Preliminary Assessment Public Summary

Puro.earth Preliminary Assessment provides a comprehensive review of a Supplier's CO_2 removal project. It evaluates the Production Facility's compliance with the relevant Puro Methodology, as well as its development and maturity, using Methodology-specific criteria developed by Puro's expert team. If all criteria are met, the Production Facility qualifies for **Future Facility** status. The Supplier may then choose to have it listed in Puro.earth's Supplier Listing, where this Public Summary, designed for investors, buyers, and other stakeholders, will be made publicly available. This Public Summary offers transparent insight into the Supplier's carbon removal activity and its state of development at the time of the assessment.

Disclaimer: This Preliminary Assessment has been conducted using the criteria developed by Puro.earth's expert team, based on Puro.earth's Biochar Methodology – Edition 2025. Puro.earth has relied on information provided by the CO_2 Removal Supplier at the time of the assessment and makes no representation regarding the accuracy or completeness of this summary. Importantly, qualifying for Future Facility status through this assessment does not replace the requirement for a third-party audit, nor does it guarantee successful certification or issuance of CO_2 Removal Credits (CORCs).

1. Supplier and Project Information

CO_2 Removal Supplier*	
Company name	Atlantico2 Comércio E Serviços Ltda
Company address	Rua do Rosário, Nº 708, Center Piracicaba - CEP: 13400-183 - Brazil
Business ID	525753120001-27
KYC status	Completed
CO_2 Removal Project*	
Methodology	**Biochar Methodology – Edition 2025 Version 2**
General Rules	**4.2**
CORCs	**CORC200+**
Production Facility name	ProtoCharo1
Facility registration date	September 20, 2024
Production Facility ID	692592
Production Facility location	Rua Antonio Graneiro Lopes Filho, 310 - Capim Fino 13413-071 Piracicaba – Brazil
Host Country of removal	Brazil
Has this facility been registered in another registry?	☒No ☐Yes, additional information:
Preliminary Assessment Details	
First Assessment Date	4 March, 2026
Assessment Status	Concluded
Assessment Conclusion	Qualifies for Future Facility status
Estimated CORCs	~1,000 tCO_2e/year

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

2. Non-Technical Project Summary**

About AtlantiCO2:
AtlantiCO2 scales by replicating this modular infrastructure model across Brazil's major biomass corridors. The company identifies high density agroindustrial hubs where abundant residues intersect with regions of soil depletion and agricultural intensity. Each new site is structured through a special purpose vehicle under AtlantiCO2 management, while centralized shared services oversee engineering, carbon accounting, commercial sales, and project development. Brazil's vast agricultural and forestry residue base provides feedstock diversity and supply security, while the biomass agnostic technology allows rapid adaptation to different material streams. With a structured expansion plan toward ten plants by 2030 and an objective of removing one megaton of CO2e yearly, growth is driven by repeatable plant deployment, strong access to large biomass producers, and a growing commercial pipeline connected to international carbon buyers.

Industrial Carbon Removal. Rooted in Agriculture.

AtlantiCO2's first facility, ProtoCharo1, is a biochar carbon removal project located in Piracicaba, São Paulo, Brazil. The project removes carbon through the pyrolysis of residual biomass, converting biogenic carbon into highly stable biochar for long term carbon storage. The facility establishes the company's operating blueprint for industrial carbon removal embedded in agriculture. Co located with its engineering partner OBY Industrial and built around continuous pyrolysis technology, the plant processes FSC certified sawdust at industrial scale. Residual biomass that would otherwise decompose or be inefficiently burned is converted into high stability biochar, generating high integrity, permanent carbon removal credits alongside bio oil and clean energy co products. The facility is designed for precise temperature control, operational flexibility, and energy self sufficiency, ensuring consistent carbon quality and reliability. Biochar is then deployed into agricultural systems, where it contributes to soil restoration while delivering durable carbon storage. The project follows internationally recognized biochar carbon removal methodologies and generates durable carbon removal credits under recognized carbon standards. ProtoCharo1 demonstrates not only technical feasibility, but commercial viability through structured carbon offtake relationships and integration into global CDR markets.

** Filled by the Supplier. Between 150-200 words

3. Criteria Assessment Report

The Supplier's Production Facility is evaluated against criteria listed in Table 1 (see Appendix), which serve three distinct assessment purposes:

- **Core Eligibility:** These criteria determine whether the Production Facility aligns with the fundamental rules of the applicable methodology. They cover aspects that are difficult or costly to change later. For example, a Facility so early in development that it has not identified its biomass feedstock or at least one biochar production technology would not meet these criteria. **Passing** the Core Eligibility criteria indicates the Facility is likely to be eligible.
- **Project Development:** These criteria also relate to the methodology's rules but cover aspects that can evolve or be improved over time. They indicate the facility's readiness for audit and acknowledge that Suppliers may be at different development stages. For instance, some may already hold required permits, while others are still determining relevant regulations. **Assessing** these criteria helps show how far the Supplier has progressed toward certification.
- **Project Maturity:** These criteria assess factors beyond the methodology's rules that are relevant to stakeholders but not mandatory for certification. Examples include securing long-term biomass supply agreements or establishing commercial partnerships. **Evaluating** Project Maturity provides stakeholders, such as investors and buyers, with a broader understanding of the project's maturity and overall viability.

These criteria are organized by themes corresponding to specific sections of the relevant Puro.earth Methodology. Within each theme, criteria typically progress from overarching requirements (often related to Core Eligibility) to more detailed aspects assessed under Project Development and Maturity. Further details are provided in Table 1 below. **To qualify for Future Facility status, all criteria must be passed and/or assessed. all Core Eligibility criteria must be passed, and all Project Development and Project Maturity criteria must be assessed (i.e. some information was provided).**

Table 1. Preliminary Assessment – Evaluation of Each Criteria Using Submitted Audit Package

Criteria ID	Criteria	Assessment Outcome	Puro.earth Assessment	Assessment Purpose	Evidence Submitted
A	**Biomass Sourcing** *These criteria assess the Supplier's biomass sourcing strategy and the expected eligibility of at least one feedstock for biochar production*				
A1	At least one of the biomass feedstock identified is eligible for biochar production	☒ Passed ☐ Not Passed	**All identified feedstocks are eligible.** The Supplier has identified a single biomass feedstock for biochar production: pine sawdust sourced from a sawmill located in the municipality of Buri, São Paulo State, Brazil. This feedstock falls under Category G: Forest Biomass from Puro's Biomass Sourcing Criteria and is eligible for CORC issuance. The identified feedstock is expected to be free from contaminants, including plastics, metals, and treated wood, as this requirement is stipulated in a legally binding contract between the Supplier and its biomass provider.	Core Eligibility	Biomass Sources List - BCH v1.xls FSC_Certificate_Supplier_Pinara_2021_2026.pdf AVCB Biomass Supplier.pdf Dec_2025_Biomass Supplier Contract.pdf
A2	Sustainability and traceability of the biomass feedstock source(s) can be demonstrated to the level required by Puro's Biomass Sourcing Criteria	☒ Passed ☐ Not Passed	**Level of achievement.** The Supplier has provided partial evidence demonstrating sustainability and traceability of its biomass feedstock. • **Traceability:** The origin of the biomass is known, coming from a single sawmill in the municipality of Buri, São Paulo State, Brazil. The Supplier has a plan to maintain traceability through monitoring and reporting via supplier records and	Core Eligibility	

			delivery documentation, including feedstock type, origin, delivery dates, and quantities received. • **Sustainability:** The Supplier has provided an FSC FM/COC certificate for the managed forest from which the pine logs are sourced and supplied to the sawmill. **Next steps.** The Supplier must provide additional details for the Facility Audit, explicitly listing applicable regulations and statutory documentation, to confirm compliance with Puro's Biomass Sourcing Criteria on a criteria-by-criteria basis.		
A3	Sourcing of biomass is secured (e.g. letters of intent, contracts)	☒ Assessed ☐ Not Assessed	**Binding contract secured.** A one-year, annually renewable contract for 3,000 metric tonnes per year has been provided, demonstrating that biomass sourcing is secured.	Project Maturity	
B	**Biochar Production** *These criteria evaluate the biochar production system(s) selected by the Supplier and determines whether they are expected to meet eligibility and local regulatory requirements*				
B1	At least one biochar production technology has been identified, and technical documentation has been provided	☒ Passed ☐ Not Passed	**One technology identified** The Supplier has identified one biochar production technology, model UTTR OBY25 from manufacturer OBY Ambiental, and provided the corresponding technical documentation.	Core Eligibility	Biochar Production Questionnaire - BCH v1.xlsx Layout Equipment transalted.pdf EKT – Biomass Preprocessing unit.pdf Pyrolyzer Operation Manual EN.pdf Pyrolyzer Manual - Translation.pdf Previous Analysis (2024) - Biochar from sawdust analysis.pdf H_C calculations based on Combio Analysis.pdf
B2	The selected biochar production technology has been contracted, purchased, or installed	☒ Assessed ☐ Not Assessed	**Technology selected, with units already secured or installed** The continuous pyrolysis unit with a screw reactor for biochar production has been installed.	Project Maturity	
B3	The production technology is expected to yield biochar with suitable persistence properties (i.e. $H/C_{org} < 0.7$)	☒ Passed ☐ Not Passed	**Persistence demonstrated using Supplier-specific tests** Persistence properties were determined by the Supplier for its specific feedstock, machinery, and operating conditions, indicating compliance with the $H/C_{org} < 0.7$ requirement.	Core Eligibility	
B4	The production technology has been evaluated or tested for CH_4 and N_2O emissions	☒ Passed ☐ Not Passed	**Low emissions expected based on design** CH_4 emissions are expected to be low based on the system's design and combustion controls. N_2O emissions are estimated via available proxy data. Default values provided in the methodology for CH_4 and N_2O emissions generated during the pyrolysis process will need to be applied unless detailed GHG emissions testing reports are provided, enabling the Supplier to apply project-specific emission factors.	Core Eligibility	
B5	The production technology has been evaluated or tested for air pollutant emissions (i.e., ensuring minimal formation and release of pollutants, in line with locally applicable regulations)	☒ Passed ☐ Not Passed	**Identified regulation and robust plans to ensure compliance outlined** The applicable regulations and regulated air pollutants have been identified, which are regulated, monitored and licensed by the CETESB. CETESB licensing and permitting is underway and an "Installation license" has been obtained (21003596), which allows tests and structural improvements to be carried out. Air pollutant emissions from the facility for nitrous oxides and particulate matter have been tested, for which associated limits have been identified. The Supplier is in the processes of applying for the operation license, which will define air pollutant thresholds for the facility as and require approval during the licensing process as well as required	Core Eligibility	

			monitoring and verification activities by CETESB. The Supplier presented a robust plan to demonstrate compliance, supported by technology design choices (through the adoption of appropriate emission control measures) and describing that additional flue gas tests will be performed.		Signed_Chimney_Test.pdf DR_LIC_07_Processo_CETESB.047272-2025-47_selecionados.pdf
B6	The Supplier has adequate management plans for solid and liquid waste streams generated during operations (e.g., liquid effluents, ashes, residues, spent consumables from the flue gas treatment system, and spent materials or reactor parts)	☒ Passed ☐ Not Passed	**Solid waste, limited liquid waste, and pyrolysis oil managed as a product** The facility generates solid wastes and small amounts of recycled water from the pyrolysis process. Disposal and treatment processes have been described to ensure no negative environmental impacts and maintain regulatory compliance. • Pyrolysis oil is produced as a biomaterial intended for sale. Adequate storage provisions have been described. Further detail is needed for disposal procedures in case pyrolysis oil accumulates on-site. • Ashes are generated during the biochar production process and are a natural component of the biochar. Reactor operations are designed to minimize ash formation and ensure consistency in biochar quality.	Core Eligibility	
B7	The production technology is designed to co-produce bioenergy for internal use (e.g., for drying biomass feedstock, sustaining the pyrolysis reaction, and supplying heat and power to the facility)	☒ Assessed ☐ Not Assessed	**Energy used to sustain pyrolysis** The thermal energy generated during the pyrolysis process is used to sustain the pyrolysis reaction.	Project Development	
B8	The production technology is designed to co-produce bioenergy and/or biomaterials for external use	☒ Assessed ☐ Not Assessed	**Biomaterials sold with proper management** Pyrolysis oil generated as a co-product is planned to be refined and sold for agricultural uses. Management of the co-product has been described, but additional details are required in the event that stock accumulates at the facility. Contracts or letter of intents with customers are not yet available.	Project Development	
C	**Biochar Use** *These criteria evaluate whether the intended biochar end-use(s) are tangible and whether at least one use category is expected to be eligible*				
C1	At least one eligible biochar use has been identified and categorized according to the Methodology, with a clear plan to address any applicable reversal risks (e.g., diversion from intended use, cascading uses, or handling by intermediaries)	☒ Passed ☐ Not Passed	**Biochar use is eligible, with a clear plan to address reversal risks** The Supplier intends to supply pure biochar without intermediaries directly to the farmer for incorporation into the soil. In Puro's Biochar Methodology this use category is AF1 - Agriculture & Forestry - Soil amendment, applied pure and incorporated into the topsoil. Some mitigation measures for reversal risks have been described, and all intended biochar use types are eligible for CORCs. **Next steps** For the Output Audit, the Supplier must supply complementing evidence to demonstrate biochar is not diverted from intended use.	Core Eligibility	List of biochar uses - BCH v1.xls Biochar Application Commitment Term with Farmer.pdf Previous Analysis (2024) - Biochar from sawdust analysis.pdf;
C2	Biochar environmental quality thresholds (i.e., heavy metals, PAHs, and organic contaminants) have been	☒ Passed ☐ Not Passed	**WBC thresholds applied** The supplier has planned to follow WBC (World Biochar Certificate) Premium thresholds. While a plan to demonstrate compliance with WBC Premium is described	Core Eligibility	

	defined for the identified biochar uses, with a clear plan to demonstrate compliance		in the Monitoring Plan, compliance is yet to be demonstrated with laboratory results of environmental quality parameters.		Monitoring Plan - BCH v1.pdf
C3	Planned biochar uses are tangible and secured (e.g., through product development plans, letters of intent, or contracts)	☒ Assessed ☐ Not Assessed	**Signed commitment** The Supplier has established commitment terms with a partner farmer that provides the terms and conditions for biochar application into agricultural soils.	Project Maturity	
D	**Additionality & Baseline** *These criteria evaluate the additionality of the Production Facility and biochar activity from baseline, regulatory, and financial perspectives*				
D1	The baseline scenario for the biochar activity has been identified and is appropriate (i.e., New Facility, Retrofit Facility, or Charcoal Repurpose)	☒ Passed ☐ Not Passed	**Newly built facility** The facility is newly built, representing a New Facility baseline scenario for the biochar activity.	Core Eligibility	Protocharo1 - Facility Baseline Definition - BCH v1.xslx Protocharo1 - List of applicable regulations.pdf Protocharo1_-_Baseline_and_Additionality_Questionnaire_v1.9_assinado.pdf Financial Assessment Spreadsheet - Protocharo1.xlsx Financial Additionality Premises.pdf
D2	Additional carbon removal relative to the baseline is demonstrated	☒ Passed ☐ Not Passed	**Additional removals demonstrated** The facility generates additional carbon removals relative to the baseline scenario. Under a baseline scenario, no biochar would be produced and sawdust would continue to be sold as a biomass fuel for thermal energy production required for firing tiles and bricks, resulting in the release of biogenic CO_2.	Core Eligibility	
D3	Regulatory additionality is demonstrated	☒ Passed ☐ Not Passed	**Regulatory additionality declared** The Supplier has declared that no regulation requires biochar production in the host country, but no supporting analysis of relevant regulations has been provided.	Core Eligibility	
D4	Financial additionality is demonstrated	☒ Passed ☐ Not Passed	**Financial additionality has likely been demonstrated, with evidence that requires further details** An investment analysis demonstrating the need for carbon finance to make the biochar operation a viable business has been provided. It indicates that the activity is financially additional but also requires revisions of various aspects that include the IRR calculation for each scenario provided and comparison to an appropriate financial benchmark suitable to the country and sector.	Core Eligibility	
E	**Environmental & Social Safeguards** *These criteria evaluate the environmental and social safeguards implemented as part of the biochar activity*				
E1	Relevant stakeholders have been identified, consultations have been conducted, and an on-going feedback and grievance mechanism has been designed	☒ Assessed ☐ Not Assessed	**Advanced** The Supplier has identified relevant stakeholders. Consultation activities are underway, with initial consultation activities already conducted and some of the planned activities in the process of being scheduled. The ongoing feedback and grievance mechanism has been described and includes contact points, as well as a description of the review, recording, and follow up action procedure.	Project Development	Protochar - Stakeholder Engagement Report - v2.1.docx

E2	Regulations applicable to the biochar activity have been identified	☒ Assessed ☐ Not Assessed	**Complete** Regulations applicable to the biochar activity have been identified and documented. For each identified regulation a plan for compliance is in place and ongoing processes are described.	Project Development	Protocharo1 - List of applicable regulations.pdf Protochar - Environmental and Social Safeguards - v2.docx
E3	Permits, licenses, or other statutory documentation for the biochar activity have been identified, with procedures to obtain them started, ongoing, or completed	☒ Assessed ☐ Not Assessed	**Advanced** The Supplier has identified the relevant permits, licenses, and statutory documentation, and procedures to acquire them are ongoing. The environmental agency for the state of São Paulo, Brazil (CETESB) has issued an Installation license (21003596) to the Facility. The Supplier is currently in the process of demonstrating compliance with CETESB operating license requirements.	Project Development	
F	**Leakage Assessment** *These criteria evaluate whether the activity is likely to cause negative leakage effects that should be mitigated and, if not mitigated, quantified*				
F1	Potential leakage sources relevant to the biochar activity have been identified	☒ Passed ☐ Not Passed	**Complete** All potential leakage sources relevant to the biochar activity, as listed in the Methodology, have been fully identified and are listed below. • *Market and activity shifting leakage in the material and energy sector, relating to the use of biomass feedstocks or land that were already utilized for other productive purposes (feedstock diversion).* This leakage source is relevant, since biomass was previously used for thermal energy generation in ceramic kilns for tile and brick manufacturing, and the impact must be mitigated or quantified. • *Ecological leakage relating to negative effects, either via land drainage or land cover change, on the nearby land and ecosystems, surrounding the areas where facilities are built or extended (ecological leakage relating to negative effects on the nearby land and ecosystems).* This leakage source is relevant, since the facility was built for the purpose of biochar production, and the impact must be mitigated or quantified.	Core Eligibility	Invoice of Biomass Sale for Brick Kiln.pdf Leakage Determination - BCH v1.xlsx Biomass Sources List - BCH v1.xlsx Protocharo1 - Leakage_Assessment_Report.docx
F2	Identified leakage sources have been deemed possible to mitigate, with mitigation procedures either identified, drafted, or already implemented	☒ Assessed ☐ Not Assessed	**Partial** Some identified leakage sources have been deemed possible to mitigate, with mitigation procedures partially drafted. Further assessment is needed to confirm whether quantification of leakage sources is required based on the assessment outcomes described below. • Feedstock diversion – the biomass was previously being used for thermal energy generation prior to the biochar activity. Mitigation options defined in the methodology (Rules 8.2.4b(i) and (ii)) have not yet been applied. Therefore, leakage associated with feedstock diversion will need to be quantified, unless a mitigation option is deemed applicable as the project develops. • Ecological leakage relating to negative effects on the nearby land and ecosystems – a retrospective assessment concluded that nearby land will not be impacted, primarily since the facility was constructed in an industrial zone. Therefore, ecological leakage associated with negative effects on the nearby	Project Development	

			land and ecosystems is deemed mitigated and can be set to zero in the leakage quantification.		
F_3	If applicable, procedures to quantify non-mitigated leakage sources have been identified, drafted, or already implemented	☒ Assessed ☐ Not Assessed	**None** Procedures to quantify non-mitigated leakage sources have not yet been identified. Further assessment is needed.	Project Development	
G	**Co-Benefits & SDGs** *These criteria evaluate whether the activity is likely to generate co-benefits and whether the Supplier has plans to monitor and certify positive impacts on the SDGs*				
G1	Co-benefits specific to the biochar activity have been identified and described qualitatively	☒ Assessed ☐ Not Assessed	**Co-benefits clearly identified** The project is expected to deliver several co-benefits, including SDG12 responsible consumption, SDG2 improved land productivity, SDG8 decent work, SDG7 improved energy efficiency, which have been qualitatively described.	Project Development	Protochar – Project Description v2.pdf
G2	The Supplier has plans to monitor and certify SDG attributes in accordance with Puro's SDG Assessment Requirements	☒ Assessed ☐ Not Assessed	**No SDG attributes identified** The Supplier is not planning to certify any SDG attributes for this project.	Project Development	
H	**Monitoring & Reporting** *These criteria evaluate the Supplier's plans to monitor and report on its biochar activity, and the progress made in developing monitoring and quantification documentation*				
H1	A monitoring plan has been drafted covering all stages of the biochar activity (biomass sourcing, biochar production, and biochar use) and all monitoring purposes (eligibility compliance, removal quantification, environmental and social impacts, and permanence/reversal risks)	☒ Passed ☐ Not Passed	**Initial Monitoring Plan, full coverage** An initial Monitoring Plan has been prepared and covers all stages of the activity and all monitoring elements. The scope of the Monitoring Plan includes biomass sourcing, biochar production and handling, and biochar storage, distribution and use. Furthermore, it includes plans related to environmental and social impact monitoring, net carbon removal quantification, non-permanence and reversals, as well as ongoing compliance monitoring. Relevant parameters have been identified, and significant refinements are needed before the facility begins operation, which may be included in the Monitoring Protocols that have not yet been submitted in the audit packages. If not included directly in the Monitoring Plan, these protocols are expected to include additional technical details and descriptions that describe clearly how the monitoring plan is implemented at the Production Facility. Key elements identified that need refinement include corrective actions and preventative actions when defined thresholds (whether regulatory or defined operating conditions) are exceeded, clear sampling and testing frequencies, dry mass determination and the uncertainty quantification approach.	Core Eligibility	Monitoring Plan - BCH v1.pdf Protocharo1 LCA Plan.pdf
H2	The monitoring plan defines protocols for sampling biochar, analyzing its persistence and environmental properties, and determining its dry mass	☒ Assessed ☐ Not Assessed	**No protocols drafted** The Monitoring Plan refers to monitoring protocols, but no protocols have been provided yet.	Project Development	

H_3	An LCA model specific to the facility's operation has been prepared to quantify project emissions	☒ Assessed ☐ Not Assessed	**A draft LCA model description was provided** A draft LCA model description has been provided, but no LCA model has yet been submitted. Since the project is in a pilot phase, significant refinements are expected, which are required to define project emissions, parameterization, and alignment with the Monitoring Plan and Puro's Biochar Methodology.	Project Development	
H_4	Preliminary quantitative results have been presented, enabling estimation of annual CORC amounts	☒ Assessed ☐ Not Assessed	**Only qualitative or high-level estimates** The Supplier has provided only qualitative or high-level estimates of potential CORC amounts indicating that ~1,000 CORCs are expected to be produced per year. Some quantitative data was provided, enabling calculation of annual CORCs, supporting the high-level estimate provided. The Supplier provided biochar production rates and biochar elemental characteristics, with remaining data such as soil temperature and annual operating hours needing conservative assumptions. Expected use locations and biochar use rates, expected operational and embodied emissions, laboratory reports on recently produced biochar, and clear assumptions related to expected annual operating hours are needed to improve the reliability of the annual CORC estimate.	Project Development	