Preliminary Assessment Public Summary

This is a *Preliminary Assessment Public Summary* prepared by Puro.earth, which contains general information about the CO_2 Removal Supplier, a non-technical summary of the project, and a table containing details about the criteria assessed. The CO_2 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	Mast Reforestation
Company address	1144 NW 53rd St., Seattle, Washington (US), 98127 United States
Business ID	81-0921776
KYC status	Completed
CO_2 Removal Project	
Methodology	**Terrestrial Storage of Biomass, Edition 2023, Version 1**
Production Facility name	Mast Wood Preserve MT1
Facility registration date	2024-12-13
Production Facility ID	272514
Production Facility location	Big Horn County, 59010, United States
Host Country of removal	United States
Has this facility been registered in another registry?	☒ No ☐ Yes, additional information:
Assessment details	
Date of assessment	2025 -03-27
Status of assessment	Concluded
Conclusion of assessment	Passed

2. Non-technical project summary*

Mast's restorative carbon removal pathway uniquely combines biomass burial and reforestation. At Mast Wood Preserve MT1, biomass will be sourced from burned logs cut-and-decked to reduce wildfire risks by a private landowner in Montana. These trees were killed in the 2021 Poverty Flats wildfire then slated to be pile burned in 2025. Mast's MT1 biomass burial project will sequester a net 5000 tonnes CO2e. We additionally provide reforestation as a co-benefit on 125 acres restoring ponderosa pine forest lost to the fire. The biomass burial site will be protected by easement for at least 100 years, and is designed to prevent decomposition of the wood through maintaining dry, oxygen-free conditions. Equipment will be installed to monitor the storage site's conditions and any signs of greenhouse gas emissions. After the woody biomass is buried, the topsoil will be re-seeded with native grasses that support livestock grazing on the property. An endowment fund for long-term monitoring and maintenance will be established to ensure the removal of carbon at the MT1 location.

*Added by the supplier. Between 150-200 words

The definition of CO_2 Removal Supplier and Production Facility can be found in the Puro Standard.

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 CO_2 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 CO_2 Removal Supplier must undergo a third-party audit before issuing CO_2 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. Note: The sub-criteria marked with * do not apply for "subterranean injection of biomass".*

ID	Criteria / Sub-criteria	Outcome	Comment	Evidence reviewed	Requirement for listed	Purpose of criteria
c1	**Planned biomass feedstock(s) is(are) eligible**	**Passed**			*Passed if required sub-criteria are met*	
c1.1	*Biomass feedstocks are identified and of eligible type (i.e. woody feedstocks)*	Passed	The biomass feedstock identified is described as fire-damaged *Pinus ponderosa* from salvage operations. This woody biomass is an eligible type of biomass.	MT1 Biomass types and origins list for TSB.xlsx	Required to be passed	Technical eligibility
c1.2	*Biomass feedstock belong to a category listed in rule 4.1.6 (A-E)*	Passed	The intended feedstock falls under Requirement 4.1.6(b) – "sourced from forests that are not managed for production of materials or energy".	MT1 Biomass types and origins list for TSB.xlsx	Required to be passed	Technical eligibility
c1.3	*Biomass feedstock chain-of-custody or traceability can be demonstrated*	Assessed	The biomass is sourced from one landowner whose property was impacted by severe fires. The chain of custody and traceability of the biomass can be demonstrated.	MT1 Biomass types and origins list for TSB.xlsx; MT1 Mast Landowner Intent to Burn Attestation – Signed.pdf	Required to be assessed	Technical eligibility

c1.4	*Biomass feedstock sustainability and/or environmental safety can be demonstrated, where applicable*	Assessed	Biomass feedstock is sourced according to regulatory requirements in reducing fire hazard on private land. The biomass is not expected to be hazardous/toxic and is not expected to result in negative environmental impacts.	MT1 Biomass types and origins list for TSB.xlsx	Required to be assessed	Technical eligibility
c1.5	*Leakage effects related to feedstock use is minimal, where applicable*	Assessed	The Supplier declares that the fire-damaged timber has no commercial value, and that the landowner would have burned the biomass as per business-as-usual. In addition, as per regulatory requirements in the State of Montana, timber slash and debris are not mandated to be used for material or energy use. No leakage effects related to feedstock use is expected.	MT1 Biomass types and origins list for TSB.xlsx; MT1 Mast Landowner Intent to Burn Attestation – Signed.pdf	Required to be assessed	Technical eligibility
c1.6	*Land use change effects related to feedstock use is minimal, where applicable*	Assessed	The biomass sourcing and burial is not expected to result in land use change.	MT1 Biomass types and origins list for TSB.xlsx; MT1 Mast Landowner Intent to Burn Attestation – Signed.pdf; MT1 Puro Additionality v1.9.docx	Required to be assessed	Technical eligibility
c1.7	*Sourcing of biomass is legal and rightful (e.g. permits, authorisations), where applicable*	Assessed	The management of timber slash and debris is regulated in the State of Montana. Actions must be taken to reduce fire risk from forest management activities. The biomass intended for burial is expected to be sourced having acquired all relevant authorizations, while following Montana's best forestry management practices.	MT1 Biomass types and origins list for TSB.xlsx	Required to be assessed	Technical eligibility
c1.8	*Sourcing of biomass is secured (e.g. letters of intent, contracts)*	Assessed	An agreement has been signed between the landowner who will be providing the biomass feedstock for burial.	MT1 Side Agr (1-1-2025) signed.pdf	Not required	Project maturity & quality
c2	**Planned storage site design is technically sound**	**Passed**			*Passed if required sub-criteria are met*	
c2.1	*Storage site location is identified and secured*	Passed	A geographic boundary has been defined corresponding to the landowner's plot boundary. The storage site is located within this single plot of land.	County Certified MT1 Easement (1-1-2025) signed.pdf; Map of storage site location.pdf	Required to be passed	Technical eligibility
c2.2	*Capacity of storage site and number of storage chambers at the site is estimated*	Passed	The project consists of a single storage chamber, with additional chambers planned for future construction. The capacity of each chamber is expected to hold approximately 8,066 m^3/3,469 dry metric tonnes.	MT1 TSB Storage site questionnaire.xlsx	Required to be passed	Project maturity & quality

c2.3	*Storage chambers type (i.e. type of storage conditions) is identified*	Passed	The storage chambers will be below ground storage chambers.	MT1 TSB Storage site questionnaire.xlsx	Required to be passed	Technical eligibility
c2.4	*Technical and engineering drawings of the site and its chambers are available*	Passed	Technical drawings and cross-sections of the storage chamber design were provided. Additional design documents of the chamber cap, illustrating the layers within the cap, were also included.	Tetra Tech designs - 20250117_Tetra Tech_HELPresults.docx.pdf; Preview CAD design drafts from Tetra Tech.docx.pdf; MT1-X-1 - Biomass Cross-Sections.pdf; MT1-C-1 - OVERVIEW PLAN.pdf; MT1-C-2 - Excavation Plan.pdf; Screen Capture of C-GD-Cover_Design.dwg.png	Required to be passed	Project maturity & quality
c2.5	*Storage chamber design is demonstrated to ensure storage conditions that inhibit decomposition*	Passed	The storage chamber design is expected to maintain dry conditions and have a relative humidity level below 0.71. Biomass will be buried dry and compacted to ensure structural integrity. In addition, climatic conditions and local soil moisture contents will contribute toward maintaining dry conditions, further promoting a dry environment. Storage chamber conditions must be monitored once the chamber has been sealed.	MT1 Storage Site Design Inhibiting Decomposition and Methane Re-emission Report.docx	Required to be passed	Technical eligibility
c2.6	*Storage chamber design is demonstrated to ensure minimal re-emissions of methane*	Passed	The storage chamber is designed to maintain dry conditions and, therefore, inhibit decomposition. Furthermore, the chamber cap layer includes a methane oxidation layer and methane distribution layer, further reducing the likelihood of methane re-emissions. Potential re-emissions must be monitored once the storage chamber has been sealed.	MT1 Storage Site Design Inhibiting Decomposition and Methane Re-emission Report.docx	Required to be passed	Technical eligibility
*c2.7**	*Storage site is designed to minimize external risks (fire, intrusions, etc)*	Assessed	A standard operating procedure describing fire mitigation and response protocols has been outlined. Including prevention, detection and monitoring, and suppression procedures.	Fire mitigation and response plan SOP.docx.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	A monitoring and reporting standard operating procedure has been drafted, describing the design features of the storage site to enable monitoring of storage conditions, re-emissions and other external risks. The plan describes the monitoring method, equipment used, data collected and mitigation measures when applicable.	MRV SOP.docx.pdf; MRV Equipment Devices and Calibration Devices SOP.docx.pdf	Required to be assessed	Technical eligibility

c2.9	*Authorisation of use of the land as a storage site is available*	Assessed	Agreements with the landowner and easements have already been signed, authorising biomass storage and post-closure monitoring.	County Certified MT1 Easement (1-1-2025) signed.pdf; MT1 Side Agr (1-1-2025) signed.pdf; Map of storage site location.pdf	Not required	Project maturity & quality
c3	**Permanence liabilities**	**Passed**			*Passed if required sub-criteria are met*	
c3.1	*Contractual framework for future maintenance of storage site have been drafted or completed*	Passed	A draft contractual framework has been provided. The draft document describes the duration of the framework, processes for monitoring and reporting, an endowment fund to be used exclusively for monitoring and reporting, repairs to the chamber and compensations for any unintended re-emissions.	Draft - Contractual for future maintenance of Storage Site.pdf; Foundation Structure and Charter Outline.pdf	Required to be passed	Technical eligibility
c3.2	*Funding needs for implementation of contractual framework have been estimated*	Assessed	A funding model has been prepared, providing an estimate of the funds required to implement the contractual framework.	Mast Wood Preserve MT1 Endowment Funding Permanence Risk Model.xlsx	Required to be assessed	Project maturity & quality
*c3.3**	*Legal documentation evidencing 100-year land use guarantee is available*	Assessed	The landowner has granted, and the County has approved, an easement enabling the Supplier to conduct activities related to the project activity for 100-years.	County Certified MT1 Easement (1-1-2025) signed.pdf	Required to be assessed	Project maturity & quality
c4	**Additionality is demonstrated**	**Passed**			*Passed if required sub-criteria are met*	
c4.1	*Carbon storage additionality to baseline*	Passed	The biomass supplier (landowner) has provided a signed attestation declaring that the stockpiled biomass would have been burnt if it were not for the biomass burial project. The burning of biomass would result in carbon dioxide emissions. As per Requirement 4.1.6(b), baseline carbon removals can be set to zero.	MT1 Puro Additionality v1.9.docx; MT1 Mast Landowner Intent to Burn Attestation – Signed.pdf	Required to be passed	Technical eligibility
c4.2	*Financial additionality of project*	Passed	The project depends solely on carbon revenue and has applied a simple cost analysis to demonstrate financial additionality. Without carbon finance, the project would not be implemented.	MT1 Puro Additionality v1.9.docx; [Confidential] Mast Wood Preserve MT 1 Financial Model - Puro Submission.xlsx	Required to be passed	Technical eligibility
c4.3	*Regulatory additionality*	Passed	Fire hazard management is regulated in the State of Montana, requiring that timber slash and debris are managed to reduce fire risk, for which one such method is open-air burning. Biomass burial is not required as a management option by law and, therefore, the project is considered additional regarding regulation.	MT1 Puro Additionality v1.9.docx; MT1 Biomass types and origins list for TSB.xlsx	Required to be passed	Technical eligibility

c5	Project has monitoring, reporting, and LCA capabilities/plans	Passed			*Passed if required sub-criteria are met*	
c5.1	*A monitoring plan has been drafted*	Passed	A monitoring plan, consisting of specific protocols to measure and report project activity data, has been prepared.	MRV SOP.docx.pdf	Required to be passed	Project maturity & quality
c5.2	*Monitoring plan includes protocol for biomass record keeping*	Assessed	A protocol to monitor, record and report biomass data has been prepared. The protocol includes mass and moisture quantification, equipment, biomass sampling and testing, and fuel consumption.	Biomass measurement, sampling, and testing SOP.docx.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	Biomass moisture contents will be sampled in-field, as well as in laboratories. Dry mass of biomass can then be calculated based on the wet weight and moisture content.	Biomass measurement, sampling, and testing SOP.docx.pdf	Required to be assessed	Project maturity & quality
c5.4	*Monitoring plan includes protocol for monitoring of storage conditions*	Assessed	A protocol to monitor storage conditions is prepared and includes the monitoring of external risks, structural integrity, gas (including GHG), humidity, and temperature monitoring.	MRV SOP.docx.pdf	Required to be assessed	Project maturity & quality
c5.5	*Monitoring plan includes protocol for monitoring and abatement of re-emissions*	Assessed	Sensors will be installed to monitor GHGs within the chamber. In addition, the storage chamber cap is designed to facilitate the oxidation of methane should any methane be generated.	MRV SOP.docx.pdf	Required to be assessed	Project maturity & quality
c5.6	*Monitoring plan includes protocol for monitoring of parameters needed for LCA calculations*	Assessed	The Facility combusts fossil fuel to perform the required activities (e.g., biomass transport). Data record keeping and reporting plans have been provided.	Biomass measurement, sampling, and testing SOP.docx.pdf	Required to be assessed	Project maturity & quality
c5.7	*Measurement devices needed for monitoring have been identified*	Assessed	A list of devices needed for monitoring have been provided indicating the devices that require calibration.	MRV Equipment Devices and Calibration Devices SOP.docx.pdf; MRV SOP.docx.pdf; Vulcan v600.pdf	Required to be assessed	Project maturity & quality
c5.8	*Information system used to keep data records is prepared*	Assessed	Data management system for record keeping has been prepared. The data structure aligns with the monitoring protocols.	Project Reporting Spreadsheet - MT1 Pilot.xlsx	Required to be assessed	Project maturity & quality
c5.9	*An LCA model specific to the project's operation is prepared*	Assessed	A preliminary LCA has been prepared, which is expected to be updated to accurately account for project emissions. An LCA specialist will be contracted to prepare the final LCA model.	Mast Wood Preserve MT1 Carbon Removal and LCA Calculation.xlsx	Required to be assessed	Project maturity & quality
c5.10	*A GWP20-stress test on the LCA results was performed, if applicable*	Assessed	The storage chamber is designed to maintain dry conditions and, therefore, the GWP20-stress test is not applicable.		Required to be assessed	Project maturity & quality

c6	**Environmental and social safeguards**	**Passed**			*Passed if required sub-criteria are met*	
c6.1	*Stakeholder consultations have been planned or conducted*	Assessed	The stakeholder engagement process is currently in progress. Relevant stakeholders have been identified and contacted.	Puro Stakeholder Engagement Report.docx.pdf; Mast Wood Preserve MT1 Stakeholders Consulted.xlsx; Mast Mail to MT DNRC - Mast Log Burial Stakeholder.pdf	Required to be assessed	Project maturity & quality
c6.2	*Regulation applicable to project has been identified*	Assessed	A list of regulations and industry standards at a national and local level have been identified. Regulations cover environmental impacts, conservation, waste management, and land use.	MT1 List of applicable regulations.xlsx	Required to be assessed	Project maturity & quality
c6.3	*Procedures to acquire relevant permits have been identified, started, or completed*	Assessed	The process to obtain environmental permits is in progress. The National Environmental Protection Act and Montana Environmental Protection Act procedures are being followed.	Environmental Permits - Mast Reforestation - Puro.earth.docx.pdf; MT1-Environmental-Checklist-and-Instructions.pdf	Required to be assessed	Project maturity & quality
c6.4	*Occupational health and safety measures have been planned*	Assessed	Health and safety plans have already been prepared.	Health and Safety Plan - MT1.docx.pdf; Mast Reforestation Employee Handbook.docx.pdf	Required to be assessed	Project maturity & quality
c6.5	*Environmental impact assessment (EIA) or environmental risk assessment (ERA) has been* planned, drafted, completed	Assessed	An Environmental Impact Assessment is being drafted as per Montana State Environmental Checklist, which must be completed as per Montana Environmental Protection Act.	MT1 Environmental and Social Safeguards Questionnaire.docx.pdf	Required to be assessed	Project maturity & quality
c7	**Project has likely co-benefits and positive SDG impacts**	**Passed**			*Passed if required sub-criteria are met*	
c7.1	*Project-specific co-benefits have been identified*	Assessed	The primary co-benefit of the project is the resulting reforestation that will be performed once the biomass has been buried.	MT1 Puro Project Description.docx.pdf	Required to be assessed	Project maturity & quality
c7.2	*Project-specific SDG targets or indicators have been identified*	Assessed	The supplier has indicated that they will not pursue additional SDG targets.	MT1 Puro Project Description.docx.pdf	Required to be assessed	Project maturity & quality
c8	**Project team has access to relevant knowledge and skills**				*Passed if required sub-criteria are met*	
c8.1	*Relating to biomass sourcing, handling, processing*	Not required	While Puro notes that the Supplier has experience in this sector, no specific evidence was provided, and these criteria were not assessed.		Not required	Project maturity & quality
c8.2	*Relating to biomass decomposition*	Not required			Not required	Project maturity & quality
c8.3	*Relating to environmental monitoring and carbon accounting*	Not required			Not required	Project maturity & quality