O.C.O Leeds Production Facility Output Audit Report – Q3 2025

For Puro.Earth

CO_2 Removal Supplier	O.C.O Technology Limited
Removal Method	Carbonated Materials
Production Facility	O.C.O Aggregate Manufacturing: Leeds Production Facility – ID No. 625222
Production Facility Addresses	Leeds: Hub 45 37 Knowsthorpe Gate Leeds, UK LS9 0NP
Net Volume of CO_2 Removal	2,135.21 CORCs
Reporting Period	July 1st, 2025 – September 30th, 2025
Auditor	350Solutions Guy Ingram-Hardwick Bill Chatterton
Report Date	December 19th, 2025
Version	v1.2

Contents

List of Tables

List of Figures

PRODUCTION FACILITY & OUTPUT AUDIT REPORT		
Company O.C.O Technology Limited	Company Contacts: Dr. Peter Gunning Stephen Roscoe	Audit Team: Guy Ingram-Hardwick* Bill Chatterton
Removal Method: Carbonated Materials		
Report Date: December 19th, 2025		
Document No: 350VR-OCO-PU2501.03		
Rev: V1.2		

** primary contact/lead author*

1. Introduction

350Solutions, Inc. was contracted to perform an audit of carbon dioxide removal credit (CORC) claims for O.C.O Technology Limited's carbonated aggregate production process. 350Solutions declares that we are an impartial auditor, free from any conflicts of interest, capable, and qualified to complete this audit according to Puro Standard and related Validation and Verification Body Requirements.

In December 2022, 350Solutions conducted a Production Facility audit of the process, lifecycle CO_2 emissions assessment (LCA), and other administrative details to verify compliance with the requirements of the Puro.Earth Puro Standard General Rules (Version 3.1) and Carbonated Materials Methodology (Edition 2022, v 1.0) [1], [2]. The Production Facility audit remains valid until August 31st, 2026. This follow-up output audit was conducted to verify O.C.O's reported CORCs for the Leeds production facility over the period of July 1st, 2025 - September 30th, 2025. The verification was conducted through a detailed document review and audit.

Table 1. 2025 Q3 O.C.O Leeds Production Facility Output Audit Summary

Verification Summary	
CO_2 Removal Supplier	O.C.O Technology Limited
Removal Method	Carbonated Material: Production of carbonated aggregate from waste materials
Verification Type	Removal supplier output audit; Puro Standard General Rules (v3.1) and Carbonated Materials Methodology (v2)
Production Facility Name and Identification Number	O.C.O Aggregate Manufacturing Facility: Leeds Production Facility - Facility ID No. 625222
Production Facility Locations	Hub 45, 37 Knowsthorpe Gate, Leeds, UK LS9 0NP
Reporting Period	July 1st, 2025 – September 30th, 2025
Verified CO_2 stored Factor	131.48 kg CO_2-eq/t aggregate product
Verified CORCs	2,135.21
Audit Kickoff Date	November 18th, 2025
Audit Report Date	December 19th, 2025

2. Technology Description

The O.C.O Technology (O.C.O) process and technology uses carbon dioxide to treat various waste materials via Accelerated Carbonation Technology (ACT). O.C.O produces a lightweight carbonated aggregate for use in construction applications, such as in precast concrete block and ready-mixed concrete. O.C.O currently operates several sites in the UK treating air pollution control residue (APCr) primarily from waste-to-energy plants and producing aggregate that meets EN13242 and EN13055 requirements. The aggregate production process utilizes CO_2 from biogenic or other sources injected during the accelerated carbonation step and absorbs and reacts with significant amounts of CO_2 in ambient air during on-site curing and storage. For CORC purposes, only CO_2 from biogenic sources, or absorbed directly from the atmosphere during curing is credited. CO_2 is permanently sequestered in the aggregate product in the form of carbonates. The process is summarized in Figure 1.

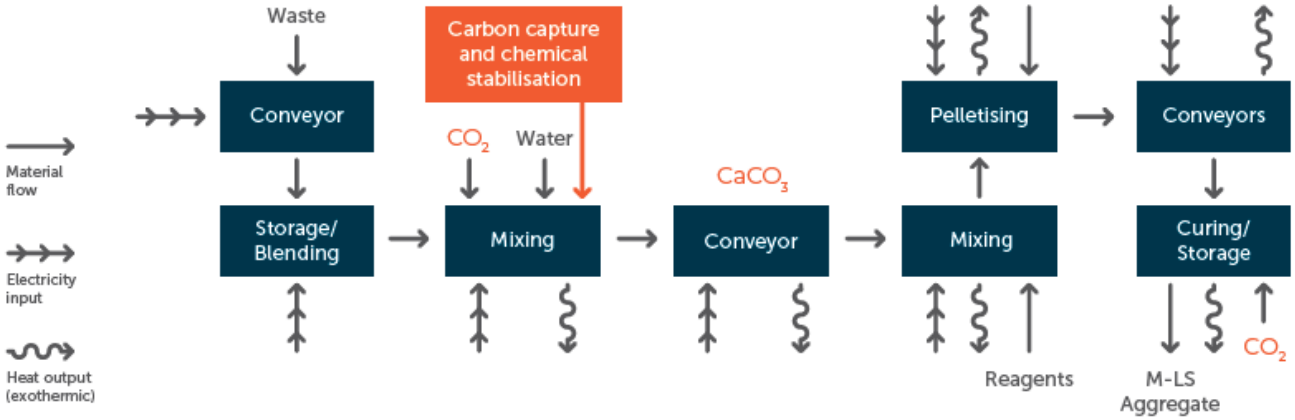

Figure 1. O.C.O Technology Carbonated Aggregate Process.

O.C.O operates production facilities in the U.K. (Avonmouth, Brandon, Leeds, Wretham) utilizing the same general process, inputs, and outputs in each location. O.C.O Manufactured LimeStone (M-LS) aggregate is currently sold primarily as construction material to concrete block makers, ready-mix concrete producers, and for pavement, earthworks (i.e. foundation fill), and similar applications.

2.1. Process Inputs & Outputs

The O.C.O aggregate manufacturing process uses similar inputs as a concrete batching process, with the primary exception being the use of air pollution control residue (APCr) as a primary feedstock, which the O.C.O process treats and stabilizes in the aggregate carbonate matrix that forms. Primary inputs include APCr, water, CO_2, sand, and other aggregates or residues, such as limestone dust or scalping's (crushed rock). The process uses electricity for operation of equipment, and requires heavy equipment for material handling, which require diesel fuel use.

The O.C.O process produces very little to no waste products and has very limited emissions of any kind from the facility. Any waste produced on site is typically recycled and used in the mix in small quantities, as they are often components of feedstock or product. There are no air emission points, with the primary potential emissions being fugitive dust, which is controlled and monitored at the

sites, and water vapor emitted as bound water in the raw material is released during the carbonation reaction. All CO_2 inputs are absorbed and reacted in the Stage 1 process, which is controlled and monitored by pressure in the sealed mixer to ensure CO_2 is not injected until prior injection has been reacted.

Table 2 summarizes the observed inputs and outputs from the process and typical rates from supplied operational data.

Table 2. Verified Production Facility Inputs & Outputs

Input or Output	Item	Verified Amount Over Monitoring Period	Notes (Specifications, source, etc.)
Inputs	APCr (tonne)	23,160	O.C.O tests each APCr delivery to ensure it is within specifications to enable aggregate production.
	CO_2 (tonne) - Biogenic injected - Fossil injected Ambient CO_2 absorbed during curing	709.59 0 6,165.26	CO_2 values provided for reporting period are the total CO_2 delivered to O.C.O, all injected CO_2 was biogenic sourced.
	Water (m^3)	6,322	Utility metering data and flow meter data from borehole water/ rainwater collection
	Cement (tonne)	4,850	Data recorded using process control output files associated with production facility weigh scales
	Limestone dust (tonne)	15,002	
	Other waste materials (sand, C&D debris, scalpings, recycled glass, etc.) (tonne)	0	
	Raw material supply inputs (extraction, handling, transportation emissions)	Included in Production & Operation CO_2 emissions below	Emissions are from raw material extraction and production processes (OneClick EPD software used for EPD emission factors and calculation) as well as transport of materials to O.C.O. EPD independently verified by EPD Hub
	Production inputs: - materials handling equipment (diesel) - Site electricity use (solar) - Electricity from grid	14,835 liters 80,584 kWh 252,790 kWh	No additional energy inputs are required. All electricity and diesel usage is based on utility bills or purchase records.
	CO_2 present in feedstock ($E_{priorcarbon}$)	14.8 kg CO_2e per tonne aggregate	Based on monthly analysis of APCr feedstock material and rate.
Outputs	Aggregate product output (tonne)	52,288.83	Aggregate product output is based on delivered product weighed as it leaves the plant gate on calibrated weigh scales.
	CO_2 stored in aggregate (E_{stored})	6,874.85 tCO_2e (131.48 kgCO_2e per tonne aggregate produced)	Based on measured carbonate content of M-LS aggregate (monthly), as detailed in document the uploaded Carbon Assessment Datasheet
	Production and operation CO_2 emissions output ($E_{production}$)	4,739.64 tCO_2e	Includes all raw material extraction and transportation and aggregate production process.

		(90.64 $kgCO_2e$ per tonne aggregate produced)	
	Net CO_2 emissions	2,135.21 tCO_2e (-40.84 $kgCO_2e$ per tonne aggregate produced)	$E_{stored} - E_{production}$

2.2 Changes since last Output Audit

No changes since the last audit have been outlined by O.C.O

3. Audit Summary

3.1. Audit Approach

A planned series of audit activities were conducted by 350Solutions to independently verify production and output data, and CORC claims for the reporting period. The audit was conducted following the specifications of Puro General Rules (Version 3.1) and Carbonated Materials Methodology (Edition 2022, v 1.0). Specific audit activities conducted are summarized in Table 3. A completed Puro Carbonated Materials Methodology Audit Checklist used during the audit is attached to this report as Appendix 1. Auditor qualifications are attached as Appendix 2.

Table 3: Audit Activities

Date(s)	Verification Activity	Verification Tasks	Documents Reviewed
November 18th, 2025 - December 5th, 2025	Introductory Document Review	- Review of operational and procedural changes - Review of LCA and supporting documentation - Review of Puro CORC calculations - Review of raw material sources and sustainability - Review of system inputs and outputs - Review evidence of product output - Review of product properties - Review of product end use - Review of equipment and calibrations	Baseline.pdf field-values.csv CO2 Removal Data - CO2 Removal Data.csv Carbon Assessment Datasheet.xlsx Product Despatch Report - Leeds Q3 - Product Despatch Report.csv Diesel Utilities.csv 2A5 Renewable_Energy_Certificate Electricity (renewable) Solar power Water.png
November 18th, 2025 – December 12th, 2025	Data Review	- Review of LCA and supporting documentation - Review of Puro CORC calculations - Review of raw material sources and sustainability - Review of carbon content of input materials and output aggregate - Review of system inputs and outputs - Review evidence of product output - Review of product properties - Review of product end use	Leeds Aggregated Off Site Deliveries Q3.xlsx OCO Leeds Q1 Data - Off Site Deliveries.csv Hope EPD.pdf Transport.png Off Site Deliveries 06-04-2025 21-08-49 Limestone.png Rock Crushing.png Ecoinvent information.png 1B2 BES6001 Sustainable Sourcing Certificate.pdf 1A1 CO2 Supplier 2 Contract.pdf 1A1 CO2 Supplier Contract.pdf Off Site Deliveries 06-04-2025 21-08-49.xlsx Electricity (gas).png Electricity (mixed).png

			Ladywell Q4 2024.xlsx St Nicholas Court Farms CO2 Data 2024.xlsx CORC Report Summary - Carbonated Materials - OCO, Leeds, Q3 '25 (1) 250505 LCA Report.pdf 3B1 Terms and Conditions of Sale.pdf 05A Permanence Risk Assessment 3C1 Aggregate Customers 3C3 BlockMix - Sales Factsheet 3C4 6F - Sales Factsheet 3C5 UKCA Blockmix 3C6 UKCA 6F 1C2 O.C.O Methodology for CO2 Removal v3.pdf 1C3 Acid Digestion Method (Section 2.2).pdf OCO LCA Model - Leeds – Q3 2025 (1).xlsm
December 5th, 2025 – December 19th, 2025	Report Development	- Compose Verification Report - Internal quality control	*No additional documents reviewed following data review*

3.2. Verified Output & CORCs

Table 4 includes the specific CORCs claimed by O.C.O. and verified by 350Solutions during the output audit process.

Table 4: Verified CORCs for O.C.O Leeds Production Facility

Performance Metric Name / Description	Revised Value	Verified Value	Monitoring Period
Net CO_2 Removal Factor*	40.84 $kgCO_2$/ tonne aggregate	40.84 kg CO_2/ tonne aggregate	July 1st, 2025 – September 30th, 2025
Aggregate Output	52,288.83 tonnes	52,288.83 tonnes	
Biogenic CO_2 Injected	709.59 tonnes	709.59 tonnes	
Ambient CO_2 absorbed during curing**	6,165.26 tonnes	6,165.26 tonnes	
Total CORCs***	2,135.21 CORCs	2,135.21 CORCs	

** CO_2 Removal factor is the net value of CO_2 removed in the aggregate product based on the O.C.O M-LS Environmental Product Declaration. All of CO_2 injected during the reporting period was of biogenic source.*

*** Determined using the average measured carbonate content of M-LS aggregate and the mass of biogenic CO_2 injected.*

**** CORC calculations are based on the net CO_2 emission rate determined and verified in the valid Environmental Product Declaration (EPD) for the reporting period, and the average measured carbonate content of M-LS aggregate. CORC values are calculated based on this factor and the total aggregate product delivered during the reporting period. The values of inputs during the reporting period are verified and reported here for completeness and to cross check versus the EPD.*

4. Audit Findings

4.1. Summary of Audit Findings

350Solutions has reviewed and audited the documentation of the technology, the instrumentation, the procedures, performance and collected data and has found that the data presented in the Puro Audit Package:

☒ ***Meets the requirements of the Puro General Rules V3.1 and Carbonated Materials Methodology V2***

☐ ***Meets the requirements of the Puro General Rules V3.1 and Carbonated Materials Methodology V2 with minor modifications***

☐ ***Does Not Meet the requirements of the Puro General Rules V3.1 and Carbonated Materials Methodology V2***

350Solutions utilized a reasonable level of assurance in performance of the output audit. A summary of findings associated with each primary requirement of the *Puro General Rules* and *Carbonated Materials Methodology* and any identified issues with the audit are summarized below.

Table 5: Audit Findings

Puro Standard CM Method. Section Ref.	Audit Verification Topic	Findings
1.1.1	*CO_2 Source*	**Acceptable.** O.C.O utilized biogenic CO_2 during the reporting period (no CO_2 injected was fossil sourced). A significant portion of the CO_2 in the product occurs via absorption from ambient atmosphere and reaction in the aggregate during the curing and storage process on-site.
1.1.2 *5.2.1* *5.2.2*	*Sustainable Raw Materials*	**Acceptable.** O.C.O utilizes waste material (APCr) as a primary input, serving as a certified End-of-Waste treatment facility. In addition, O.C.O has obtained BES 6001 certification for Responsible Sourcing of Construction Materials for other inputs.
1. *3.1.1* *3.1.2* *3.1.3* *5.2.1* *5.3.1* *5.3.2* *5.3.3*	*Net-Negative LCA*	**Acceptable**. O.C.O has demonstrated an appropriate basis for CORCs according to the Puro Methodology. The LCA was completed and independently verified as part of the independently verified EPD development, and utilizes the appropriate standard (ISO 14040/14044), system boundary (cradle to gate – excluding distribution use and end-of-life), cut-off approach for secondary materials, and results in a net-negative LCA, with -40.84kgCO_2 removed per tonne of aggregate (after accounting for prior carbon present in the APCr feedstock material). The evidence produced for the RECs associated to production have been deemed acceptable for now, but future output audits must follow the updated Puro.Earth rules regarding for RECs which have been applied to all methodologies. Puro.Earth confirmed that for this current output audit, the evidence is acceptable.
1.2.4	*Output Quantification*	**Acceptable.** All reported aggregate production is based on deliveries at the gate, as measured on a calibrated weigh scale at the facility. All shipped aggregate product is accounted for in dispatch records, which form the basis for the claimed production and CORCs. O.C.O also documents raw material usage and production via plant SCADA systems,

		which can be used for cross-check purposes. Water, electricity, and diesel fuel use are determined by either on-site meters, utility bills, or purchase receipts, respectively. O.C.O has a valid EPD for the M-LS aggregate product. All LCA inputs in the EPD are complete and analysis performed in compliance with the Puro methodology.
2.1.3 *5.4.1*	*Product usage*	**Acceptable.** The carbonated aggregate produced by O.C.O is utilized in a variety of construction processes. O.C.O maintains a complete list of customers and a summary of applications of the aggregate. In addition, O.C.O certifies that the product meets EN13242 and EN 13055 standards for specific aggregate types for use in certain construction materials.
2.2.5	*Demonstrated Additionality*	**Acceptable.** O.C.O has provided financial models and financial records demonstrating the need for carbon finance. Specifically, the primary counterfactual for the O.C.O process is the treatment and landfilling of the APCr residues. Companies that perform this process are typically able to provide lower tipping fees than what O.C.O charges for treatment, which is in large part due to the additional costs of operating the O.C.O process compared to traditional landfilling. To remain competitive with the counterfactual, O.C.O requires carbon finance to enable tipping fee reductions for APCr, to secure their primary input. In addition, with increasing operating costs (electricity, CO2), and low value of aggregate product, the carbon finance revenues support financial results that significantly improve options for future investment and scaling.
4. *5.3.2*	*CORC Calculation Methodology*	**Acceptable.** O.C.O follows the CORC quantification methodology in the CBM Methodology. Note that O.C.O now uses direct measurement of carbonate content of M-LS to quantify CO_2 uptake. Direct measurement of carbon content of APCr waste feedstock material is used to deduct prior carbon from the end-product carbon content.
5.5.1	*Statement re: Double Counting*	**Acceptable.** O.C.O is aware of end-user customer practices and assures no-double counting is taking place. O.C.O has provided written confirmation of use of product. O.C.O utilizes language in its terms and conditions that state that the carbon credits associated with the product do not transfer with the product purchase and credit ownership may be negotiated separately.

4.2. Critical Findings and Exceptions

Table 6 contains a list of notable findings identified during the output audit for this reporting period. All findings, primarily associated with missing supporting evidence, have been addressed and closed. A list of all findings can be found in Appendix 1.

Table 6: Notable Findings

ID No.	Finding/ Issue	Supplier Response	Conclusion/ Resolution
2	Transportation distances used for calculating emissions associated to transport are incorrect for some of the locations. Please update these values with the correct distances and ensure transport emissions adjust appropriately.	All supplier and customer transport distances reviewed and updated with the correct distances.	Noted that some of the supplier locations require Ferry transport as well as truck transport. FAR to ensure emissions associated to this are included within for the next viable output audit (Leeds Q4).

5	There is a mismatch in data recorded for some items in the receipts of deliveries or sourcing of raw materials section. Example 15/07/25 Heidelburg, there are 4 values in the invoice and in the transport report. Two of which match (20.16 and 20.06), but the other two do not.	Data is inputted at the time of delivery and should be reconciled upon invoice. Part of the problem is that the transport report and deliveries report are not linked. So, if changes are made in one, they are not reflected in the other. I am having problems uploading revised data files as the system is blocking me, so I must send them to Alcove.	This is not a material item but should be investigated and corrected for the next output audit. FAR to ensure that this is not the case in the next output audit.
7	RECs certificates do not include much information. Clarification needed from Puro.Earth	-	Puro confirms that RECs are eligible for this output audit. FAR for next viable OA.
8	Darring – 0/4MM Sand is underreporting the amount of material delivered.	Issue will need to be investigated with Alcove.	This is an immaterial finding but should be investigated and corrected prior to the next output audit submission. FAR for next audit to ensure this is corrected.
9	Reported meter readings are in m^3 but labelled as liters. Please make the necessary adjustments.	Please make the necessary adjustments for water emissions calculations.	Adjustment made to report in liters.

4.3. Forward Action Requests and Recommendations

Table 7 contains the list of forward action requests that should be addressed by O.C.O prior to the next reasonable Output Audit (expected to be Q4 Leeds).

Table 7: FARs and Recommendations

ID No.	Finding/ Issue	Supplier Response	Conclusion/ Resolution
2	Some transportation associated to delivery of raw materials required the use of a Ferry. These emissions are not currently accounted for.	These shall be updated for the next viable output audit (Leeds Q4)	FAR to be addressed in the next viable output audit (Leeds Q4)
5	Mismatch in data associated to raw materials being delivered to O.C.O.	Requested time to investigate this item and correct for the next output audit	FAR to ensure that all ticket numbers match in the next output audit and that O.C.O have discovered the source of the issue here and rectified it.
7	RECs certificate does not include any information regarding the location or age of the RECs used to offset the energy used by OCO during this reporting period. Clarification needed from Puro as to whether the evidence is acceptable, or whether more information regarding the RECs used is required.	-	See Puro published clarification CL023 CMA regarding the use of RECs and the evidence now required to ensure purchased RECs are eligible [3]. FAR for next viable output audit (Leeds Q4) that all RECs certificates meet the new guidance from Puro.Earth.
8	Darring -0/4MM Sand underreported in sourcing of materials emissions calculation	Issue to be investigated alongside Alcove.	FAR to ensure that the issue is identified and corrected for next output audit.

5 Revision History

Version	Date Issued	Noted Changes
Draft v1.0	December 12th, 2025	Initial Draft
Draft v1.1	December 16th, 2025	Updated dates following internal review
Final v1.2	December 18th, 2025	Final draft following Puro and OCO review

5. Auditor Signatures

Auditor Information		
VVB	**Auditor**	**350 Solutions Project ID No.**
350Solutions, Inc.	Guy Ingram-Hardwick (Lead Verifier)	PU2501.03
350Solutions, Inc.	Bill Chatterton (Quality Assurance)	

Guy Hardwick — Digitally signed by Guy Hardwick Date: 2025.12.19 13:34:09 Z

Signed: Guy Ingram-Hardwick (Lead Verifier)

Bill Chatterton — Digitally signed by Bill Chatterton Date: 2025.12.19 09:05:36 -05'00'

Bill Chatterton (Quality Assurance)

6. References

[1] Puro.Earth, Puro.Earth General Rules version 3.1, 2023, Website: https://puro.earth/document-library

[2] Puro.Earth, Puro.Earth Carbonated Materials Methodology (2022, version) Website: https://puro.earth/document-library?tab=methodologies

[3] Puro.Earth, Clarifications Puro Standard, 17th December, 2025, page 23/34 Website: https://puro.earth/document-library?tab=clarifications

Appendix 1: Puro.Earth Carbonated Materials Methodology Audit Checklist

Type	Finding/Issue	Required Action	Supplier Response	350 Response	2nd Supplier Response	Conclusion/Resolution
Omission	Contact information for auditor missing	Provide requested documentation	Requested documentation provided			Requested document uploaded and meets requirements
Clarification	Requested extra CO2 sourcing invoices and receipts	Provide requested documentation	Requested documentation provided			Resolved.
Clarification	Requested examples for QCM sales invoices and other evidence for this reporting period	Provide requested documentation	Requested documentation provided			Resolved
Omission	Items missing for transportation invoices and receipts	Provide requested documentation	Requested documentation provided			Resolved
Clarification	Transportation invoices missing for delivery of aggregate	Provide requested documentation	Raw material transport is included as part of the price of the product	Thank you for clarifying		Transportation receipts are included within the sales receipts.
Omission	Documentation associated to the ACO2 per batch calculation is not included within the output audit materials. Please upload.	Provide requested documentation	Documentation emailed separately			Documentation received.

Appendix 2: Verifier Qualifications

Verifier Qualifications	Criteria Met?	Evidence / Notes *(note how the criteria was met, specific documents - resume/CV, publications, certifications, etc.).*
Verifier has relevant technical knowledge of the type of technology being evaluated and carbon removal processes in general		
A) Does Verifier have:		
1. An in-depth technical knowledge of the technology type under verification;	☑	350Solutions is accredited to ISO/IEC 17020:2012 and ISO 14034 Environmental Technology Verification (ETV) as a Type A (third party) Inspection Body (ANAB Certificate Number: AI-2618). The technical scope of 350's accreditation includes verification of performance and environmental impact as it relates to design, materials, equipment, installation and operations of technologies in the categories of Energy, Clean Production and Process, and Air Pollution Monitoring and Abatement. As documented in 350Solutions' ETV Standard Operating Procedure (ETV QPM 350-223-03), and Quality Systems Procedures for verifier qualifications (QSP-350-005-02), 350Solutions conforms to the requirements of ISO 17020 Annex A with respect to verifier qualifications and procedures relevant to the Puro.Earth General Standard. 350 staff have participated in the evaluation and development of small scale biomass gasification and biofuels technologies. 350 also served as lead verifier for the Carbon XPrize competition and contributed to the development of procedures and processes for verification of relevant calculations, modeling, and statistical methods in order to assess team results and calculations of performance metrics and uncertainty. 350 has demonstrated knowledge of data quality and data validation approaches and execution in supporting verification of performance claims and results.
2. Knowledge of specific risk areas associated with performance of such technologies (i.e. common failure points, performance issues, barriers to scaleup);	☑	
3. Knowledge of the environmental implications related to the use of the technology from a life cycle perspective, such as impact of the technology on lifecycle CO2 emissions and carbon removal;	☑	
4. Knowledge of relevant applicable test methods and standards for evaluating performance or impact of the technology;	☑	
5. Knowledge of relevant calculation, modeling, and statistical methods in order to assess test results and calculations of performance metrics and uncertainty, as applicable;	☑	
6. Knowledge of data quality and data validation approaches, including QA/QC procedures, for example.	☑	
Verifier is a credible independent 3rd party		
B) Is Verifier:		
1. third-party body independent of the team registered for the Puro Earth CORCs;	☑	350Solutions is accredited to ISO/IEC 17020:2012 and ISO 14034 ETV as a Type A (third party) Inspection Body. As documented in 350Solutions ETV Policy Manual (ETV QPM 350-200-03), 350Solutions conforms to the requirements of ISO 17020 Annex A with respect to impartiality for Type A inspections, pursuant to ISO 14034 activities. These procedures and quality management programs are generally relevant to verification under the Puro.Earth General Standard. Note that verifications completed for Puro.Earth are not equivalent to ISO 14034 verifications.
2. Not directly involved in the design, manufacture or construction, marketing, installation, use or maintenance of the specific technologies submitted to Puro.Eargh for verification, or represent the parties engaged in those activities.	☑	
3. Not part of a legal entity that is engaged in design, manufacture, supply, installation, purchase, ownership, use or maintenance of the items inspected.	☑	

Guy Ingram-Hardwick
Carbon Removal Verification Engineer, 350Solutions

EDUCATION:
MEng Materials Science and Engineering, Loughborough University, UK - 2022

EXPERIENCE SUMMARY:
Guy Ingram-Hardwick is a Carbon Removal Verification Engineer, with experience in materials engineering, process engineering, MRV protocol development, experimental design and life cycle analysis (LCA). At 350 Solutions, Guy's efforts centre on validation and verification of varied carbon removal pathways, including biochar, biomass storage, and DAC+S. Guy has led the verification of a biochar CDR supplier registered with Puro.Earth and supported verifications of bio-oil and biomass geologic storage pathways as well as DAC technology assessments. Guy began his experience in carbon removal working to develop an LCA model for Brilliant Planet, a marine based carbon removal company growing, processing and burying microalgae for carbon sequestration. Once completing the LCA model, Guy managed the third-party verification and co-authored the MRV methodology for Brilliant Planet before managing its adoption with carbon market registries and developing relevant documentation required for carbon removal verification and crediting.

Guy also studied degradation mechanisms for biodegradable polymers which was the focus of his Master's thesis. His work during the Master's thesis and at Brilliant Planet provided experience in experimental design and execution, including conducting field trials for developing novel technologies. This included leading design and execution of demonstration and testing of processing and storage of the microalgae, displaying the long-term permanence of the carbon removal system. Prior to his experience at Brilliant Planet, Guy worked as a process engineer at Pirelli's rubber compound manufacturing plant in Burton-on-Trent with a focus on data analytics for driving continuous improvement, as well as developing familiarity with industrial manufacturing operations and data, quality assurance, and international standards.

RESEARCH AND PROFESSIONAL EXPERIENCE:
January 2025 – Present: Carbon Removal Verification Engineer, 350Solutions
Verify carbon dioxide removal technologies on behalf of registries and private companies ensuring high quality and meaningful climate impact.

Jul 2022 – Dec 2025: LCA and MRV Associate, Brilliant Planet
Quantified the carbon removal efficiency of the Brilliant Planet system across a variety of engineering designs using LCA. Developed the proprietary MRV methodology and PDD as well as setting up a novel experimental design to display the permanence of the stored carbon.

July 2019 – September 2020: Process engineer, Pirelli
Completed data analytics to drive continuous improvement for increasing efficiency, safety and rubber compound quality.

Bill Chatterton
Senior Verification Scientist, 350Solutions

EDUCATION:
B.S. Environmental Science, SUNY at Plattsburgh, 1982
A.A.S. Environmental Technology, Paul Smith College, 1979
Certified Measurement and Verification Professional (CMVP), 2019

EXPERIENCE SUMMARY:
Mr. Chatterton has over 30 years of experience in management of energy and environmental technology development and demonstration projects and programs, as well as multimedia environmental engineering efforts. The majority of his recent work has focused on the evaluation of innovative carbon capture, utilization, and removal technologies. Mr. Chatterton has supported the development and management of large technology evaluation programs in the advanced energy, transportation, and climate change areas.

RESEARCH AND PROFESSIONAL EXPERIENCE:
2019-Present Sr Verification Scientist – 350Solutions, Inc.
Owns and operates a small cleantech engineering consulting business focused on the independent evaluation of new cleantech innovations and their impact on the environment and carbon emissions. Provides engineering consulting, testing and evaluation, techno-economic assessment, and other support to companies developing, using, or investing in new clean technology innovations. Manages administrative, business development, and project activities for 350Solutions.

2010-2019: Program Manager - Energy and Environment, Southern Research
Managed scientific and technical staff performing research, development, and evaluation of innovative clean energy technologies. Projects range from $25,000 to $6million in size, and are funded by the US Department of Energy, Department of Defense, and commercial partners. Technical focus areas are conversion of biomass to fuels and chemicals, carbon capture and utilization, energy efficient building technologies and renewable energy generation.

2000-2009 Sr. Project Leader, Environmental Engineer, Southern Research

PROJECT EXPERIENCE:
Mr. Chatterton has executed several independent technology performance verifications of emerging carbon, energy and transportation technologies for 350Solutions and previously at Southern Research Institute. Mr. Chatterton has completed clean technology evaluations for the Department of Defense, state energy agencies, commercial clients, investors, and technology developers, involving evaluation of commercial feasibility, economic and environmental impacts, and technology performance. Mr. Chatterton served as a Lead Verifier for the NRG COSIA Carbon XPrize – a $20M prize competition for technologies that capture and beneficially utilize CO_2. Mr. Chatterton is also a Certified Measurement and Verification Professional, issued in 2019.