

Preliminary Assessment Public Summary

This is a *Preliminary Assessment Public Summary* prepared by Puro.earth, which contains general information about the CO₂ Removal Supplier, a non-technical summary of the project, and a table containing details about the criteria assessed. The CO₂ Removal Supplier has received an extended Preliminary Assessment Report that includes additional remarks and recommendations for the continuation of the certification journey.

1. Supplier and project information

CO ₂ Removal Supplier	
Company name	Wood Cache PBC
Company address	90 North 400 East, Provo, UT 84606, United States
Business ID	92-0540376
KYC status	Completed
CO ₂ Removal Project	
Methodology	Terrestrial Storage of Biomass, Edition 2023, Version 1
Production Facility name	La Veta
Facility registration date (YYYY-MM-DD)	2024-04-12
Production Facility ID	530211
Production Facility location	4912 County Road 351, La Veta, Co 81055, USA
Host Country of removal	USA
Has this facility been registered in another registry?	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes, additional information:
Assessment details	
Date of assessment (YYYY-MM-DD)	2024-12-11
Status of assessment	Final
Conclusion of assessment	Passed

2. Non-technical project summary*

<p>Woodcache is initiating a production facility, intended to store 100,000 tonnes of woody biomass over 5 years. It will utilize the same design, techniques, source biomass, and practices approved in the previous pilot WCSP project. However, it will be scaled to production operation levels.</p> <p>WoodCache entered into a lease/easement agreement with a local landowner and began operations in November of 2024. A burial of approximately 1,200 tonnes of dry biomass will be completed on or about year-end 2024.</p> <p>The facility will be operated in stages which we call "Cells". There will be approximately 18 Cells excavated and closed. Contracts for provision of up to 20,000 tonnes of biomass in 2025 are under negotiations now. The Gross Amount of CO₂ expected to be removed over the life of the facility including all cells is greater than 130,000 tonnes.</p>
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*Added by the supplier. Between 150-200 words

The definition of CO₂ Removal Supplier and Production Facility can be found in the Puro Standard.

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3. Criteria assessment report

Reminder: Sub-criteria either concern the Production Facility’s technical eligibility or its maturity and quality. There are three types of sub-criteria:

- **Required to be passed:** These correspond to the core criteria related to the eligibility of a Production Facility. Suppliers must meet these criteria, as they may otherwise be impossible or costly to change at a later stage of the certification journey.
- **Required to be assessed:** These criteria are important for evaluation but do not necessarily determine pass or fail at this stage, as it is understood that the suppliers may be at different stages of development.
- **Not required:** These criteria are optional at this stage. They may provide additional information about the project maturity but are not essential for passing the preliminary assessment.

For a facility to be considered eligible for listing, all the sub-criteria that condition eligibility must be met (i.e. passed or assessed). If one of those sub-criteria is not met, the facility in its current state of development is not eligible for listing.

Disclaimer: The assessment has been made against the criteria in the current version of the methodology. Puro.earth relied on the CO₂ Removal Supplier for the correctness of the provided information during the time of the preliminary assessment and will make no representation as to the accuracy or completeness of this report. The CO₂ Removal Supplier must undergo a third-party audit before issuing CO₂ Removal Credits (CORCs). **Passing the preliminary assessment does not guarantee a success in the third-party audit.**

Table 1. Criteria and sub-criteria assessment by Puro based on the documents submitted.

ID	Criteria / Sub-criteria	Outcome	Comment	Evidence reviewed	Requirement for listed	Purpose of criteria
c1	Planned biomass feedstock(s) is(are) eligible	Passed			<i>Passed if required sub-criteria are met</i>	
c1.1	<i>Biomass feedstocks are identified and of eligible type (i.e. woody feedstocks)</i>	Passed	Feedstocks are woody biomass. The feedstock biomass has C/N ratio of 104 or higher, which is eligible (>80).	Eligible (Woody) Biomass.docx Wood Inventory In-process Cell 1.xlsx WoodCache Biomass types and origins list for TSB (1).xlsx	Required to be passed	Technical eligibility
c1.2	<i>Biomass feedstocks belong to a category listed in rule 4.1.6 (A-E)</i>	Passed	The biomass that Wood Cache is targeting are primarily biomass from category B (natural forests). Other categories are mentioned for future storage cells including A (managed forests), D (biomass waste from industrial activities), and E (land clearing in construction).	WoodCache Biomass types and origins list for TSB (1).xlsx HCCSP Biomass Records Authorization, Leakage, Toxicity.pdf	Required to be passed	Technical eligibility
c1.3	<i>Biomass feedstock chain-of-custody or traceability can be demonstrated</i>	Assessed	Biomass will be primarily sourced from forest thinning on private and/or public lands for fire mitigation in Huerfano County, Colorado, USA. The chain of custody for category B biomass traceability has been demonstrated with one example. Record keeping can be improved to include	HCCSP Biomass Records Authorization, Leakage, Toxicity.pdf	Required to be assessed	Technical eligibility

			more details on eligibility demonstration. Other sources will need to be demonstrated when used.			
c1.4	<i>Biomass feedstock sustainability and/or environmental safety can be demonstrated, where applicable</i>	Assessed	For one feedstock source (category B), authorisations of harvesting as part of a forest management project (Panadero GNA Stewardship project by the Colorado State Forest Service) is mentioned, and a contract between Woodcache and the 3 rd -party harvester are provided.	Eligible (Woody) Biomass.docx, HCCSP Biomass Records Authorization, Leakage, Toxicity.pdf, WoodCache Biomass types and origins list for TSB (1).xlsx, [completed] Wood Delivery Contract.pdf	Required to be assessed	Technical eligibility
c1.5	<i>Leakage effects related to feedstock use is minimal, where applicable</i>	Assessed	In the context of salvaging wood from natural forests (category B), economic leakage is normally not relevant. However, here, the supplier declared that salvaged wood can contain useable fractions and that those fractions will be valorized by the entity harvesting the wood. Woodcache will only process feedstocks without economic value.	HCCSP Biomass Records Authorization, Leakage, Toxicity.pdf	Required to be assessed	Technical eligibility
c1.6	<i>Land use change effects related to feedstock use is minimal, where applicable</i>	Assessed	In the context of salvaging wood from natural forests (category B), land use change effects are deemed not relevant.	HCCSP Biomass Records Authorization, Leakage, Toxicity.pdf, WoodCache Biomass types and origins list for TSB (1).xlsx	Required to be assessed	Technical eligibility
c1.7	<i>Sourcing of biomass is legal and rightful (e.g. permits, authorisations), where applicable</i>	Assessed	For one feedstock source (category B), authorisations of harvesting as part of a forest management project (Panadero GNA Stewardship project by the Colorado State Forest Service) is mentioned, and a contract between Woodcache and the 3 rd -party harvester are provided.	Eligible (Woody) Biomass.docx, HCCSP Biomass Records Authorization, Leakage, Toxicity.pdf, WoodCache Biomass types and origins list for TSB (1).xlsx, [completed] Wood Delivery Contract.pdf	Required to be assessed	Technical eligibility
c1.8	<i>Sourcing of biomass is secured (e.g. letters of intent, contracts)</i>	Assessed	At least one contract agreement has already been signed for wood supply. An external contractor agreement is in place for the wood supply by a local forestry entity.	[completed] Wood Delivery Contract.pdf, Project Master Contractual Agreement.pdf	Not required	Project maturity & quality
c2	Planned storage site design is technically sound	Passed			<i>Passed if required sub-criteria are met</i>	
c2.1	<i>Storage site location is identified and secured</i>	Passed	Location is identified and infrastructure needs are underway. A construction contract agreement has been in place since 09-.2024 for a road, the excavation of a pit and burial and wood supply by a forestry contractor based at La Veta.	EDOP_23-9429 Engineering and Operations 100124.pdf, Project Master Contractual Agreement.pdf	Required to be passed	Technical eligibility
c2.2	<i>Capacity of storage site and number of storage chambers at the site is estimated</i>	Passed	There are 18 vaults/storage chambers to be constructed contiguously within the production facility. Individual vault footprints range in size from 0.88 to 1.34 -acres and full extent of storage area will be 19 acres, for planned 70,000 dry metric tonnes of biomass storage.	EDOP_23-9429 Engineering and Operations 100124.pdf, Woodcache TSB Storage site questionnaire.xlsm	Required to be passed	Project maturity & quality
c2.3	<i>Storage chambers type (i.e. type of storage conditions) is identified</i>	Passed	Storage chambers are designed to maintain dry conditions to minimize decomposition and low temperatures.	EDOP_23-9429 Engineering and Operations 100124.pdf, Woodcache TSB Storage site questionnaire.xlsm	Required to be passed	Technical eligibility

c2.4	Technical and engineering drawings of the site and its chambers are available	Passed	Design drawings are completed. The chamber was designed by a State of Colorado certified engineering firm and approved by the State of Colorado Department of Public Health and Environment.	EDOP_23-9429 Engineering and Operations 100124.pdf, Wood pit Design Sheets 100124.pdf	Required to be passed	Project maturity & quality
c2.5	Storage chamber design is demonstrated to ensure storage that inhibit decomposition conditions	Passed	The wood will be at least 80% dry (leaves/needles will not be added). Void will be filled with local soil. Water flows have been considered in the design. Chambers will be topped with a water balance cap using the soil sourced on site. Further, the supplier states that the design of this facility is the same as the one from a pilot site completed in 2023, where monitoring data shows that the chamber maintained dry conditions.	EDOP_23-9429 Engineering and Operations 100124.pdf (appendix C).pdf HCCSP MRV Protocol.pdf	Required to be passed	Technical eligibility
c2.6	Storage chamber design is demonstrated to ensure minimal re-emissions of methane	Passed	Minimal methane re-emissions is expected from the chamber design thanks to low moisture in the chamber, low temperature, void filling between the wood with on-site sandy soil, and a 6-inch-thick cap loosely compacted serving as a soil oxidation layer.	EDOP_23-9429 Engineering and Operations 100124.pdf	Required to be passed	Technical eligibility
c2.7	Storage site is designed to minimize external risks (fire, intrusions, etc)	Assessed	Vegetation will be stripped around the edge of the storage site to provide a firebreak. Livestock will not be allowed in the area until closure.	EDOP_23-9429 Engineering and Operations 100124.pdf	Required to be assessed	Technical eligibility
c2.8	Storage site is designed to include monitoring of storage conditions, re-emissions and other risks	Assessed	The storage chambers will be equipped with underground sensors monitoring and reporting temperature, moisture, oxygen, CO2 and CH4. Aboveground gas-flux sensors will also be used.	EDOP_23-9429 Engineering and Operations 100124.pdf	Required to be assessed	Technical eligibility
c2.9	Authorisation of use of the land as a storage site is available	Assessed	Land-use letter of intent is in place, as well as one permit by the Huerfano County Land Use and Building Department of Parcel 41244.	2024-09-26 Walsenburg Carbon Sequestration NEUR (recorded) - Authorization of land use with Environmental restrictions.pdf 24 - R Bongiovanni - Land Use - CUP 23-015 Application Wood Burial - signed (1)	Not required	Project maturity & quality
c3	Permanence liabilities	Passed			<i>Passed if required sub-criteria are met</i>	
c3.1	Contractual framework for future maintenance of storage site have been drafted or completed	Passed	Financial Assurance Coverage will begin before the first storage chamber is built and will continue for 30 years after closure. <i>This framework however needs to be revised or complemented so that it covers a 100-year timeframe in line with rule 4.5.5.</i>	Wood Cache PBC HCSP financial application-1.pdf Draft Cucharas River Estates Easement Agreement 10 29 24 redline	Required to be passed	Technical eligibility
c3.2	Funding needs for implementation of contractual framework have been estimated	Assessed	Financial plan time scope is from 2024 to 2054 and includes opening and closure, revegetation, monitoring and insurance, annual review, and infrastructure costs.	Financial Maintenance model Cell 1-1.xlsx	Required to be assessed	Project maturity & quality
c3.3	Legal documentation evidencing 100-year land use guarantee is available	Assessed	Documentation is in place and refers to the 100-year guarantee.	Draft Cucharas River Estates Easement Agreement 10 29 24 redline.pdf	Required to be assessed	Project maturity & quality
c4	Additionality is demonstrated	Passed			<i>Passed if required sub-criteria are met</i>	
c4.1	Carbon storage additionality to baseline	Passed	In the baseline, no biomass storage vault would be built and the biomass feedstocks selected (category B, derived	WoodCache additionality questions to suppliers v1.8 (1).pdf	Required to be passed	Technical eligibility

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			from forest fire mitigation activities) would not ensure safe long term carbon storage.			
c4.2	Financial additionality of project	Passed	The activity does not generate revenues other than the ones from CORC sales.	WoodCache additionality questions to suppliers v1.8 (1).pdf	Required to be passed	Technical eligibility
c4.3	Regulatory additionality	Passed	There is no known regulatory framework requiring biomass processing and storage.	WoodCache additionality questions to suppliers v1.8 (1).pdf	Required to be passed	Technical eligibility
c5	Project has monitoring, reporting, and LCA capabilities/plans	Passed			<i>Passed if required sub-criteria are met</i>	
c5.1	A monitoring plan has been drafted	Passed	A monitoring plan has been provided including details on monitoring of biomass deliveries and site monitoring. Some mentions are also made of quality assurance and control measures. <i>The scientific quality of the document could be improved, with more procedural aspects described and information on complete CORC eligibility and calculation demonstration.</i>	HCCSP MRV Protocol.pdf	Required to be passed	Project maturity & quality
c5.2	Monitoring plan includes protocol for biomass record keeping	Assessed	The plan mentions that buried biomass will be measured by direct weighing and origin will be recorded. <i>Additional information could be added to the records to facilitate 3rd party verifications (e.g. category, evidence of eligibility).</i>	HCCSP MRV Protocol.pdf	Required to be assessed	Project maturity & quality
c5.3	Monitoring plan includes protocol for dry mass determination of biomass placed in storage is prepared	Assessed	Several options for biomass weight logging (fresh weight) have been identified depending on biomass providers. Moisture is determined off-site by laboratory analysis (alongside other properties) based on multiple samples.	Protocol to calculate dry mass of biomass placed in storage.pdf	Required to be assessed	Project maturity & quality
c5.4	Monitoring plan includes protocol for monitoring of storage conditions	Assessed	A Soil Probe System will be in place to monitor moisture, temperature and oxygen inside the storage chambers. Controls probes outside of the chambers will also be used.	HCCSP MRV Protocol.pdf	Required to be assessed	Project maturity & quality
c5.5	Monitoring plan includes protocol for monitoring and abatement of re-emissions	Assessed	Underground sensors will be installed inside the storage chambers to monitor CH ₄ and CO ₂ fluxes, at various depth. Controls probes outside of the chambers will also be used. Aboveground measurements will complement the sensor data.	HCCSP MRV Protocol.pdf	Required to be assessed	Project maturity & quality
c5.6	Monitoring plan includes protocol for monitoring of parameters needed for LCA calculations	Assessed	Monitoring of parameters for calculation of project emissions is described in the LCA draft report, mainly detailing record keeping of fuel consumption by subcontractors and by Woodcache, and monitoring equipment used.	HCCSP MRV Protocol.pdf, WoodCache HCCSP LCA Report Preliminary Assessment DRAFT.pdf	Required to be assessed	Project maturity & quality
c5.7	Measurement devices needed for monitoring have been identified	Assessed	Measurement devices include specific sensors for gas, temperature and moisture measurements.	HCCSP MRV Protocol.pdf	Required to be assessed	Project maturity & quality
c5.8	Information system used to keep data records is prepared	Assessed	To enable verification, measurements will be aggregated and stored in a centralized, online data monitoring system.	Information system used to keep data records HCCSP.pdf	Required to be assessed	Project maturity & quality
c5.9	An LCA model specific to the project's operation is prepared	Assessed	A preliminary model was developed, covering all the main stages and included embodied emissions. The draft	HCCSP LCA Projected.xlsm, WoodCache HCCSP LCA Report Preliminary Assessment DRAFT.pdf	Required to be assessed	Project maturity & quality

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			LCA report provided also details how activities will be monitored to collect input data for the LCA.			
c5.10	A GWP20-stress test on the LCA results was performed, if applicable	Assessed	Not applicable for dry storage conditions.	Woodcache TSB Storage site questionnaire.xlsm	Required to be assessed	Project maturity & quality
c6	Environmental and social safeguards	Assessed			<i>Passed if required sub-criteria are met</i>	
c6.1	Stakeholder consultations have been planned or conducted	Assessed	Consultations have been conducted with four key parties (counties, state departments) to whom the project was presented for approval. The outcome of the consultation remains to be reported prior to the Facility Audit, including plans for continued consultation throughout the crediting period.	EDOP_23-9429 Engineering and Operations 100124.pdf Puro Environmental and Social Safeguard.docx, HCCSP Project Description (in-process DRAFT).pdf	Required to be assessed	Project maturity & quality
c6.2	Regulation applicable to project has been identified	Assessed	A comprehensive list of applicable regulations was not provided. However, other documents refer to regulation applicable.	List of applicable regulations.xlsx, 2024-09-26 Walsenburg Carbon Sequestration NEUR (recorded) - Authorization of land use with Environmental restrictions.pdf	Required to be assessed	Project maturity & quality
c6.3	Procedures to acquire relevant environmental permits have been identified, started, or completed	Assessed	Authorisation of land use as a storage stage from local authority was obtained. Other permits and state review are in the process of being obtained.	2024-09-26 Walsenburg Carbon Sequestration NEUR (recorded) - Authorization of land use with Environmental restrictions.pdf	Required to be assessed	Project maturity & quality
c6.4	Occupational health and safety measures have been planned	Assessed	Occupational health and safety measures during operations have not been documented yet for this facility. A document describing policies in place and evidence that the policy is implemented during operations are necessary for the Facility Audit.	No information available for this facility	Required to be assessed	Project maturity & quality
c6.5	Environmental impact assessment (EIA) or environmental risk assessment (ERA) has been planned, drafted, completed.	Assessed	Although an authorisation of land use for storage purposes was obtained, and although the storage site design documents cover certain environmental risks, it is not clear yet whether these documents address all the potential environmental risks described in the methodology (rule 4.8.5) and would need therefore to be supplemented by other analyses of potential environmental impacts.	2024-09-26 Walsenburg Carbon Sequestration NEUR (recorded) - Authorization of land use with Environmental restrictions.pdf, EDOP_23-9429 Engineering and Operations 100124.pdf	Required to be assessed	Project maturity & quality
c7	Project has likely co-benefits and positive SDG impacts	Passed			<i>Passed if required sub-criteria are met</i>	
c7.1	Project-specific co-benefits have been identified	Assessed	Woodcache declared recognising the importance of the UN SDG framework and declared that its activities have likely co-benefits in relation to SDG targets 15.1 and 15.2, in relation to the conservation and restoration of terrestrial ecosystems as well as the restoration of degraded forests.	DRAFT Woodcache Statement on Positive Impacts to SDGs.pdf	Required to be assessed	Project maturity & quality
c7.2	Project-specific SDG targets or indicators have been identified	Assessed			Required to be assessed	Project maturity & quality
c8	Project team has access to relevant knowledge and skills	Assessed			<i>Passed if required sub-criteria are met</i>	
c8.1	Relating to biomass sourcing, handling, processing	Assessed		No specific information provided	Not required	Project maturity & quality

c8.2	<i>Relating to biomass decomposition</i>	Assessed	The supplier has already operated another pilot storage facility, which was certified under this methodology and General Rules 3.1.		Not required	Project maturity & quality
c8.3	<i>Relating to environmental monitoring and carbon accounting</i>	Assessed			Not required	Project maturity & quality