Final Audit Report

Audited Bodies	
Puro.earth Project Proponent	Accend AS
Name of Contact for Puro.earth Project Proponent	Paul Fergusson
Production Facility Operator	Glanris
Name of Contact for Production Facility Operator	Bryan Eagle
Production Facility Location	Olive Branch, MS – United States

Audit Description	
Type of Audit	Production Facility and Output Audit
Objective of Audit Engagement	Provide an assurance opinion against the requirements of *Appendix 2: Puro.earth Standard and Marketplace General Rules of the Puro Standard General Rules v2.6.1 (Edition 2022)*.
Reporting Period Covered by Audit	1 April 2021 to 31 August 2022
Date of Auditor Engagement	13 October 2022
Date of Audit Report Submission	20 February 2023

Reporting Requirements	
Number of CORCs under Audit	42
Calculation Method	Biochar Methodology

Auditing Body	
Auditor	EnergyLink Services Pty Ltd
Lead Auditor	Rodrigo Pardo Patron
Additional Audit Personnel	Thais Voll
Peer Reviewer	Katherine Simmons

This document details the nature and scope of the services provided by a member of EnergyLink Services in respect of the eligibility of the CO_2 Removal Supplier Production Facility under the requirements of Annex A: Biochar Methodology to Appendix 2 of Puro.earth Standard and Marketplace General Rules of the Puro Standard General Rules v2.6.1 (Edition 2022).

This document is issued to Puro.earth detailing audit procedures conducted and the auditor's opinion in relation to the eligibility of the Production Facility. It should not be used for any other purpose.

Because of the inherent limitations in any internal control structure, it is possible that fraud, error, or non-compliance with laws and rules may occur and not be detected. Further, the audit was not designed to detect all weakness or errors in internal controls so far as they relate to the requirements set out above as the audit has not been performed continuously throughout the period and the procedures performed on the relevant internal controls were on a test basis. Any projection of the evaluation of control procedures to future periods is subject to the risk that the procedures may become inadequate because of changes in conditions, or that the degree of compliance with them may deteriorate.

The audit opinion expressed in this report has been formed on the above basis.

Copies of relevant documentation are available on the Puro.earth website: puro.earth

COMMERCIAL AND CONFIDENTIAL

Version Control Record

Project Number – J0292				
Document File Name	Date Issued	Version	Lead Auditor	Peer Reviewer
20230215 Glanris Final Audit Report vF.0	20 February 2023	vF.0	Rodrigo Pardo Patron	Katherine Simmons

Contents

Abbreviation	Description
'H'	Hydrogen
'O'	Oxygen
CO_2	Carbon Dioxide
CORC	CO_2 Removal Certificate
C_{org}	Organic Carbon
FSC	Forest Stewardship Council
GHG	Greenhouse Gas
LCA	Life Cycle Assessment
OC	Over Calculation
UC	Under Calculation
The Puro Rules	Appendix 2: Puro.earth Standard and Marketplace General Rules of the Puro Standard General Rules v2.6.1 (Edition 2022)
The Biochar Methodology	Annex A: of the Puro Rules

Part A: Auditor's Report

To: Puro.earth

Dear Sir / Madam,

EnergyLink Services were engaged to perform a reasonable assurance audit of Glanris Production Facility against the eligibility requirements of 'Appendix 2: Puro.earth Standard and Marketplace General Rules of the Puro Standard General Rules v2.6.1 Edition 2022' (hereafter referred to as "the Puro Rules"), and the calculation of CO_2 Removal Certificates (CORCs) from the production of biochar for the period 1 April 2021 to 31 August 2022.

Details of Audited Bodies

Puro.earth Project Proponent	Accend AS
Production Facility Operator	Glanris GSRN: 643002406801000459
Production Facility location	11042 Wildwood Drive Olive Branch, MS – the United States

Responsibility of the Audited Bodies' Management

The management of the audited bodies (Accend AS and Glanris) are responsible for the application of the requirements of Annex A: Biochar Methodology of the Puro Rules (hereafter referred to as "the Biochar Methodology") in quantifying CORCs from the production of biochar, which is reflected in the proofs provided to EnergyLink Services.

The management of the audited bodies are responsible for preparation and presentation of the evidence in accordance with Section 5 of the Biochar Methodology. This responsibility includes the design, implementation, and maintenance of internal controls relevant to the preparation and presentation of proofs that are free from material misstatement, whether due to fraud or error.

Our independence and quality control

EnergyLink Services have complied with the relevant ethical requirements relating to assurance engagements, which include independence and other requirements founded on fundamental principles of integrity, objectivity, professional competence, due care, confidentiality, and professional behaviour. These include all the requirements defined in the *Fortum – Supplier Code of Conduct*[1].

Furthermore, EnergyLink Services maintains a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards, and applicable legal and regulatory requirements, in accordance with *ISQC 1 Quality Control for Firms that Perform Audits and Reviews of Financial Reports and Other Financial Information.*

[1] Fortum (2020), Fortum – Supplier Code of Conduct, available at: www.fortum.com/about-us/contact-us/suppliers/code-of-conduct

Our responsibility

EnergyLink Services' responsibility is to express an opinion on the audited bodies' quantification of CORCs and compliance with the *Puro Rules* based on the procedures we have performed and the evidence we have obtained. We have conducted a reasonable assurance engagement in accordance with the *Puro Rules* and relevant international standards, as listed below:

- International Standards on Assurance Engagements ISAE 3000 Assurance Engagements other than Audits or Reviews of Historical Financial Information.
- ISQC 1 Quality Control for Firms that Perform Audits and Reviews of Financial Reports and Other Financial Information, and Other Assurance Engagement.

A reasonable assurance engagement in accordance with relevant international standards involves performing procedures to obtain evidence about the Production Facility process controls and the quantification of CORCs in accordance with the Puro Rules. The nature, timing, and extent of procedures selected depend on the assurance practitioner's judgment, including the assessment of the risks of material misstatement, whether due to fraud or error. In making those risk assessments, we considered internal controls relevant to the audited bodies' preparation of proofs. We believe that the assurance evidence we have obtained is sufficient and appropriate to provide a basis for our assurance conclusion.

Summary of procedures undertaken

The procedures we conducted in our reasonable assurance engagement included:

- reviewing evidence provided by the audited bodies;
- assessing the audited bodies against eligibility criteria;
- conducting interviews and a virtual site visit to validate the evidence provided;
- analysing procedures that the audited bodies used to gather data;
- testing of calculations that the audited bodies performed; and
- identifying and testing assumptions supporting the calculations.

Use of our reasonable assurance engagement report

This audit report has been prepared for use by the audited bodies and Puro.earth for the sole purpose of reporting on the audited bodies' compliance with the Puro Rules. Accordingly, EnergyLink Services expressly disclaim and do not accept any responsibility or liability to any party other than Puro.earth and the audited bodies for any consequences of reliance on this report for any purpose.

Inherent limitations

There are inherent limitations in performing assurance audits - for example, assurance engagements are based on selective testing of the information being examined - and because of this, it is possible that fraud, error, or non-compliance may occur and not be detected. An assurance engagement is not designed to detect all misstatements, as an assurance engagement is not performed continuously throughout the period that is the subject of the engagement and the procedures performed are based on a test basis. The conclusion expressed in this report has been formed on the above basis.

Additionally, non-financial data may be subject to more inherent limitations than financial data, given both its nature and the methods used for determining, calculating, and sampling or estimating such data.

Corrective Action Requests/ Recommendations

During the audit process, the auditor issued one (1) corrective action request, one (1) recommendation and two (2) suggestions for improvement..

Corrective Action Request 1: Biochar End Use

Sales data was recorded by the audited bodies to keep track of the entity that received the biochar produced. According to the LCA information, the biochar was sold to be used for water filtration, soil amendment, environmental remediation and research. However, the information on the end use of the biochar was not systematically collected for each client, i.e. documentation indicating the intended use of the product.

As such, the auditor requested additional evidence was requested to fulfil the requirements of Clause 5.4.2 of Annex A of the Puro.earth Market Place and General Rules v2.6.1. As a result, Glanris issued a new contract term to the standard sales terms stating that:

> *"Material will not be burned. Customers agrees that under terms of this agreement, the biochar purchased will be used for its intended purpose and then disposed of in a landfill of other method that will allow for the continued sequestration of the carbon."*

The auditor was satisfied with the amendments made by Glanris during the course of the audit and no further action was required.

Recommendation 1: Quantification of Biochar Produced

The auditor recommends Glanris to enhance their quality assurance activities to ensure the calculation of the bulk density is correctly considered in their calculations.

Recommendation 2: H/C_{org}

The auditor recommends Glanris to:

- Continue improving their biochar quality and carbon stability; and
- Monitor the biochar stability H/C_{org} by obtaining and providing to the auditor, a *minimum* of two (2) laboratory analysis per year to demonstrate that the biochar production process is steady and capable of producing stable biochar with H/C_{org} lower than 0.7, as per requirement 1.1.6 of the Biochar Methodology.

Suggestion for Improvement 1

The auditor suggests that the audited bodies ensure the onsite scale is appropriately calibrated and calibration certificates evidence is collected and provided to audit as part of the audit package. It is noted that at the time of the audit, the onsite scale used was factory calibrated and had been recently purchased.

Suggestion for Improvement 2

The auditor suggests that the audited bodies ensure the evidence provided to the auditor clearly shows the unit of measure. In case the units of measure are not present (as per the natural gas bills provided), either include additional evidence to support the claim or negotiate with the relevant bodies (e.g. the natural gas supplier) to demonstrate the measurement units considered in their documentation.

Overall Conclusion

Positive Conclusion (Production Facility Audit and Production Output Audit)

Production Facility Audit

In the lead auditor's opinion, the carbon removal activity performed in the audited CO_2 Removal Supplier's Production Facility met the eligibility requirements of the Puro Rules.

Eligible CO_2 Removal
0.896 tCO_2e per dry tonne biochar

Production Output Audit

The lead auditor is able to express a reasonable assurance opinion that, in all material respects, the quantification of 43 Removal Certificates (CORCs) by the audited bodies for the period 1 April 2021 to 31 August 2022 was correct.

CORCs Under Audit	Abs. Error (CORCs)	Net Error (CORCs)	Eligible CORCs	Abs. Error Rate (%)	Net Error Rate (%)
42	1	1 UC	43	2.381%	- 2.381%

*OC = Overcalculation/UC = Undercalculation

Other Audit Matters

The auditor observed that the audited bodies, at the beginning of the reporting period tracked the shipment of the biochar by volume, rather than by weight. It was noted that sufficient documentation was maintained by the audited bodies to enable, based on the laboratory analysis, to convert the volume to weight. The audited bodies changed their shipment records throughout the reporting period to consider the weight of the biochar. The auditor is satisfied that Glanris has implemented a procedure to record the weight of the biochar going forward.

Sincerely,

Rodrigo Pardo Patron | Principal
EnergyLink Services Pty Ltd
Lead Auditor
20 February 2023

Part B: Detailed Findings

Audit Findings and Conclusions

Table 1 to Table 4 summarise the findings from the Production Facility Audit and Production Output Audit. As part of audit procedures, the auditor performed interviews with site representatives and a virtual site visit to the Production Facility. Where possible, the findings from these procedures were used to validate that the eligibility criteria under the methodology had been met, that the proof and evidence provided by the audited bodies were accurate, and that the metering systems used to quantify the Output was appropriate and correctly calibrated (for details refer to Appendix A).

Eligibility Assessment

Table 1: Eligibility Assessment

Requirement	Requirement Met?	Verification Remarks	Corrective Action Request / Recommendations
Confirm that the biochar is used in applications other than energy.	Finding	Sales data was recorded by the audited bodies to keep track of the entity that received the biochar produced. According to the LCA information, the biochar was sold to be used for water filtration, soil amendment, environmental remediation and research. However, the information on the end use of the biochar was not systematically collected for each client, i.e. documentation indicating the intended use of the product. As such, further evidence was requested (refer to Corrective Action Request 1). Glanris issued a new contract term to the standard sales terms. Additionally, Glanris provided the auditor with invoices of sale transactions that evidenced the identities of Glanris' customers. The auditor was satisfied that the customers are water filtration companies and companies who using the biochar as a soil amendment. As such, the auditor confirmed the biochar is used in applications other than energy.	Corrective Action Request 1
Confirm that the biochar is produced from sustainable forest or waste biomass raw materials.	Y	The auditor confirmed that the biochar produced in the Glanris Production Facility was produced from sustainably sourced biomass. The feedstock was composed of rice husks, which are sourced from Riceland Foods Inc. located in Arkansas - US.	N/A.

Requirement	Requirement Met?	Verification Remarks	Corrective Action Request / Recommendations
Confirm that the producer demonstrates net-negativity with results from a LCA that shows: – carbon footprint of the biomass production and supply. – emissions from the biochar production process. – carbon footprint of the biochar end use. – cradle to grave.	Y	The auditor confirmed that the LCA provided by Glanris included the relevant information on the emissions arising from the different stages of the biochar cradle to grave life cycle.	N/A.
Confirm that the biochar production process meets requirements 1.1.4 to 1.1.6 of the Biochar Methodology, namely that: – no fossil fuel is used for heating the pyrolysis reactor – the pyrolysis gases are recovered or combusted – the molar H/C_{org} ratio is less than 0.7	Y	The auditor confirmed that although the rotary drum thermal reactor that Glanris operated is an auto-thermal process in which the thermal energy required to run the process is created from the feedstock being processed (rice husks), the system relied on natural gas combustion to start up the process at the start of each production days. The auditor confirmed that when the system reached the optimal temperature and pressure operation, the syngas produced was combusted and sustained the process.	N/A.
	Y	The pyrolysis gases were recovered and combusted in the reactor, being the primary source of energy for the reactor. The excess gases were combusted by a thermal oxidiser and exhausted.	N/A.
	Finding	The molar H/C_{org} ratio was a maximum of 0.70, as stated in the laboratory certificate. It was noted that the H/C_{org} provided did not satisfy requirement 1.1.6 of the Biochar Methodology, which requires the H/C_{org} to be *less* than 0.7. Upon request, Glanris provided an updated lab report dated 15 December 2022 (which was outside the audit period), which confirmed an H/C_{org} of 0.34. Subsequently, confirmation from Puro.earth was obtained that a one-time exception would be made, subject to Recommendation 2.	Recommendation 2

Requirement	Requirement Met?	Verification Remarks	Corrective Action Request / Recommendations
Confirm that measures are taken for safe handling and transport of biochar to prevent fire and dust hazards.	Y	The auditor assessed the Biochar Safety Data Sheet presented by Glanris, and confirmed, during the virtual site visit that robust procedures were carried out to appropriately quench the biochar. The auditor confirmed that at the exit of the reactor, the biochar was carried out by a water-cooled conveyor belt, whereby it was quenched by controlled water jets in three different directions. The water jets were controlled according to the temperature of the biochar.	N/A.

Production Facility Assessment

Table 2: Production Facility assessment

Requirement	Requirement Met?	Verification Remarks	Corrective Action Request / Recommendations
Confirm the Production Facility Eligibility under the general rules of Puro Standard.	Y	The auditor confirmed that the Production Facility is eligible under the General Rules of Puro Standard, and all necessary evidence has been provided.	N/A.
Confirm that the Production Facility demonstrate Environmental and Social Safeguards.	Y	The auditor confirmed that the CO_2 Removal Supplier showed sufficient evidence to demonstrate that the Production Facility does no significant harm to the surrounding natural environmental and local communities.	N/A.
Confirm that the Production Facility demonstrate additionality, that the CO_2 removals are a result of carbon finance, and that the project is not required by existing regulations or other obligations.	Y	The auditor confirmed that the CO_2 Removal Supplier provided sufficient information to demonstrate that the project met the requirements of Clause 1.2.3 of Puro Standard Biochar Methodology.	N/A.

Requirement	Requirement Met?	Verification Remarks	Corrective Action Request / Recommendations
Confirm that metering infrastructure is in place to determine: – the production output. – the energy use of the Production Facility.	Finding	The auditor identified errors in the calculation of the bulking density (lb/m^3 and kg/m^3), which also reflected in errors in the number of bags per unit of biochar. Upon request, Glanris reviewed the calculations and corrected the errors. This error resulted in the under-quantification of one (1) CORC.	Recommendation 1
	Y	The auditor confirmed during the virtual site visit and through additional evidence provided by the audited bodies, that the Production Facility was equipped with an appropriate and recently purchased floor scale. The auditor confirmed through the evidence provided that the scale was factory calibrated, and the manufacturer recommends that future calibrations must be done by a certified scale service agency. Therefore, the auditor issued Suggestion for Improvement 1 so that Glanris systematically implement procedures to the scale maintenance and calibration of the scale.	Suggestion for Improvement 1
	Finding	The auditor confirmed that the Production Facility has appropriated metering infrastructure in place to quantify the electricity and natural gas consumed by its operations. The auditor confirmed via additional project evidence the natural gas meter units to be 'cubic feet' as the meter units were not labelled on the gas bill.	Suggestion for Improvement 2

Requirement	Requirement Met?	Verification Remarks	Corrective Action Request / Recommendations
Confirm the calculations used to quantify emissions from the process. These must account for: – The energy created by the biochar. – The energy source used in the production process. – Cultivating and harvesting of raw materials (forest vs other biomass). – Transporting of raw materials to the Production Facility (based on distance transported and fuel used).	Y	The auditor confirmed that the Production Facility has appropriate and robust procedures in place to quantify and report the electricity and fuel consumed by its operations. The total gas and grid electricity consumed was determined by meters installed on the natural gas and electricity supply lines. The auditor confirmed that the feedstock was categorised as waste material (rice husks). As such, the auditor was able to confirm that the emissions associated with the cultivating and harvesting of raw material did not need to be accounted for. Moreover, the auditor confirmed that the emissions associated with transporting the feedstock were properly considered within the emissions boundary of the LCA, and the emissions per unit for the projected production were estimated in a reliable manner. The auditor confirmed that the LCA provided included all information on the emissions of the different stages of the biochar life cycle.	N/A.
Confirm that the quantity of biochar produced and sold is documented via appropriate processes.	Y	The auditor observed that the audited bodies, at the beginning of the reporting period tracked the shipment of the biochar by volume, rather than by weight. It was noted that sufficient documentation was maintained by the audited bodies to enable, based on the laboratory analysis, to convert the volume to weight. The audited bodies changed their shipment records throughout the reporting period to consider the weight of the biochar. The auditor is satisfied that Glanris has implemented a procedure to record the weight of the biochar going forward. As such, the auditor confirmed that all relevant data collected was complete and consistent.	N/A.
Confirm the CO_2 Removal Supplier is able to calculate the CO_2 Removal independently.	Y	The auditor reviewed the evidence provided by the audited bodies and confirmed that the CO_2 Removal Supplier was able to calculate the CO_2 removal independently.	N/A.

Quantification of CO_2 Removal

Table 3: Quantification of CO_2 Removal - Calculation Methodology

Requirement	Requirement Met?	Verification Remarks	Corrective Action Request / Recommendations
Confirm that the quantification of CO_2 removal is calculated using the Calculation formula of CO_2 removal.	Y	The auditor examined the CORC calculator provided by the audited bodies and confirmed that the formulae applied in the quantification of CORCs for the period 1 April 2021 to 31 August 2022 was in accordance with Clause 4 of the Biochar Methodology.	N/A.
Confirm that the inputs to the Calculation formula of CO_2 removal are appropriate and consistent with the evidence provided.	Y	The auditor reviewed the evidence provided by the audited bodies and confirmed that the inputs to the calculation formula of CO_2 removal had been correctly determined.	N/A.

Verification of Proofs

Table 4: Verification of proofs and documentation

Requirement	Requirement Met?	Verification Remarks	Corrective Action Request / Recommendations
Confirm that the standing data for the Production Facility meets the requirements of the Biochar Methodology and is consistent with other evidence.	Y	The auditor confirmed that all relevant standing data collected was complete and consistent with observations during desktop testing and the virtual site visit.	N/A.
Confirm that the necessary proof and evidence documents are maintained by the Production Facility as per Section 5 of the Biochar Methodology[2].	Y	The auditor confirmed all necessary evidence has been provided as per Section 5 of the Biochar Methodology.	N/A.

[2] Information in Section 5 of the Biochar Methodology includes:

- Proof of sustainability of raw material for forest and/or waste biomass.
- LCA data for biomass and biochar production.
- Justification on the soil temperature used for the calculation of the biochar sequestration.
- Proof of product quality, production volume, sales and end use of biochar.
- Proof of no double counting/C positive marketing.

Peer Reviewer Conclusion

Name of the peer reviewer	Katherine Simmons
Peer reviewer's credentials	• Bachelor of Engineering (Honours) in Polymer Engineering (minoring in Chemical Engineering). • Category 1 Registered Greenhouse and Energy Auditor with the Clean Energy Regulator (Australia). • Climate Active Registered Consultant. • Integrated Management Systems Lead Auditor ISO 19011, ISO 9001:2015, ISO 14001:2015, ISO 45001:2018.
Peer reviewer contact details	Email: katherine.simmons@kreaconsulting.com.au Phone: +61 431 612 950
Outcome of the evaluation undertaken by the peer reviewer	I have reviewed the audit report, supporting work papers and applicable source data and I am satisfied that the audit has been performed in accordance with the eligibility requirements of General Rules of the Puro.earth CO_2 Removal Marketplace and General Rules of the Puro.Earth CO_2 Removal Marketplace v2.6.1 (Edition 2022). The following items were addressed as part of the Peer Review: • Minor amendments to the report • Confirmation from Puro.earth regarding 1.1.6 of the Biochar Methodology

Appendix A

Table of Site Visit Findings

Table 5: Site visit summary table

Requirement	Requirement Met?	Verification Remarks	Corrective Action Request / Recommendations
Check that the raw material is of eligible type and sustainably sourced.	Y	The auditor confirmed that the biochar produced in the Glanris Production Facility was produced from sustainably sourced biomass. The feedstock was composed of rice husks, which are sourced from Riceland Foods Inc. located in Arkansas - US.	N/A.
Check that the LCA provided is consistent with observations on site.	Y	The auditor confirmed that the LCA provided by Glanris included all information on the emissions of the different stages of the biochar life cycle, and it was consistent with the observation on site.	N/A.
Confirm that no fossil fuel is used for heating the pyrolysis reactor, and the pyrolysis gases are recovered or combusted.	Y	The auditor confirmed that although the rotary drum thermal reactor that Glanris operated is an auto-thermal process in which the thermal energy required to run the process is created from the feedstock being processed (rice husks), the system relied on natural gas combustion to start up the process at the start of each production days. The auditor confirmed that when the system reached the optimal temperature and pressure operation, the syngas produced was combusted and sustained the process.	N/A.
Check that the Production Facility's documentation system is accurate and reliable for recording the quantity of biochar produced and sold.	Y	The auditor observed that the audited bodies, at the beginning of the reporting period tracked the shipment of the biochar by volume, rather than by weight. It was noted that sufficient documentation was maintained by the audited bodies to enable, based on the laboratory analysis, to convert the volume to weight. The audited bodies changed their shipment records throughout the reporting period to consider the weight of the biochar. The auditor is satisfied that Glanris has implemented a procedure to record the weight of the biochar going forward. As such, the auditor confirmed that all relevant data collected was complete and consistent.	N/A.

Requirement	Requirement Met?	Verification Remarks	Corrective Action Request / Recommendations
Check that appropriate metering infrastructure is in place and calibrated correctly to quantify the Production Facility output and the energy use of the Production Facility.	Y	The auditor noted that the floor scale used on site was recently purchased and confirmed through the evidence provided that it was factory calibrated. The auditor also confirmed that future calibrations must be done by a certified scale service agency, and therefore issued a suggestion for improvement so that Glanris systematically plan the scale maintenance and calibration.	Suggestion for Improvement 1
Check that appropriate processes are in place to quantify the inputs to the Calculation formula of CO_2 removal for the purpose of Preparing the Output Report and calculating CORCs.	Y	The auditor reviewed the evidence provided by the audited bodies and confirmed that the CO_2 Removal Supplier is able to calculate the CO_2 removal independently.	N/A.

Appendix B

Summary of Calculation Errors

A summary of the calculation errors and the associated impacts on CORC calculation is provided in Table 6.

Table 6: Summary of Calculation Errors

Source of Error	CORC calculation	Corrected CORC calculation	Abs. Error (CORCs)	Net Error (CORCs)	Abs. Error Rate (%)	Net Error Rate (%)
Errors in the calculation of the bulking density	42	43	1	1 UC	2.381%	-2.381%
Total	**42**	**43**	**1**	**1 UC**	**2.381%**	**-2.381%**

*OC = Overcalculation/UC = Undercalculation