 **Financial Assurance and the Permanence Commitment.** Carbon markets have never required issuers to demonstrate how the institutional commitments behind a credit will be

[18] IOSCO's Compliance Carbon Markets Final Report documents episodes in which oversupply and registry coordination failures undermined market integrity in the EU ETS, noting that surplus was "observable in the first two years of the mechanism." IOSCO, *Compliance Carbon Markets: Final Report* (2023), CR/04/2023. The ICVCM's Core Carbon Principles address this at the program level by requiring registries to "uniquely identify, record and track mitigation activities and carbon credits issued to ensure credits can be identified securely and unambiguously." ICVCM, *Core Carbon Principles* (2023).

[19] California's AB 1305 (Voluntary Carbon Market Disclosures Act, effective January 1, 2024) requires entities selling or using voluntary carbon offsets to disclose the registry, project name, project ID, offset type, protocol, and verification status. CRBNC's on-chain metadata architecture satisfies each of these requirements natively. Cal. Health & Safety Code § 44475.2.

enforced and funded across its full permanence horizon. Buffer pools address reversal risk actuarially; insurance products, where available, address it financially for limited terms. Neither answers the fundamental question: if this credit represents a 100-year commitment[20], what ensures that the monitoring, governance, lease continuation, and regulatory obligations sustaining that commitment will be funded in Year 50, or Year 90? Theaus Global's position is that any carbon credit claiming long-term permanence must answer this question explicitly and that the answer must be publicly verifiable.

Theaus Global enforces the permanence commitment through binding governance instruments and a dual-layer financial assurance framework purpose-built for geological sequestration's permanence horizon. It has been resolved, pursuant to Section 117(1) of the Business Corporations Act (Alberta), that the sequestered oil shall remain in place for not less than one hundred years while a resolution reinforced by a majority shareholder covenant that runs with the shares, requires any transferee to execute an instrument of adherence, and prevents any vote in favour of extraction. These governance instruments ensure the non-extraction commitment survives changes in both management and ownership. The financial assurance framework then funds what the governance instruments enforce: a third-party financial guarantee that provides binding financial assurance for the project's first eight years, securing financial obligations regardless of carbon credit sales timing or volume. A financial assurance account—funded by a minimum of 5% of gross carbon credit sale proceeds that will be auditable in our annual transition finance statement under the Theaus Global Stewardship Framework (TGSF)—is designed to fully provision the long-term obligations that sustain the 100-year sequestration period: lease continuation, monitoring, verification, regulatory compliance, and governance. In fact, Theaus Global intends to make the commitment legally irreversible so that the financial assurance framework funds a commitment that cannot be abandoned.

The financial assurance framework gains additional integrity from its interaction with the on-chain architecture. Because the Total Credits Outstanding is publicly verifiable, and because buffer pool allocations are tracked on-chain, any market participant can independently confirm that the commitments documented in the PDD are reflected in the actual credit supply. The financial instruments guarantee the institutional commitments that underpin permanence; the blockchain provides the public evidence that those commitments are being honored. This is what durability looks like when it is designed to be verified, not merely claimed.

4.4 **Stewardship Governance and Proceeds Allocation.** Financial assurance funds the Project obligations while the TGSF ensures they are managed and governs the allocation of carbon credit proceeds so that long-term stewardship and outcomes beyond emission

[20] The 100-year sequestration period (April 1, 2022 to April 1, 2122) is defined in any WSCIO PDD (whether ISO or ICR) and requires that projects specify the period during which GHG emission reductions or removal enhancements are to be maintained and monitored. The PDD's permanence framework satisfies this requirement through the sequestration period definition, supported by the dual-layer financial assurance structure.

reductions are embedded in the project's economic structure rather than left to discretionary future decisions.

The TGSF allocates 20–25% of post-foundational proceeds to energy transition and SDG-linked investments, with a minimum of 50% directed to clean energy. This allocation serves three purposes within the framework this section describes. First, it provides verifiable stakeholder alignment: buyers can confirm that a meaningful share of proceeds supports decarbonization investment rather than flowing entirely to project economics. Second, it funds the long-term obligations that sustain the 100-year sequestration period (with intent to make the stewardship commitment permanent). Third, it establishes the structural basis for Indigenous economic participation: Theaus Global is developing the benefit-sharing allocation and governance structure in direct consultation with Indigenous communities, ensuring that stewardship proceeds reflect community priorities alongside climate objectives. The TGSF's proceeds-allocation and disclosure framework is designed to be consistent with applicable Alberta laws and the project's voluntary market purpose, ensuring that stewardship capital is structurally provisioned, not aspirational.

4.5 **The Vision.** Carbon markets have tolerated unverifiable assets on opaque infrastructure with no institutional guarantee that the commitments behind a credit will outlast the transaction. CRBNC rejects all three. The underlying asset is independently verifiable through publicly available petroleum engineering and regulatory data. The accounting infrastructure records every issuance, transfer, conversion, and retirement on a public, immutable ledger accessible to any market participant while the financial assurance and stewardship framework is designed, funded, and publicly auditable to sustain the 100-year sequestration period—not as a promise, but as a structural feature of the credit itself.

Theaus Global also believes that supply-side sequestration will prove to be the most consequential category of carbon credit in the transition economy. The world's remaining planned oil production represents hundreds of billions of tonnes of embedded life-cycle emissions—a scale that reforestation, conventional carbon capture and storage, and engineered removal technologies are not positioned to offset on their own (together accounting for only about a third of net zero targets even in the most optimistic scenarios), individually or collectively[21]. Sequestered oil converts the decision not to extract into a quantified, verified, and permanent climate outcome, operating within the

[21] The UNEP Emissions Gap Report 2023 estimates that committed CO_2 emissions from existing fossil fuel infrastructure exceed 3.5 times the remaining 1.5°C carbon budget (UNEP, 2023). Governments plan to produce 110% more fossil fuels by 2030 than is consistent with 1.5°C (UNEP Production Gap Report 2023). Meanwhile, across IPCC AR6 1.5°C-compatible scenarios, the combined cumulative contribution of BECCS, DACS, and afforestation/reforestation totals approximately 626 Gt CO_2 through 2100 (IPCC AR6 WGIII; Clean Air Task Force, 2025) which is roughly a third of the emissions embedded in existing infrastructure alone, before accounting for planned expansion. Gross emission reductions (not removals) account for over 80% of net GHG reductions in these pathways (Dooley et al., Nature Communications Earth & Environment, 2024). Current global CDR capacity is approximately 2 Gt/yr, virtually all from conventional forestry (National Academies of Sciences).

same engineering and regulatory infrastructure that already governs the global oil markets. As carbon markets mature and the transition economy demands both scale and credibility, Theaus Global and DIGTL's model offers the foundation for restoring trust and confidence to global carbon markets while providing the mechanism to decarbonize at scale.

But Theaus Global is also looking beyond the credit. The same on-chain architecture that today issues, tracks, and verifies CRBNC is designed to support the financial instruments that carbon markets will need as they mature: spot and forward contracts, futures, securities, ETFs, and commodity-linked products and all referencing a verifiable, permanent underlying asset with transparent supply. For carbon buyers, this will create new channels to hedge exposure, manage climate-related risk, and build carbon positions with the same tools available in any other commodity market. For insurers and risk managers, the combination of geological permanence, verifiable on-chain supply, and funded financial assurance offers a foundation for insurance-linked products and guarantees that carbon markets need. And as adoption scales across these instruments, the Liquid Network is positioned to evolve from a transparent layer that mirrors the traditional registries into the ledger of record. Theaus Global is building for this now so that when the market is ready, we can transition seamlessly.

5. CREDIT ISSUANCE, DISTRIBUTION, AND LIFE CYCLE MANAGEMENT

***"Tokenization must do both: move faster and move safely, building trust as it goes."* — Larry Fink and Rob Goldstein, BlackRock, *The Economist* (December 1, 2025)**

5.1 The value propositions described above are supported by a detailed operational framework governing how carbon credits are issued, distributed, managed, and converted. This section describes the full lifecycle from the initial on-chain issuance of OIL and the corresponding carbon credits through the distribution to registries and exchanges, ongoing management obligations, and the conversion mechanics that move credits between classes across the asset lifecycle.

Before Theaus Global issues any credits, it first issues OIL—the digital representation of the 1.49 billion barrels of carbon-intensive oil on the Wildwood property. Of that total, approximately 376 million barrels will be allocated to generate carbon credits (**"Allocated OIL"**). OIL is held through the DIGTL Platform in two different wallets, one of which is responsible for holding the assets that generate carbon credits (the **"Allocated OIL Wallet"**), and the other which holds the assets representing barrels that currently cannot be produced (**"Unallocated OIL"**) and, thus, which will remain unallocated (**"Unallocated OIL Wallet(s)"**). Wallet addresses used in connection with the issuance, transfer, conversion, and retirement of Digital Carbon Assets, and the signatory controls governing access to and operation of such wallets, are approved by the CEO of Theaus Global pursuant to the Director's Resolution for Issuance.

The Allocated OIL in the Allocated OIL Wallet corresponds to the volume of the oil reserves that GLJ Ltd. determined in 2025 to be economically extractable and which forms the physical basis for carbon credit quantification under the Wildwood Sequestered Carbon-Intensive Oil program of activities (the **"Allocated Volume"**). The Allocated OIL is permanently locked and irrevocably dedicated to backing the carbon credits issued under the program of activities. It shall not be sold, transferred, encumbered, or made available for any purpose other than as the on-chain record of the oil volume permanently sequestered to support such carbon credits. Holders of Allocated OIL hold no extraction rights and no economic claim to the underlying oil. For the avoidance of doubt, Allocated OIL is not a commodity, security, or financial instrument. It does not represent a claim on oil revenues, extraction proceeds, or any economic output of the underlying reserves. Its sole legal function is to provide a permanent, publicly verifiable on-chain record of the oil volume that has been irrevocably dedicated to backing the carbon credits issued under the program of activities.

On the other hand, unallocated OIL in the Unallocated Wallet represents a digital asset issued by Theaus Global in respect of the barrels of the Wildwood oil reserves comprising the Unallocated Volume. For the avoidance of doubt, Unallocated OIL does not represent or evidence: (i) an ownership or beneficial interest in physical barrels of oil, mineral rights, revenues, or proceeds; (ii) any security interest in any asset; or (iii) a security, investment contract, or financial instrument under applicable law, unless expressly created under a separate written agreement with Theaus Global. The rights attaching to Unallocated OIL are governed by a director resolution and are outside the scope of this Blockchain Framework. All OIL is managed through the technology platform operated by DIGTL, acting as Theaus Global's technology and services agent for the purposes of operating the DIGTL Platform, managing wallet infrastructure, and executing on-chain transactions in connection with OIL and Digital Carbon Assets (the **"DIGTL Platform"**).

After issuing OIL, Theaus Global will issue the three Digital Carbon Assets (CRBNC, CRBNX, CRBNP) which operate on a five-year crediting period, renewable twice subject to revalidation. Because these mechanics follow a predictable schedule, Theaus Global publishes a project calendar at theausglobal.com mapping milestones across the credit lifecycle from monitoring report submissions and crediting period renewals to verification events and annual transition finance statements. The calendar reflects completed milestones as they occur and displays upcoming conversions, verifications, and disclosures, giving any market participant a current view of where the project stands and what comes next.

Each Digital Carbon Asset is issued with a ticker that combines the class, carbon credit area (CCA), and a two-digit vintage year (eg. CRBNC1-22 for a verified credit from CCA1 with a 2022 vintage, or CRBNX1-25 for a validated credit from CCA1 corresponding to 2025). This structure ensures that each issuance is a distinct asset on the

Liquid Network and thus that no two assets share a ticker. In addition, the CCA ties the asset to a PDD and the PDD ties to a registry and/or standards body. And while the two-digit vintage identifies the specific emissions period to which the credit corresponds, neither suffix alters the meaning of the class designation: the base ticker (CRBNC, CRBNX, CRBNP) continues to define where a credit sits in its lifecycle and what rights it carries. References to CRBNC, CRBNX, and CRBNP throughout this document describe the classes and their properties. The full ticker format—class, CCA, and vintage—applies specifically to the on-chain asset data we discuss below.

a. Metadata: Every carbon credit issued on the Liquid Network carries metadata embedded at issuance that cannot be altered after the fact. These fields allow any market participant to determine exactly what a credit represents, where it came from, and what stage of its lifecycle it is in:
    i. **1_pdd**: Identifies which PDD the credit originates from. "WSCIO-CCA1" means this credit was issued under the Wildwood Sequestered Carbon-Intensive Oil project, Carbon Credit Area 1. As additional PDDs are registered, each will carry its own PDD identifier, enabling market participants to distinguish credits by their originating project area.
    ii. **2_vintage**: The calendar year in which the emission reduction occurs or is projected to occur. A vintage of “2025” means the credit corresponds to emissions that would have been released in 2025 under the baseline scenario. Vintage is a standard carbon market concept and is critical for pricing, retirement reporting, and matching credits to specific compliance or voluntary commitments.
    iii. **3_credit_type**: Describes the mechanism by which the emission reduction is achieved. Theaus Global issues credits generated by “sequestered oil,” “methane abatement” and “solid-form bitumen.”
    iv. **4_credit_class**: Indicates where the credit sits in its lifecycle. The three classes are “ex-post” (verified, eligible for retirement and reflected as ticker CRBNC), “ex-ante” (validated, representing forward-looking inventory within the current crediting period and reflected as CRBNX), and “projected ex-ante” (potential supply in future crediting periods, contingent on five-year project renewal). Credits move between classes through an on-chain burn-and-mint process: CRBNP converts to CRBNX upon crediting period renewal (which includes verification), and CRBNX converts to CRBNC upon verification (and corresponding to specific vintages).
    v. **entity: domain**: The registered domain of the issuing organization. "theausglobal.com" links the on-chain asset to Theaus Global's verified identity. Combined with the issuer public key, this creates a unique asset identifier that cannot be replicated by any other party on the network.

vi. **issuer_pubkey**: The cryptographic public key that authorizes issuance. Only the holder of the corresponding private key can issue, reissue, or burn credits under this asset identifier. This is the technical mechanism that enforces supply integrity: no credit can be created without Theaus Global's cryptographic authorization.

vii. **name**: The asset name displayed in wallets and block explorers. “Verified Carbon Credits,” “Validated Carbon Credits” or “Projected Carbon Credits” identifies the asset class for non-technical users on the Liquid Network.

viii. **precision**: Defines the smallest divisible unit of the credit. A precision of 8 means each credit can be divided to eight decimal places (0.00000001 tCO_2e), enabling fractional ownership and micro-transactions without requiring off-chain workarounds.

ix. **ticker**: The trading symbol used across wallets, exchanges, and the Blockchain Tracker. Each ticker combines three components: the class designation (CRBNC for ex-post, CRBNX for ex-ante, or CRBNP for projected ex-ante), carbon credit area, and a two-digit vintage year, producing the format CRBN[C/X/P][CCA#]-[YY]. The ticker enables any market participant to immediately identify a credit's lifecycle stage, CCA, and vintage from any block explorer, wallet, or trading interface.

x. **version**: A required field in the Liquid Asset Registry contract. Currently “0” for all registered assets on the network.

b. Digital Asset Classes: Each validated and verified PDD generates three classes of digital asset on the Liquid Network, representing different stages of the credit lifecycle:

i. **CRBNC (ex-post)**: Verified carbon credits for which a complete monitoring period has elapsed and verification has been conducted by an accredited VVB. CRBNC credits are tradable and immediately eligible for retirement on-chain or through recognized registries. Each vintage is issued with a unique contract containing the following on-chain metadata:


```
{"1_pdd": "WSCIO-CCA1",
"2_vintage": "2022",
"3_credit_type": "Sequestered Oil",
"4_credit_class": "ex-post",
"entity": { "domain": "theausglobal.com" },
"issuer_pubkey":
"027de6f7733a18f49d52f83dc783ae3f613a1ebf63b3f06164278b05b6
3ba6ecba",
"name": "Verified Carbon Credits",
"precision": 8,
"ticker": "CRBNC1-22",
"version": 0 }
```

ii. **CRBNX (ex-ante)**: Validated carbon credits representing forward-looking inventory within the current crediting period. CRBNX credits cannot be retired but may be sold as on some carbon registries, and as forward contracts through off-take agreements or distributed through regulated exchanges supporting carbon credit futures. CRBNX converts to CRBNC upon verification[22]:


```
{ "1_pdd": "WSCIO-CCA1",
"2_vintage": "2025",
"3_credit_type": "Sequestered Oil",
"4_credit_class": "ex-ante",
"entity": {"domain": "theausglobal.com"},
"issuer_pubkey":
"027de6f7733a18f49d52f83dc783ae3f613a1ebf63b3f06164278b05b6
3ba6ecba",
"name": "Validated Carbon Credits",
"precision": 8,
"ticker": "CRBNX1-25",
"version": 0 }
```


iii. **CRBNP (projected ex-ante)**: Credits in future crediting periods quantified in the PDD and validated by the VVB and are thus contingent upon the five-year project renewal and subsequent validation. CRBNP are held in Theaus Global-controlled wallets and tracked on-chain as part of the total potential supply. They convert to CRBNX only after the corresponding crediting period renewal is completed:


```
{ "1_pdd": "WSCIO-CCA1",
"2_vintage": "2027",
"3_credit_type": "Sequestered Oil",
"4_credit_class": "projected ex-ante",
"entity": { "domain": "theausglobal.com" },
"issuer_pubkey":
"027de6f7733a18f49d52f83dc783ae3f613a1ebf63b3f06164278b05b6
3ba6ecba",
"name": "Projected Carbon Credits",
"precision": 8,
"ticker": "CRBNP1-27",
"version": 0 }
```


iv. **Supply Integrity Constraint.** Credits are only issued on-chain once a PDD is validated and verified. Until then, they sit outside the blockchain issuance pool. The lifecycle framework described in this section is designed to satisfy the registry Good Practices set out in IOSCO (2024), which recommend that registries serve as reliable sources of information

[22] Ex-ante International Carbon Credits (ICC) issuance is permitted under ICR Requirement Document v6.1 Section 5.4 where projects demonstrate additionality at Level 4b or above. See PDD Section 5.6 for the additionality demonstration.

regarding credit attributes, issuance, ownership, transfer, and retirement. Thus, at all times the Total Credits Outstanding represent the maximum circulating supply of all credit classes.

v. **Conversion Mechanics and Timing.** Each conversion between credit classes is initiated by Theaus Global upon receipt of the relevant triggering event: for CRBNX to CRBNC, upon receipt of the verification report from the accredited validation and verification body confirming the emission reductions for the relevant monitoring period; for CRBNP to CRBNX, upon successful completion of the crediting period renewal process. Theaus Global then executes the corresponding burn-and-mint transaction on the Liquid Network. For the avoidance of doubt, the conversion of CRBNX to CRBNC via a burn-and-mint transaction has no effect on the Allocated OIL held in the Allocated OIL Wallet; such OIL remains permanently locked irrespective of any conversion or transfer of the corresponding digital carbon assets. The project calendar published at theausglobal.com maps the scheduled timing of each conversion event across the full credit lifecycle.

c. Initial Issuance: Upon receiving a validation and verification report from the project's accredited VVB, Theaus Global issues all three asset classes: CRBNC for verified vintages, CRBNX for remaining vintages within the current crediting period, and CRBNP for vintages in future crediting periods, all of which are anchored to the supply that has been validated and verified.

6. LEGAL OWNERSHIP, PLATFORM RECORDS, AND PUBLIC ISSUANCE DISCLOSURES

***"Establishing financial integrity and transparency within voluntary carbon markets is crucial for their credibility and impact."* — Verena Ross, Chair, European Securities and Markets Authority (ESMA); Co-Chair, IOSCO Carbon Markets Workstream (November 2024)**

Section 5 described how CRBNC, CRBNX, and CRBNP are issued, distributed, and converted (and in the case of retirement activities CRBNC) on the Liquid Network. This section establishes the legal framework governing what those on-chain assets represent, how ownership is determined when credits are held across multiple platforms, and how Theaus Global maintains public transparency over allocations and supply.

6.1 **Legal Form of the Credit and the Digital Asset.** The legal architecture proceeds in sequence. Surmont Energy Ltd. ("Surmont"), which holds the Crown mineral leases underlying the Wildwood project, entered into a Carbon Credit Monetization Agreement ("CCMA") granting Theaus Global binding, exclusive, and irrevocable rights to design, implement, monitor, administer, monetize, and issue carbon credits derived from the

sequestered oil. Surmont then passed a resolution of the directors pursuant to Section 117(1) of the Business Corporations Act (Alberta), resolving that the sequestered oil shall remain in place for a period of not less than one hundred (100) years. This resolution is reinforced by a majority shareholder covenant under which Surmont's majority vote-casting shareholders have covenanted not to exercise voting rights in favour of any resolution or transaction that would result in extraction—a covenant that runs with the shares and requires any transferee to execute an instrument of adherence as a condition of valid transfer. Together, these instruments ensure the non-extraction commitment survives changes in both management and ownership. Exercising the rights granted under the CCMA, Theaus Global then issues carbon credits through its own director's resolutions and Allocation Statements, which authorize the creation and distribution of carbon credits. These corporate actions are reflected on the Liquid Network through the issuance of corresponding digital assets (CRBNC, CRBNX, and CRBNP), at which point the credits may be transferred to carbon registries (ICR, NTCE), regulated exchanges (MERJ), or held in direct self-custody.

Theaus Global subsequently issued the carbon credits as digital assets on the Liquid Network under the symbol CRBNC, using a directors' resolution which formally establishes that Digital Carbon Assets are contractual entitlements issued by Theaus Global, that the Liquid Network ledger is the authoritative record of the entitled holder of each Digital Carbon Asset, and that transfer of a Digital Carbon Asset on the ledger is the method by which that entitlement is transferred. The holder of CRBNC in self-custody holds the contractual entitlement to retire that credit, transfer that entitlement, and claim the underlying emission reduction. The combination of the Liquid Asset Registry identifier and the Theaus Global domain (theausglobal.com) embedded in the contract creates a unique asset identifier that cannot be reproduced, allowing market participants to verify they are interacting with the legitimate, authorized asset.

This same process applies to CRBNX and CRBNP with class-specific language reflecting what rights each represents: CRBNC as a verified credit immediately eligible for retirement; CRBNX as a forward entitlement to a verified credit, convertible to CRBNC upon verification; and CRBNP as a contingent entitlement dependent on crediting period renewal, convertible to CRBNX upon that renewal. In each case, the on-chain asset is the contractual instrument through which the entitlement to that credit and its associated rights is held and transferred.

6.2 **Relationship Between OIL and the Carbon Credits.** The Digital Carbon Assets are generated from, and derive their on-chain provenance from, the Allocated OIL held in the Allocated OIL Wallet; the Allocated Volume represented by that OIL is the physical basis upon which the Digital Carbon Assets are quantified and issued. The Allocated OIL and the Digital Carbon Assets are separate and distinct on-chain assets. Ownership of Allocated OIL confers no rights, interest, or claim in or to any Digital Carbon Asset, and ownership of any Digital Carbon Asset confers no rights, interest, or claim in or to any

Allocated OIL or the underlying Allocated Volume. The Allocated OIL exists solely as a publicly verifiable on-chain record of the sequestered oil volume; the Digital Carbon Assets are the commercial instrument through which that sequestration is monetized. No inference of cross-asset entitlement arises from the provenance relationship between the two asset classes.

6.3 **Ownership Determination Across Platforms.** Carbon credits issued on the Liquid Network may function only as either digital assets or tracking assets (and together will always equal the Total Credits Outstanding), depending on the channel through which they are held, issued, managed and/or custodied:

a. Digital assets: When credits are first issued on the Liquid Network, the blockchain serves as the primary record of legal ownership: this is step one for all assets. The on-chain record constitutes the authoritative record of the entitled holder of the Digital Carbon Asset, and no intermediary manages or attests to entitlement on the holder's behalf. The blockchain is not merely tracking the credit; it is the definitive record of who holds the contractual entitlement to it. When Theaus Global subsequently opens a compliant distribution channel through which ownership, trading, and settlement are managed by properly licensed entities (eg. MERJ, ICR, or NTCE), the corresponding digital assets are moved to tracking-only wallets, and the ownership, management, and regulatory functions transfer to that entity. From that point onwards, the platform serves as the authoritative record for ownership and settlement within its regulatory framework, while the blockchain continues to provide public verification of the asset's authenticity, issuance, and aggregate supply. This structure gives every credit a clear, unambiguous owner at all times, regardless of distribution channel, while the blockchain provides the common verification layer across all of them.

b. Tracking assets: When credits are held through third-party distribution channels—including digital asset exchanges (e.g., MERJ), carbon registries (e.g., ICR), and financial institutions (e.g., NTCE)—the on-chain record functions as a tracking layer. Theaus Global transfers those Digital Carbon Assets on-chain to a wallet on the Liquid Network designated for that distribution channel, as authorized by an Allocation Statement. Theaus Global creates, controls, and maintains all such wallets at all times; no distribution channel holds, controls, or has access to any wallet on the Liquid Network. The blockchain provides public, auditable visibility into issuance, circulating supply, and movements to and from platform-designated wallets. From the point of transfer, the Digital Carbon Assets in that wallet cease to function as the ownership instrument. They exist solely as a public record of provenance and supply. Legal ownership, retirement rights, and compliance obligations are determined exclusively by the rules and records of the distribution channel, in accordance with its terms and applicable law. Wallets holding these credits are labeled '(Tracking)' to indicate that entitlement and

settlement are managed off-chain by an appropriately licensed third party and that the on-chain representation exists for supply verification and anti-double-counting purposes only.

6.4 **Retirement Process.** Retirement of a verified carbon credit is initiated through the applicable registry. Upon confirmation of retirement by the registry, Theaus Global executes a corresponding on-chain burn of the relevant CRBNC units on the Liquid Network, permanently removing them from circulation and ensuring that the on-chain supply always reflects the current state of the registry record. A burned CRBNC token is irrecoverable and cannot be reissued, retransferred, or resold. The retirement is thus recorded in two places: the registry, which serves as the regulatory record, and the Liquid Network, which serves as the permanent, publicly verifiable record.

6.5 **Loss Recovery and Burn-and-Reissue.** Where a holder has lost access to or suffered compromise of a Digital Carbon Asset outside the ordinary course of transfer or conversion, Theaus Global may burn the affected Digital Carbon Asset and reissue an equivalent Digital Carbon Asset to a wallet specified by the claimant, provided that:

a. No less than thirty (30) days have elapsed since notice of the loss or compromise was published on the public Blockchain Tracker, to allow for any challenge by a third party claiming entitlement to the same Digital Carbon Asset;
b. No bona fide challenge has been received during that period, or any such challenge has been resolved to Theaus Global's satisfaction;
c. The claimant has provided a written indemnity in favour of Theaus Global and DIGTL against any claim arising from the reissuance; and
d. Theaus Global is not obliged to burn and reissue and shall not be liable to any party if it declines. Nothing in this Section limits Theaus Global's ability to comply with a lawful order of a court of competent jurisdiction or a direction of a regulatory authority.

6.6 **Allocation Statements and Anti-Double Counting Disclosures.** When Theaus Global transfers credits to a compliant distribution channel—where custody, trading, and settlement become the responsibility of a licensed institution or exchange—the transfer is formalized through an Allocation Statement. These statements are the corporate governance instruments that authorize the reclassification of credits from digital assets to tracking-only assets on the Liquid Network, and the corresponding assignment of custody and management responsibility to the receiving institution.

Once an Allocation Statement is executed, the credits are sent to a designated tracking wallet for that channel, and ownership, settlement, and regulatory obligations transfer to the recipient. No credit may be represented as allocated to a distribution channel unless the corresponding Allocation Statement has been published and the on-chain transfer to the designated tracking wallet has been executed. Each Allocation Statement shall identify the wallet addresses, ticker, quantity, vintage, and destination channel involved, and confirm that aggregate on-chain supply does not exceed the supply

that has been validated and verified by an independent validation and verification body following the allocation. Where Digital Carbon Assets are moved to another distribution channel, the Allocation Statement shall additionally identify the originating and receiving distribution channels and confirm the transfer is reflected on the Blockchain Tracker, and acknowledge that, from the time of such movement, the on-chain representation of the Digital Carbon Asset functions solely as a tracking asset for public supply-verification and anti-double-counting purposes, with entitlement and settlement governed by the receiving distribution channel's rules and records, in accordance with its terms and applicable law. To prevent double counting across channels and to make these allocations legible to all market participants, Theaus Global publishes all on-chain data on its website via the Blockchain Tracker, which programmatically updates after transactions are sent and is reconcilable against on-chain wallet balances at any time. The combination of Allocation Statements, on-chain wallet segregation, and the Blockchain Tracker, provides a structural framework in which no credit can be simultaneously allocated to multiple channels, and every transition from digital asset to platform-managed asset is authorized, recorded, and publicly verifiable.

6.7 **Public Supply Reporting via the Blockchain Tracker.** The Blockchain Tracker on the Theaus Global website provides real-time visibility into the full distribution of carbon credit assets on the Liquid Network. The Tracker discloses:

a. Token class totals: CRBNC (ex-post, verified), CRBNX (ex-ante, validated), and CRBNP (projected ex-ante), consolidated across all CCA and vintage-specific tickers, with the sum reconciling to the Total Credits Outstanding at all times.
b. Buffer pool accounting: Carbon credit standards typically require projects to withhold a percentage of issued credits in a non-permanence buffer pool, a shared reserve that compensates buyers if any project in the registry experiences a reversal of its claimed emission reductions. Each project contributes credits proportional to its assessed reversal risk, and those credits are cancelled from the pool if a reversal occurs. The Blockchain Tracker displays the net-of-buffer supply available for distribution, ensuring that buffer-held credits are never represented as available inventory.
c. Vintage breakdowns: Detailed "view by vintage" showing the issuance, conversion status, and outstanding balance for each vintage year within each crediting period.
d. Views showing allocation by distribution channel will be added as the distribution network develops.

As credits are sold, transferred, or retired, the views in the Blockchain Tracker will be updated to reflect on-chain movements. The Blockchain Tracker is designed to serve both the market view (fungible totals) and the audit view (granular metadata) described in Section 3.1, providing a single public interface that reconciles the on-chain record with Allocation Statements.

6.8 Methodology-Level Structure and PDD-Specific Annexes. This Blockchain Framework is a methodology-level document that establishes the principles, architecture, and governance framework applicable to all WSCIO projects issued under the TGSM. The legal ownership rules, platform record structures, allocation disclosure requirements, and supply reporting standards described in this Section apply uniformly across all CCAs and crediting periods.

Project-specific details are provided in annexes, one per PDD, identifying the controlling source documents, the Total Supply Outstanding, and the public resources through which any market participant can independently reconcile PDD figures to the Blockchain Tracker and on-chain record. The current annex structure is:

- Annex A — WSCIO-CCA1

Additional annexes will be added as new PDDs are validated and issued on-chain. This structure keeps the main Blockchain Framework stable while allowing each project to update its annex independently as new validations, verifications, and on-chain events occur.

7. CONCLUSION

This Blockchain Framework has presented the two requirements that, in the view of Theaus Global and DIGTL, must be satisfied simultaneously for carbon markets to effectively support the energy transition. The first is a verifiable underlying asset: sequestered carbon-intensive oil whose volume is independently certified by qualified petroleum engineers, whose carbon intensity is derived from peer-reviewed life-cycle analysis, whose market leakage is empirically quantified, whose permanence is enforced through binding non-extraction covenants, director resolutions, shareholder covenants, and a dual-layer financial assurance framework committing to the full 100-year sequestration period and reinforced by the geological properties of Athabasca oil, and whose non-extraction status is verifiable through publicly accessible regulatory data. The second is transparent, immutable infrastructure: a public accounting layer on the Liquid Network that records every issuance, transfer, conversion, and retirement on-chain, constrains supply to the Total Supply Outstanding and enables any market participant to reconcile credit balances across platforms without relying on any single intermediary. Neither alone is sufficient—a transparent ledger issuing credits backed by speculative counterfactuals still lacks measurement credibility, and a verifiable asset tracked through opaque, fragmented registries still suffers from the visibility failures that have eroded market confidence. CRBNC addresses both: the sequestered oil provides the measurement integrity, the Liquid Network provides the accounting transparency, and the institutional framework ensures that the commitments underlying each credit are durable, funded, and publicly auditable. At its core, WSCIO is a complementary commercialization approach for the same oil that would otherwise be extracted, creating value through verified climate outcomes tied to the underlying resource, rather than through its physical production, thereby reframing sequestration not as an economic sacrifice but as an

alternative development pathway.

Theaus Global believes this model creates tangible value for every stakeholder in the transition economy. For the Province of Alberta, it offers a complementary alternative to the existing production infrastructure (lease revenue, employment, and global investment) all without a single barrel being extracted. For Indigenous communities, it offers a pathway where the land remains undisturbed, and consultation and benefit-sharing frameworks are embedded in the project's governance. For current oil sands producers, it offers a cost-effective pathway to decarbonize existing production or pursue capital-intensive emission reduction investments. For carbon credit buyers, it provides a credit generated from the verifiable, permanent, independently quantified physical asset on transparent infrastructure, eliminating the measurement uncertainty and reversal risk that have made institutional-scale carbon buying untenable. For the Government of Canada, it delivers verified emission reductions that support national climate commitments without mandating production curtailment, and demonstrates that market mechanisms can decarbonize at scale within existing regulatory frameworks. And for the global carbon market, it provides the proof of concept that high-integrity credits, issued on immutable public infrastructure with funded permanence commitments, can restore the trust and confidence that the market requires to function at scale.

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ANNEX A | WSCIO-CCA1 Project Reference

Wildwood Sequestered Carbon-Intensive Oil — Carbon Credit Area 1

This Annex is a static reference document for WSCIO-CCA1. It should be read in conjunction with the Controlling Documents. Additional CCAs are documented in separate annexes as PDDs are validated. No on-chain activity occurs until the VVB issues its final validation and verification report.

Controlling Documents: Blockchain Framework v1.1 (March 2026) • TGSM v1.0 (June 2025) • WSCIO-CCA1 PDD v1.0 (December 2025) • Theaus Global Stewardship Framework (October 2025) • VVB Final Validation and Verification Report (Carbon Check, India, January 2026) • Theaus Global Issuance Director Resolution (March 2026)

1. PROJECT OVERVIEW	
PDD	Wildwood Sequestered Carbon-Intensive Oil — Carbon Credit Area 1 (v1.0, December 2025)
CCA(s)	CCA1 (Carbon Credit Area 1 of 18 Project Activities under WSCIO)
Governing Methodology	Theaus Global Sequestration Methodology (TGSM) v1.0 | ISO 14064-2:2019
Issuer	Theaus Global Inc. | theausglobal.com | Director Resolution for Issuance
Sequestration Period	100 years: April 1, 2022 – April 1, 2122
Crediting Periods	**CP1:** Apr 1, 2022 – Mar 31, 2027 **CP2:** Apr 1, 2027 – Mar 31, 2032 **CP3:** Apr 1, 2032 – Mar 31, 2037
2. CREDIT SUPPLY & UNDERLYING ASSET	
Total Credits Supply	10,248,166 tCO_2e (Total Credits Outstanding: CRBNC + CRBNX + CRBNP at all times)
Backing Asset	21,714,410 barrels of Athabasca bitumen (carbon-intensive oil) — the geological asset underlying all 10,248,166 credits issued for CCA1
Resource Evaluation	GLJ Ltd. (2025) — independent evaluation under SPE PRMS (2018)
Buffer Pool	10% – Non-permanence buffer pool withheld per TGSM requirements; excluded from distributable supply and displayed separately in the Blockchain Tracker
3. DIGITAL ASSET CLASSES (LIQUID NETWORK)	
CRBNC (ex-post)	Verified credits; immediately eligible for retirement. Issued following each VVB verification event. Ticker format: CRBNC[CCA#]-[YY] (e.g., CRBNC1-22)
CRBNX (ex-ante)	Validated forward-looking credits within the current crediting period. Converts to CRBNC upon VVB verification. Ticker format: CRBNX[CCA#]-[YY] (e.g., CRBNX1-25)
CRBNP (Projected)	Future crediting period supply. Converts to CRBNX upon successful five-year crediting period renewal. Ticker format: CRBNP[CCA#]-[YY] (e.g., CRBNP1-27)
Supply Constraint	CRBNC + CRBNX + CRBNP = 10,248,166 tCO_2e at all times. Supply is publicly verifiable on the Liquid Network.

Precision & Control	8 decimal places (0.00000001 tCO_2e). All issuance, reissuance, and retirement require Theaus Global's cryptographic authorization — no third party can mint or burn credits.
4. VALIDATION & VERIFICATION	
Validation & Verification Body	Carbon Check (India) Private Limited
VVB Report	Completed January 14, 2026 | Validation and Verification Report
Verification Cycle	CRBNX converts to CRBNC following each completed verification event
Crediting Period Renewal	Every 5 years — CRBNP converts to CRBNX upon successful revalidation and renewal
5. TRANSFER CONTROL	
Transfer Control	All on-chain transfers require Theaus Global issuer authorization via Blockstream AMP (Transfer Restricted asset class). No transfer occurs without Theaus Global's co-signature — enforced at the protocol level.
6. PUBLIC RESOURCES & ON-CHAIN VERIFICATION	
Blockchain Tracker	theausglobal.com/blockchain-tracker
Project Calendar	theausglobal.com/our-project/calendar
On-Chain Verification	Liquid Network block explorer — asset IDs published in the Blockchain Tracker; supply reconcilable by any party at any time
AER Production Data	Alberta Energy Regulator production data — publicly accessible; provides independent third-party verification that no extraction has occurred