

Preliminary Assessment Public Summary

This is a *Preliminary Assessment Public Summary* prepared by Puro.earth, which contains general information about the CO₂ Removal Supplier, its Production Facility, 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.

CO₂ Removal Supplier	The Wonderful Company
Production Facility	Blackwell's Corner
Production Facility ID	938006
Methodology	Terrestrial Storage of Biomass Edition 2023 Version 1
Date of assessment	2024-07-25
Conclusion	Passed

1. 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.**

Overall evaluation: Preliminary Assessment is **Passed**.

ID	Criteria / Sub-criteria	Outcome	Comment	Evidence reviewed	Requirement for listing	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	The feedstock biomass is a woody material with average C/N ratio of 18g.	Biomass types and origins list for TSB.xlsx	Required to be passed	Technical eligibility
c1.2	<i>Biomass feedstock belong to a category listed in rule 4.1.6 (A-E)</i>	Passed	The feedstock fits category D of the methodology.	Biomass types and origins list for TSB.xlsx	Required to be passed	Technical eligibility
c1.3	<i>Biomass feedstock chain-of-custody or traceability can be demonstrated</i>	Assessed	The biomass is sourced from orchards owned by Wonderful Orchards in Kern County, California.	Biomass types and origins list for TSB.xlsx	Required to be assessed	Technical eligibility
c1.4	<i>Biomass feedstock sustainability and/or environmental safety can be demonstrated, where applicable</i>	Assessed	The biomass is agricultural residues from existing Wonderful farming orchards, namely retired almond trees.	Biomass types and origins list for TSB.xlsx	Required to be assessed	Technical eligibility
c1.5	<i>Leakage effects related to feedstock use is minimal, where applicable</i>	Assessed	Absence of leakage effects will be provided in the form of attestations of no-other productive use.	Biomass types and origins list for TSB.xlsx	Required to be assessed	Technical eligibility

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c1.6	Land use change effects related to feedstock use is minimal, where applicable	Assessed	There are no relevant land use change effects to consider here, in the context of retired almond trees without expansion of agricultural area.	Biomass types and origins list for TSB.xlsx	Required to be assessed	Technical eligibility
c1.7	Sourcing of biomass is legal and rightful (e.g. permits, authorisations), where applicable	Assessed	The biomass is from existing Wonderful-owned orchards; thus, sourcing is deemed legal.	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	The biomass is from existing Wonderful-owned orchards; thus, sourcing is considered secured.	Biomass types and origins list for TSB.xlsx	Not required	Maturity & Quality
c2	Planned storage site design is technically sound	Passed			<i>Passed if required sub-criteria are met</i>	
c2.1	Storage site location is identified and secured	Passed	Project site is planned to be located on Wonderful-owned land near Blackwells Corner.	Site Design - Preliminary Assement.docx TSB Storage site questionnaire.xlsx	Required to be passed	Technical eligibility
c2.2	Capacity of storage site and number of storage chambers at the site is estimated	Passed	The storage site is composed of two below ground storage chambers with known capacity (confidential information).	TSB Storage site questionnaire.xlsx	Required to be passed	Maturity & Quality
c2.3	Storage chambers type (i.e. type of storage conditions) is identified	Passed	The storage chambers are subterranean dry vaults engineered to keep the buried biomass dry.	Site Design - Preliminary Assement.docx	Required to be passed	Technical eligibility
c2.4	Technical and engineering drawings of the site and its chambers are available	Passed	Preliminary technical drawings of the storage chambers were provided. More precise information will be provided to ensure stable storage conditions and enable adequate monitoring.	C2.4 Technical Drawings C2.4 CHAMBER CELL NO.1 DETAIL C2.4 CHAMBER CELL NO.2 DETAIL C2.4 Overall Site Plan	Required to be passed	Maturity & Quality
c2.5	Storage chamber design is demonstrated to ensure storage conditions that inhibit decomposition	Passed	The cover of the two pilot cells currently planned are designed to minimize water infiltration to the storage chambers and maintain dry conditions. Other design factors have been evaluated in a geotechnical investigation and soil profile analysis.	Site Design - Preliminary Assement.docx C2.5 Geotechnical Report.pdf C2.5 Soil Profile Testing Results.pdf	Required to be passed	Technical eligibility
c2.6	Storage chamber design is demonstrated to ensure minimal re-emissions of methane	Passed	Methane re-emissions are discussed, referring to on-going experiments to validate adequacy of oxidation layer design.	Site Design - Preliminary Assement.docx	Required to be passed	Technical eligibility
c2.7	Storage site is designed to minimize external risks (fire, intrusions, etc)	Assessed	A table with risks and mitigation approaches was provided.	Site Design - Preliminary Assement.docx	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 preliminary monitoring plan mentions monitoring of relevant storage conditions (oxygen, water activity, temperature) in the chamber, measurements of CO ₂ and CH ₄ in the chamber and at the surface, as well as other risks (subsidence, termites). The plan remains to be finalized.	MRV - Preliminary Assement.docx	Required to be assessed	Technical eligibility
c2.9	Authorisation of use of the land as a storage site is available	Assessed	Project site is on Wonderful-owned land. Thus, no external authorization is needed.	Site Design - Preliminary Assement.docx	Not required	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	And easement and a trust fund are planned. The formal legal documents for these structures still need to be completed.	Permanence - Preliminary Assement.docx	Required to be passed	Technical eligibility
c3.2	Funding needs for implementation of contractual framework have been estimated	Assessed	Maintenance costs and other related costs have not yet been quantified, but some maintenance activities have been identified. A share of the revenues from CORC sales will be placed in a trust to fund maintenance.	Permanence - Preliminary Assement.docx	Required to be assessed	Maturity & Quality

c3.3*	Legal documentation evidencing 100-year land use guarantee is available	Assessed	The land for this project will be placed in an exclusive easement with requirements not to disturb the vault.	Permanence - Preliminary Assement.docx	Required to be assessed	Maturity & Quality
c4	Additionality is demonstrated	Passed			<i>Passed if required sub-criteria are met</i>	
c4.1	Carbon storage additionality to baseline	Passed	Current practice does not lead to long-term carbon storage, as the agricultural biomass is chipped and incorporated to the soil layer where most of the carbon is decomposed over a short time frame.	Puro additionality questions to suppliers v1.8.docx	Required to be passed	Technical eligibility
c4.2	Financial additionality of project	Passed	The activity does not generate revenues other than the ones from CORC sales. Non-permanent grants exist for current practice.	Puro additionality questions to suppliers v1.8.docx; LOS - WRE - USDOE – Couch.pdf	Required to be passed	Technical eligibility
c4.3	Regulatory additionality	Passed	There is no known regulatory framework requiring biomass processing and storage.	Puro additionality questions to suppliers v1.8.docx	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 high-level plan has been provided including details on monitoring CO ₂ and methane. This will be further developed to provide specific instrumentation monitoring temperature and humidity	MRV - Preliminary Assement.docx	Required to be passed	Maturity & Quality
c5.2	Monitoring plan includes protocol for biomass record keeping	Assessed	The plan is to weigh the woody material on a truck scale before being placed in the vault with a representative sample of at least 20% of truckloads in any given day.	MRV - Preliminary Assement.docx	Required to be assessed	Maturity & Quality
c5.3	Monitoring plan includes protocol for dry mass determination of biomass placed in storage	Assessed	Wood moisture content is planned to be measured in a representative sample of at least 20% of trucks loads in any given day.	MRV - Preliminary Assement.docx	Required to be assessed	Maturity & Quality
c5.4	Monitoring plan includes protocol for monitoring of storage conditions	Assessed	Storage conditions are planned to be monitored continuously, in each chamber, at various points, including oxygen levels, water activity and temperature.	MRV - Preliminary Assement.docx C5.4 Additional information.docx	Required to be assessed	Maturity & Quality
c5.5	Monitoring plan includes protocol for monitoring and abatement of re-emissions	Assessed	Re-emissions (CH ₄ and CO ₂) are planned to be measured both in the storage chamber and at the surface. The relation of those measurements with the estimation of biomass decomposition and methane oxidation has been outlined.	MRV - Preliminary Assement.docx C5.5 Additional information.docx	Required to be assessed	Maturity & Quality
c5.6	Monitoring plan includes protocol for monitoring of parameters needed for LCA calculations	Assessed	The plan has identified a preliminary list of data elements to be monitored, covering the main steps in the supply-chain as well as soil carbon stocks.	MRV - Preliminary Assement.docx	Required to be assessed	Maturity & Quality
c5.7	Measurement devices needed for monitoring have been identified	Assessed	The measurement devices include the use of in-situ lysimeters, termite monitoring stakes, weather station, thermometer, humidity sensor, water content reflectometer, thermal dissipation sensor, and trace gas analyser.	MRV - Preliminary Assement.docx	Required to be assessed	Maturity & Quality
c5.8	Information system used to keep data records is prepared	Assessed	To enable verification, measurements will be aggregated and stored on a single cloud platform.	MRV - Preliminary Assement.docx	Required to be assessed	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.	LCA v2.xlsx	Required to be assessed	Maturity & Quality
c5.10	A GWP20-stress test on the LCA results was performed, if applicable	Assessed	Not applicable for dry storage conditions.		Required to be assessed	Maturity & Quality
c6	Environmental and social safeguards	Passed			<i>Passed if required sub-criteria are met</i>	
c6.1	Stakeholder consultations have been planned or conducted	Assessed	Wonderful team will go door to door to distribute flyers to the residents of Blackwell's Corner to invite them for a community gathering hosted locally during which they give info about the project. No NGO's relevant to this project topic in a 10-mile radius.	Stakeholder Engagement Report - preliminary assessment_v2.docx	Required to be assessed	Maturity & Quality

c6.2	Regulation applicable to project has been identified	Assessed	The local regulations identified were the Stormwater Pollution Prevention Plan (SWPPP), and the Dust Control Plan.	List of applicable regulations.xlsx	Required to be assessed	Maturity & Quality
c6.3	Procedures to acquire relevant permits have been identified, started, or completed	Assessed	Project has identified 1 permit to be obtained (grading permit from Kern County Planning and Natural Resources Department) and has a plan to obtain it before certification.	List of applicable regulations.xlsx	Required to be assessed	Maturity & Quality
c6.4	Occupational health and safety measures have been planned	Assessed	Detailed information has been provided outlining safety measures and trainings that will be undertaken by contractors involved in the construction of the project.	C6.4 Occupational Health and Safety.docx C6.4 TWC Contractor Safety Presentation.ppt C6.4 TWC Contractor Safety Standards.pdf	Required to be assessed	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	Supplier has identified potential co-benefits, relating to job creation, orchard wood valorisation, and land and biodiversity management.	Blackwell Corner SDG alignment.docx	Required to be assessed	Maturity & Quality
c7.2	Project-specific SDG targets or indicators have been identified	Assessed	Supplier has identified several links with SDG targets within SDG 8, 12, and 15, beside SDG 13.	Blackwell Corner SDG alignment.docx	Required to be assessed	Maturity & Quality
c8	Project team has access to relevant knowledge and skills	Passed			<i>Passed if required sub-criteria are met</i>	
c8.1	Relating to biomass sourcing, handling, processing	Assessed	Supplier has experience in biomass handling and management from current agricultural operations.	Team capabilities.pptx	Not required	Maturity & Quality
c8.2	Relating to biomass decomposition	Assessed	Supplier has some internal resources regarding biomass decomposition, but also has access to external academic partnerships for further support, including an expert in microbial decomposition.	Team capabilities.pptx	Not required	Maturity & Quality
c8.3	Relating to environmental monitoring and carbon accounting	Assessed	Supplier has an in-house expert managing greenhouse gas inventory of the company. Supplier has access to external academic partnerships for further support.	Team capabilities.pptx	Not required	Maturity & Quality