

PRODUCTION FACILITY & OUTPUT AUDIT STATEMENT

350Solutions, Inc. has validated the CO₂ removal capability and eligibility for CO₂ Removal Credits (CORCs) under the Puro.Earth Puro Standard General Rules v 3.1 and the associated Biochar Methodology for the following company:

Technology & Company Information		
CO ₂ Removal Supplier & Facility Operator	Production Facility Location	CO ₂ Removal Method
Earthcare, LLC – Riverview Farms	1505 East County Rd 500 N Orleans, IN, USA, 47452	Biochar

350Solutions affirms that the organization has the appropriate equipment, procedures, and protocols in place and documented to quantify CO₂ removal through the production of biochar, via measurement of biochar output and quality, and appropriate lifecycle analysis in accordance with the requirements of the Puro.Earth General Rules and Biochar Methodology. Eligibility criteria are verified as follows:

Eligibility Criteria		
Criteria	Verified Eligibility Status	Rationale
<i>Sustainable Feedstock</i>	Eligible	Poultry litter is an eligible feedstock
<i>Biochar Use</i>	Eligible	Biochar applied to farm fields
<i>Net-Negative LCA</i>	Eligible	LCA uses appropriate inputs and results in net-negative emissions
<i>No Fossil Fuels for Process Heat</i>	Eligible	Natural gas only used for start-up
<i>Negligible Methane Emissions</i>	Eligible	Thermal oxidizer destroys methane
<i>Molar H:C Ratio</i>	Eligible	Molar H:C Ratio = 0.55
<i>Safe Environment and Biochar Handling</i>	Eligible with minor modifications	Additional engineering controls needed to ensure a safe working environment
<i>Environmental & Social Safeguards</i>	Eligible	The air quality permit is acceptable and the NRCS supports biochar use
<i>Additionality</i>	Eligible	Biochar production was minimal until manure became an eligible feedstock
<i>Biochar Quantification</i>	Eligible	Biochar is weighed when bagged or when trucked to fields
<i>Production Facility Data</i>	Eligible	Production facility data matches Puro.Earth Registry
OVERALL ELIGIBILITY	ELIGIBLE	
Total Verified CORCs	268.88	

350Solutions has audited and verified eligible CO₂ removals for the period October 3, 2022 – December 15, 2023. CO₂ removal credits have been calculated in accordance with the Puro.Earth Standard Rules and Biochar Methodology.

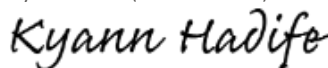
Additional details regarding the Production Facility and Output Audits can be found in the Production Facility & Output Audit Report – Earthcare Biochar (Document ID 350VR-PU2403).

Verifier Information		
Verification Body	Lead Verifier	Verification ID No.
350Solutions, Inc.	Lily Schacht	VS -PU2403

Signed: Lily Schacht (Lead Verifier)




Kyann Hadife (Peer Reviewer)



Issue Date:
November 14, 2024
*Valid for 5 years
from date of issue*

PRODUCTION FACILITY & OUTPUT AUDIT STATEMENT:

Earthcare, LLC at Riverview Farms

TECHNOLOGY DESCRIPTION

Earthcare LLC's facility at Riverview Farms gasifies poultry litter to produce biochar that is then spread on farm fields, pastures, and orchards, including those owned by Riverview Farms. The poultry litter would otherwise be spread on fields without processing, allowing it to decompose and release stored carbon dioxide (CO₂). Thus, transforming the poultry litter into stable biochar with a molar H:C ratio of 0.55 prevents CO₂ release.

The poultry litter is first dried using a triple pass rotary drum dryer that is heated by a mixture of flue gas and ambient air. The dried biomass is then fed to a two-stage gasifier where it is heated to approximately 800°C. The gasifier uses natural gas for startup but the gas input decreases until gasification is self-sustaining. Using natural gas for startup only is acceptable under the Puro Biochar methodology. Following gasification, the biochar is quenched to rapidly cool the material and reach a 20% moisture content.

The flue gas released during gasification passes through a thermal oxidizer at or above 926 °C, ensuring that any methane or other volatile organic compounds (VOCs) are destroyed. This gas stream then mixes with ambient air in a blend chamber before entering the dryer. After the dryer, the gas is pulled through a venturi scrubber and a backed bed to remove any VOCs that enter the gas stream from the raw biomass in the dryer. This also removes any odors that may be concerns for neighbors.

If the biochar is to be used locally, it is stockpiled until a truck can bring it to the desired field. The truck is weighed before and after loading to determine the amount of biochar used. If the biochar is going to be shipped further away, it is dispensed into a supersack on a load cell and the mass of biochar in each bag is recorded. End users provide attestations that they will not burn the biochar.

VERIFICATION DESCRIPTION

Verification activities were conducted by 350Solutions to independently verify the production facility, operations, data, and CORC claims. The verification was conducted following the specifications of Puro General Rules v3.1 and Biochar Methodology (v3). The Production Facility Audit was completed via an in-person site visit to the Riverview Farms facility in Orleans, IN on August 22, 2024. Facility standing and production output data was reviewed and verified remotely and during on-site activities during the site visit.

DATA QUALITY & LEVEL OF ASSURANCE

350Solutions is an ANAB-accredited ISO/IEC 17020:2012 independent inspection body for ISO 14034:2016 Environmental Technology Verification. 350Solutions Quality Management Plan and Quality Systems Procedures generally apply to activities associated with the Production Facility Audit and Output Audit performed in accordance with the Puro Standard. 350Solutions utilized a reasonable level of assurance in performance of the Production Facility & Outputs audits. The data quality assessment includes, but is not limited to:

- Data quality assessment for the specified performance and CORC claims;
- Assessment of ancillary data quality (operations, relevance, and representativeness);
- Performer competence (testing and analytical providers);
- Sampling and analytical procedures (repeatability, accuracy, measurement equipment calibration and quality checks); and
- Data management and processing.

In broad terms, the data provided by Earthcare, LCC to verify the Production Facility and its output in accordance with the Puro Standard was found to be acceptable for verification of initial CORC claims. Requirements and recommendations for improvement of data quality are provided in the Verification Report. All findings of the data quality review support verification of the performance claims and conform to the requirements of the standards.

Notice: 350Solutions, Inc. 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. Verifications and audits conducted by 350Solutions are based on an evaluation of technology performance and CO₂ removal claims via site visit observations and review of data submitted by the audited company. Audits are completed in accordance with rules and methodologies specified by Puro and utilizing the appropriate quality assurance procedures. 350Solutions makes no expressed or implied warranties as to the performance of the technology and does not certify that a technology will always operate at the levels verified, nor that it meets all state, local, or federal legal requirements.