Approved credit issuers & protocols for offtakes

Updated July 12, 2026

To meet the commencement date requirements in a Frontier offtake, we require that suppliers (1) work with a **credit issuing partner**[1] that meets Frontier's requirements and (2) use **a protocol** from that issuer that exceeds Frontier's bar for the given technology. This is a living document of approved issuers and protocols.

Note: This guidance is not applicable for prepurchase companies[2].

Approved credit issuers (registries)

Credit issuer	Designation	Date approved
Isometric	Approved & Onboarded	July 2024
Puro	Approved	April 2025
Absolute & Evident	Approved	July 2025
Rainbow	Approved	March 2026

For detail on designations, credit issuer requirements and Frontier's review process, see Appendix.

Approved protocols

In order to approve protocols for use, Frontier conducts a rigorous review with internal reviewers, external scientists, relevant NGOs, and a leading protocol reviewing agency. Protocols at approved issuers are reviewed on a rolling basis.

Pathway	Issuer	Protocol	Date approved
BiCRS	Isometric	Biomass Geological Storage v1.1.x	July 2024
BiCRS	Isometric	Bio-oil Geological Storage v1.1*[3]	Sept 2024
BiCRS	Isometric	Biogenic Carbon Capture and Storage Protocol v1.1.5	Sept 2024
BiCRS	Rainbow	Biogenic carbon capture and storage (BioCCS) v1.0	July 2026
DAC	Isometric	Direct Air Capture v1.1	Dec 2024, but suppliers must also follow the requirements in Frontier's clean energy procurement principles

[1] Also known as a carbon crediting program (IC-VCM), certification scheme (EU CRCF) or registry.

[2] For low-volume prepurchases, Frontier expects deliveries to follow best-in-class measurement guidelines, but does not require that credits are issued by a third party credit issuer. Frontier has a separate set of requirements and conducts an external scientific review process to recommend whether buyers should accept delivery.

[3] Bio-oil Geological Storage version v1.0.4 approved for Charm Kansas site

DAC	Puro	Geologically stored carbon 2024 v1	Jan 2025, but suppliers must also follow the requirements in Frontier's clean energy procurement principles *Approved for geologic CO2 storage only (not in-situ mineralization)
DAC	Absolute Climate	Absolute Carbon Standard v1.0	April 2025 *Approved for US DAC projects only
EW	Isometric	Enhanced Weathering in Agriculture v1.2	Jan 2025 (July 2026 for v1.2)
EW	Puro	Puro Enhanced Rock Weathering 2025	April 2026
OAE	Isometric	Wastewater Alkalinity Enhancement v1.0	Jan 2025
OAE	Isometric	Ocean Alkalinity Enhancement from Coastal Outfalls v1.0.x	April 2025
RAE	Isometric	River Alkalinity Enhancement v1.0	May 2025
SM	Isometric	Open System Ex-situ Mineralization v 1.1	June 2026
Storage	Isometric	Biomass or Bio-oil Storage in Salt Caverns v1.1.x	July 2024
Storage	Isometric	Bio-oil Storage in Permeable Reservoirs v1.1.x	Sept 2024
Storage	Isometric	Isometric's CO_2 Storage via In-situ Mineralization in Mafic and Ultramafic Formations v1.0.1	July 2024
Storage	Isometric	CO_2 Storage in Saline Aquifers v1.0.2	July 2024
Modules	Isometric	Biomass Feedstock Accounting v1.2.x	July 2024
Modules	Isometric	Transportation Emissions Accounting v1.0.x	July 2024
Modules	Isometric	Embodied Emissions Accounting v1.0.x	July 2024
Modules	Isometric	Energy Use Accounting v1.2.x	July 2024

Appendix

Credit issuer & verifier requirements

In order to qualify as a credit issuing partner, we assess the quality of the issuer's Standard and verification operations along with their track record, buyer/supplier interest in partnering, financial stability, and market reputation. We expect compliance with many IC-VCM[4] and Calyx criteria, as well Frontier-specific criteria:

High level requirements

Requirement	Key questions	Required to pass
High-quality, transparent Standard	• Does this organization have the governance, structures, and procedures in place to develop rigorous protocols, manage verification, and issue credits transparently? • Do they have controls to ensure public and scientific accountability, minimize financial incentive conflicts, and ensure quality verifier performance?	• Has IC-VCM Core Carbon Principles approval & passes financial incentives check (See below table for details)
Durable CDR expertise	• Is durable CDR a core part of this organization's offering?	• 2+ protocols for durable CDR pathways and evidence CDR verifications will receive sufficient capacity • Sufficient in-house and verifier expertise in durable CDR (evidence of 2+ qualified experts per pathway)
Market viability	• Is this organization respected in the market and does it have the financial stability to continue operations beyond project timelines?	• 2 positive customer references • Demonstration of financial runway and contingency plan for insolvency • Line of sight to TAB approval
Track record	• Does this organization have a track record of quality issuing that demonstrates they can deliver on their Standard in practice?	(1) Has successfully verified tons for a Frontier prepurchase supplier or (2) Has verified and issued 1,000K+ credits or 3+ projects for durable CDR
Supplier & Buyer interest	• Do our suppliers and buyers want to work with this organization?	• Expression of interest from 2+ Frontier offtake suppliers • No blocking objection after buyer OH

Detailed criteria for quality credit issuance

Category	Key criteria summary

[4]Note: Verra, Gold Standard, ACR, Isometric, Puro and ACT are Core Carbon Principle Eligible programs under IC-VCM. This stamp is a valuable signal but not sufficient for Frontier's expectations.

Governance & transparency	• **Avoids financial conflicts of interest** (e.g., selling credits, CDR project development, fees tied to issued volume) • **Follows robust governance policies** to guard against bribery, corruption, money laundering • **Corporate structure, decision-making procedures**, standards & protocols are available to the public
Stakeholder consultation	• **Expert and public stakeholders are involved** in the review and approval of the standard, protocols, and projects • **Clear, transparent, and accessible grievance processes** are in place to collect and address public feedback
Credit issuer	• **Controls exist to prevent double-counting** within the credit issuer and across other credit issuers • **Clear and public accounting** of retired, transferred, and canceled credits • **Sufficient information is provided for public accountability** of credits issued
Standard & protocols	• **Independent scientific experts are involved** in protocol review • **Methodologies address key criteria** (e.g., accounting boundary, additionality, counterfactuals, process emissions, monitoring, reversal risk) • **Willingness to incorporate ecosystem-level standards** developed or endorsed by Frontier
3rd party validation	• **Quality controls and required accreditations** for verifiers to ensure they can rigorously audit a given project and technology • **Controls to manage conflicts of interest between verifiers and suppliers** (e.g., payment structures, assignment by credit issuer, regular rotation)
Durable CDR expertise	• **Sufficient durable CDR expertise in-house** (e.g., to assign verifiers, support protocol development, organize scientific panels) • **Clear labeling or differentiation of projects** by durability, and between carbon removal and avoided emissions

Credit issuer designations

Credit issuers are classified into one of five designations according to how well they meet the above criteria:

Designation	Assessment performance
Approved & Onboarded	**Approved for offtakes** • Industry-best partner, laser-focused on quality, scientific rigor and governance • Meets or exceeds all criteria • Is onboarded – Frontier buyers have contracted with this partner and their data is integrated into the Frontier dashboard *Note: Because this partner is integrated with Frontier and (likely) demonstrated the ability to operationalize delivery to Frontier buyers, these are the lowest risk partners.*
Approved	**Approved for offtakes** • Industry-best partner, laser-focused on quality, scientific rigor and governance • Meets or exceeds all criteria • Has not been confirmed yet as a partner for a Frontier offtake and as a result is not yet onboarded with Frontier (contracting or dashboard)

	Note: These are stellar partners, but have not yet operationalized delivery to Frontier buyers. Additional lead time may be required for offtake companies working with these partners.
Not qualified	**Not approved for offtakes** • Doesn't meet the criteria in Frontier's rubric <u>or</u> • Has not been formally assessed.

Credit issuers in the first two groups could be approved as a partner in a given offtake agreement if they have a protocol that has passed review for the given approach.

We expect suppliers to have <u>only one</u> credit issuer partner for a given project to protect against double counting. However, we have no requirement that suppliers have exclusivity with one credit issuer across their facilities or company lifetime.

Issuer review outcomes

Credit issuer	Designation	Summary of feedback
Isometric	Approved & Onboarded	Isometric excels across several domains, including: • A detailed and rigorous process for building protocols and keeping them up-to-date with the latest science, including external and public review, 3rd-party triggers for protocol reviews and an automatic review cadence • A detailed process for managing verifier competency and independence, including protocol training for verifiers, independent assignment of verifiers to suppliers, and regular rotations • A solid public registry that transparently provides information on issuance, retirement and transfer; gives background data used for verifying tons; appropriately handles cancellations and reversals; and prevents double counting. • Deep internal scientific bench, commitment to addressing field gaps (efficient data flows, faster review to improve supplier cash flows, verifier capacity, etc.), and ensuring quality-aligned incentives
Puro	Approved	Puro excels across several domains, including: • Detailed and rigorous governance and transparency procedures which are public and easily accessible • A detailed process for engaging stakeholders, managing grievances, and addressing public comments and complaints fairly and transparently • A detailed process for managing verifier competency and independence, including protocol training for verifiers, independent assignment of verifiers to suppliers, and regular rotations • A detailed project registry that includes primary project materials to encourage oversight and build confidence in buyers and regulators
Absolute	Approved	The Absolute Standard and Evident's registry meet our bar for qualification.

Climate & Evident		Evident has a track record of credit issuance, though not for removals, and Absolute is in the process of building protocols for durable CDR and demonstrating the ability to conduct verification in practice. They excel across several domains, including: • Detailed and rigorous governance and transparency procedures which are public and easily accessible • A detailed program for methodology approval, public stakeholder consultation, and expert review • A detailed project registry that includes primary project materials to encourage oversight and build confidence in buyers and regulators
Rainbow	Approved	Rainbow is a newer entrant to the durable removals space, but has quickly built a track record of quality issuing. They excel across several domains: • Detailed, transparent governance and clear differentiation of credit types by durability • A verification process that emphasizes real world feasibility – the team engages multiple engineers to support protocol implementation the field • A track record of durable removal verification: 12K tons issued across 50 projects as of Feb 2026 • Supplier friendly UX and data platform and quick verification turn around to protect supplier cash flow • Became an IC-VCM CCP-Eligible program in March 2026

Credit issuer & protocol review process

As of March 2026, Frontier had reviewed 7 credit issuers and approved 4 for offtakes.Frontier will continue to evaluate durable CDR protocols across approved credit issuers on an ongoing basis, prioritizing those relevant to existing and upcoming offtake pathways.

In order for a credit issuer to qualify as a partner which Frontier could approve in an offtake agreement, an organization must both (1) meet Frontier's credit issuer qualifications above, and (2) be issuing credits for the given supplier's approach against a rigorous protocol that meets or exceeds Frontier's bar. For example, for an ocean alkalinity enhancement offtake, a qualified partner without a rigorous Ocean Alkalinity Enhancement protocol would be ineligible.

If you are an offtake supplier that would like to use a protocol from an approved credit issuer that Frontier has not yet reviewed, please notify the team. If you would like to issue with a credit issuer not listed, we will consider the request for review, though given we have 4 existing approved partners, we are not likely to approve more.