Validation and Verification Report

ACR865 - Anew – Cumberland Gap Forestry Project

November 25, 2024

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1 INTRODUCTION

Anew Climate, LLC (Anew), contracted with Ruby Canyon Environmental, Inc. (RCE) to perform the validation and verification of the ACR865 Anew – Cumberland Gap Forestry Project (Project) for the reporting period of April 13, 2022 – March 31, 2023 and a crediting period of April 13, 2022 – April 12, 2042 under the American Carbon Registry (ACR) program. RCE was acquired by TÜV SÜD America, Inc. (TÜV SÜD) in 2023. RCE will be used throughout this report. Anew acts as the project developer for the landowner and project proponent Aurora Sustainable Lands LLC (Aurora). This report is documentation of validation and verification activities that RCE performed for the Project. For the validation, RCE reviewed the project information as described in the GHG Project Plan and its appendices. For the verification, RCE ensured that the GHG assertion was materially correct, that the data provided to RCE was well documented, and that if Anew made any material errors, that these errors were corrected. RCE worked with Forest Resource Solutions and Technologies (FRST) to complete this validation and verification. FRST was acquired by TÜV SÜD in February 2024.

1.1 OBJECTIVES

The objectives of the validation are to evaluate:

- Conformance to the ACR standard and the approved ACR Methodology for Improved Forest Management (Methodology).
- GHG emissions reduction project planning information and documentation in accordance with the applicable ACR-approved methodology, including the project description, physical infrastructure, activities, technologies, and processes of the Project, baseline, eligibility criteria, monitoring and reporting procedures, process information, source identification/counts, operational details, and quality assurance/quality control (QA/QC) procedures.
- Reported GHG baseline, ex-ante estimated project emissions and emissions reductions/removal enhancements, leakage assessment, and impermanence risk assessment and mitigation (if applicable).

The objectives of the verification are to evaluate:

- The emissions reductions and to ensure that the assertion is materially correct.
- The data provided to RCE can be documented and if errors or omissions are detected, they be corrected.

RCE retains all data and documents for seven years after the end of the project reporting period or for the duration required by ACR, whichever is longer.

1.2 PROJECT BACKGROUND

The Project is located on approximately 108,733 acres of oak, and other hardwood forests in southwestern Virginia and northeastern Kentucky. This property is owned by Aurora. The Project ensures long-term sustainable management of the forests.

1.3 Responsible Party

Project Proponent

Aurora Sustainable Lands LLC
55 Vilcom Center Drive, Ste 240
Chapel Hill, NC 27514
Cakey Worthington, VP Carbon Operations

Project Developer

Anew, LLC
2825 E. Cottonwood Parkway, Ste 400
Cottonwood Heights, UT 84121
Josh Strauss, Vice President

1.4 Validation and Verification Team

Lead Validator and Verifier: Zach Eyler
Biometrician: Andrea Eggleton, FRST
Professional Forester: Christian Eggleton, FRST
Forest Carbon Projects Manager: Tim Facemire, FRST
Team Member: Thomas Christopher, FRST
Internal Reviewer: Bonny Crews

1.5 Validation and Verification Criteria

1.5.1 Validation and Verification Standards, Guidelines, and Tools

- ACR Standard, Version 7.0 (December, 2020)
- ACR Validation and Verification Standard Version 1.1 (May, 2018)
- Improved Forest Management Methodology for Quantifying GHG Removals and Emission Reductions through Increased Forest Carbon Sequestration on Non‐Federal U.S. Forestlands v.2.0, July 2022
- ACR v2.0 IFM Errata and Clarifications, August 2024
- ACR Aggregation and Programmatic Development Approach Guidance for Improved Forest Management, Jan 2021
- ACR Tool for Risk Analysis and Buffer Determination, v1.0
- ISO 14064-3:2019 “Greenhouse gases – Part 3: Specification with guidance for the validation and verification of greenhouse gas assertions”

1.5.2 Level of Assurance

The verification was conducted to a reasonable level of assurance.

1.5.3 Materiality

The verification was conducted to ACR's required materiality threshold of +/-5% of the GHG project's emissions reductions or removal enhancements.

2 VALIDATION AND VERIFICATION PROCESS

As the first step in validation/verification activities, the Lead Validator/Verifier developed a Validation/Verification Plan to be followed throughout the validation and verification. The plan included the following activities:

- RCE completed a COI form for the validation and verification on May 2, 2023 to identify any potential conflict of interest with the Project or Project Developer. The COI form was approved by ACR on May 5, 2023.
- RCE and Anew held a validation and verification kick-off meeting on May 10, 2023. During the kick-off meeting RCE reviewed the validation-verification objectives and process, reviewed the schedule, and submitted an initial document/date request.
- RCE performed a strategic review and risk assessment of the received data and support documents to understand the scope and areas of potential risk in the GHG emissions reductions.
- RCE developed a risk-based sampling plan based upon the strategic review and risk assessment. The validation/verification plan and sampling plan were used throughout the process and were revised as needed based upon additional risk assessments.
- The validation/verification team conducted the site visit to the Project to verify the inventory quality and forest management practices from May 15-18, 2023. During the site visit the Verification Team performed key personnel interviews, conducted t-test sampling of inventory plots, conducted reconnaissance of the Project area boundary, observed elements of natural forest management, and observed harvest locations (if applicable) during and preceding the reporting period.
    - The site visit was attended by the following verification team personnel:
        - FRST:
            - Tim Facemire
            - Andrew Russo
    - During the site visit, the Verification team met with the following individuals:
        - Aurora
            - Cakey Worthington
            - Israel Golden
            - Greg Bailey
        - Anew
            - Tim Hipp
        - Advantage
            - Paul Fox
            - AJ Murdock
- RCE performed a risk-based desktop review of the submitted validation/verification documents. The desktop review included an assessment of the GHG calculation methods and inputs, source

data completeness, data management system and monitoring systems and eligibility documentation.

- RCE conducted interviews and had conversations with Project personnel during the verification. Personnel interviewed include:
  - Mingfei Xiong – Anew
  - Megan Finlay – Anew
  - Ian Hash – Anew
- RCE submitted requests for corrective actions, non-material findings, additional documentation, and clarifications as necessary to Anew throughout the validation/verification.
- RCE's internal reviewer conducted a review of the validation/verification sampling, report, and statement.
- RCE issued a final validation/verification report, verification statement, and List of Findings.
- RCE held an exit meeting with Anew.

3 VALIDATION AND VERIFICATION FINDINGS

3.1 PROJECT BOUNDARY AND ACTIVITIES

The Project entails improved forest management on approximately 108,733 acres of oak, and other hardwood forests in southwestern Virginia and northeastern Kentucky. GHG emission reductions for the Project are quantified by comparing actual onsite carbon stocks against modeled baseline onsite carbon stocks and baseline carbon in harvested wood products. The difference in these Project and baseline carbon stocks year over year is the basis for calculating the Project's primary goal of maintaining and enhancing forest GHG pools.

The Project's temporal boundary is the crediting period from April 13, 2022 – April 12, 2042.

3.2 GHG SOURCES SINKS, AND RESERVOIRS

Table 1 shows the GHG emission sources included in the project boundary based on the Methodology. RCE confirmed that the GHG Project Plan appropriately identifies the offset project boundary and includes all relevant SSRs.

Table 1. GHG Emissions Sources

Source	GHG	Description
Above-ground biomass	CO_2	Major carbon pool for project activity
Below-ground biomass	CO_2	Major carbon pool for project activity
Harvest wood products	CO_2	Major carbon pool for project activity
Market Effects	CO_2	Reductions in project outputs due to project activity may be compensated by other entities in the marketplace. Those emissions must be included in the quantification of project benefits.

3.3 ELIGIBILITY

3.3.1 ACR Eligibility

RCE confirmed the following ACR eligibility criteria listed in the ACR Standard, Version 7.0 by reviewing the project proponent's GHG Project Plan, Monitoring Report, and calculations as well as other supporting documentation described throughout this report (a full list of documents reviewed is in Appendix A).

- Start Date: The project start date is April 13, 2022.
- Minimum Project Term: The minimum project term is 40 years.
- Crediting Period: The crediting period is 20 years as specified by the Methodology, April 13, 2022 – April 12, 2042.
- Real: RCE confirmed that the GHG reductions follow the ACR methodology and are verifiable.
- Emission or Removal Origin: RCE confirmed that Aurora owns and has control over or documented effective control over the GHG sources/sinks from which the emissions reductions or removals originate.
- Offset Title: RCE confirmed that all Project lands are owned directly by the Project Proponent (Aurora), which holds full legal title.
- Additional: RCE confirmed that the project is additional as described in Section 3.4.
- Regulatory Compliance: RCE confirmed that the Project was in compliance with all applicable regulations.
- Permanent: RCE confirmed that the Project correctly applied the ACR Tool for Risk Analysis and Buffer Determination to account for permanence. A total risk score of 18% was confirmed.
- Net of Leakage: RCE confirmed that the Project correctly accounted for leakage per the Methodology.
- Independently Validated and Verified: RCE is a third-party validation and verification body that the project proponent has contracted to validate and verify the Project.
- Environmental and Community Assessments: RCE reviewed project impacts as described in section 3.6 of this report.

3.3.2 Methodology Eligibility

RCE reviewed the Project against the ACR Methodology eligibility and applicability conditions and confirmed the following:

- The Project is located on non-federally owned private forestland.
- Aurora controls the timber rights on the forestland and can legally harvest.
- The Project property and all associated harvest activity falls under the FSC certification (Forest Stewardship Council).
- The Project is not on tribal lands.
- The Project is not on public non-federal lands.
- The Project does not use non-native species where adequately stocked native stands were converted for forestry or other land uses after 1997.
- The Project has not drained or flooded wetlands on or after the project start date.
- Aurora owns all lands and timber rights on the Project area.

- The Project's stocking levels will increase well above the baseline conditions for the duration of the Project and by the end of the Crediting Period.

3.4 ADDITIONALITY

The Project meets the requirements for the demonstration of additionality specified by the ACR Standard and the Methodology.

3.4.1 Regulatory Surplus Test

RCE confirmed that there are no existing laws, regulations, statutes, legal rulings, or other regulatory frameworks in effect as of the start date that requires the Project activity and the associated GHG emissions reductions; thus, the Project passes the regulatory surplus test.

3.4.2 Common Practice Test

The Project area is similar to surrounding private forestland that is regularly harvested as it reaches viable diameter thresholds and has a history of some timber harvesting.

The project's geographic region for timber production extends in all directions. Throughout this private forestland is heavily cut, often through shelterwood, single tree selection and clear-cutting, and is managed to maximize NPV of the asset. Wood products including hardwood, sawtimber and softwood pulpwood are distributed to mills throughout this region and demand is strong and steady.

3.4.3 Implementation Barriers Test

The Project chose to assess the financial barriers test per the ACR Standard and Methodology. RCE confirmed that carbon funding is reasonably expected to incentivize the Project's implementation. Due to the Project being implemented, Aurora loses the ability to monetize timber harvests at a rate similar to business-as-usual practices during the life of the Project. Anew provided a financial assessment comparison of NPV between the baseline scenario with harvesting and the project scenario with a lower amount of harvesting but including revenue from carbon credits. The baseline scenario NPV was significantly greater demonstrating that carbon funding is integral to the project activity.

3.5 PERMANENCE

RCE confirmed that the Project correctly applied the ACR Tool for Risk Analysis and Buffer Determination to account for permanence. A total risk score of 18% was confirmed.

3.6 ENVIRONMENTAL AND COMMUNITY IMPACTS

The GHG Project Plan includes a summary of the Project activity's net positive environmental and community impacts (AppendixD_CumberlandGap_ACR-Environmental-and-Social-Impact-Assessment-Report-v1.0_11_21_24pdf). The GHG Project Plan includes a summary of the Project activity's net positive environmental and community impacts. The Project will provide habitat protection for wildlife, plant species, and trees, water quality protection and protection from soil erosion and degradation among other benefits. The Project is not expected to cause any negative environmental impacts.

3.7 Local Stakeholder Consultation

No formal stakeholder consultation occurred since the Project is held on private lands.

3.8 Monitoring Plan

The GHG Project Plan includes a Monitoring Plan that identifies all monitored data and parameters. RCE confirmed that the monitoring parameters and approaches conform to the methods required by the Methodology. The plan includes all relevant data parameters and appropriately identifies units of measurements, data sources, methodologies, uncertainty, monitoring frequency and procedures, and QA/QC procedures. After discussions with Anew and reviews of project documents, RCE determined that the Monitoring Plan accurately reflects how Project data is monitored and recorded and there are no deviations relevant to the Project activity against the requirements of the Methodology. Anew and Aurora implemented the monitoring plan as stated in the GHG Project Plan during Project activities.

3.9 Baseline Scenario

The Project's baseline scenario represents an aggressive harvest regime, targeted to maximize net present value at a 6% discount rate for industrial private lands. The baseline scenario applies harvesting across the Project area as allowed by the Methodology to maximize NPV.

The Project's baseline model simulates a range of harvest types and rotation lengths based on legal requirements and simulated growth within each stratum. The objective of modeling was to determine possible timber harvests in the project area over 100 years within the framework of legal and reasonable harvest constraints.

Stands were modeled for several different prescriptions, including no-harvest, clearcut, single tree selection, variable retention, and shelterwood removal, with restrictions on rotation ages, retention, and minimum harvest volumes.

Anew utilized the USDA's Forest Vegetation Simulator (FVS) Northeast variant to model harvests and yields. Growth models were calibrated using site index values calculated from the USDA Web Soil Survey intersection with the project area and plot specific tree cores. RCE reviewed the Site Index calculations and confirmed that a reasonable species and site index for the region was assigned on an individual plot basis to appropriately calibrate growth. The process was confirmed to be consistently and systematically applied to each plot.

RCE reviewed the resulting baseline outputs to ensure that they reflected the modeling objectives and the legal additionality requirements. The model grows trees and volumes at a reasonable rate compared to regional averages.

3.10 On-site Inventory Verification Check

In preparation for and during the site visits, the Verification Team reviewed evidence necessary to verify Project inventory estimates.

The Project inventory consists of one forested stratum which FRST sampled using a random sampling method.

The current inventory contains 310 permanent, fixed-radius plots. At each plot location, trees were measured in two nested plots: a larger 1/15th acre plot with radius of 30.4 feet, and a smaller 1/100th acre plot with radius of 11.78 feet. The larger plot measured all trees greater than or equal to 5 inches DBH while the smaller, nested plot measured all living trees between 1-4.9 inches.

Given this sample design and Project size, the Verification Team was required to achieve a minimum of 15 successful plots within the project to successfully verify inventory stocking levels. The Verification Team successfully verified site data after measuring a total of 18 site plots. The Project passed the t-test during the site visit.

Project Area

During the site visit, the Verification Team conducted boundary-line reconnaissance by visiting Project boundary edge lines and points, plotting edge points with GPS receivers, and determining whether there were discrepancies with the digital Project boundary files provided by Anew and the physical boundary witnessed on-site. This was done to determine the risk that Project area inaccuracies could contribute to a material misstatement in Project emission reductions. To the extent feasible, the Verification Team confirmed that the Project area boundary was appropriate and accurate.

3.11 Project Data and GHG Emissions Reduction Assertion

RCE reviewed the GHG Project Plan and Project data and calculations to ensure that appropriate equations were used in calculating baseline emissions, project emissions, and net emissions reductions.

3.11.1 Baseline Emissions

RCE and FRST confirmed that the baseline emissions were correctly calculated. Baseline emissions were calculated by reviewing input and output files for every FVS baseline modeling prescription, including forest codes, diameter breaks, merchantability thresholds, rotation lengths, regen/spouting, FVS harvest triggers on individual plots, site indices, treelists, and plotlists modeled over 100 years. The output workbook (ERT_Calculator) was then independently recreated in the data checks confirming proper calculation of assigned plot level outputs allocated to prescription based independently confirmed SMZ constrained and unconstrained acres. These values were then compiled into yearly baseline values for live and dead as reflected in the ERT monitoring calculation sheet. A secondary output of this process was the 100 years of modeled harvesting based off Best Management Practices (BMP) constrained acreages which was then run through the prescribed harvested wood product calculations customized for the project region(s). These calculations were made on 40-year time intervals as well as 100-year intervals and they were appropriately incorporated into the ERT monitoring calc sheet. See additional information relevant information in section 3.9.

3.11.2 Project Emissions

RCE and FRST confirmed that the project emissions were correctly calculated. The methods to confirm project emissions follow what is described in section 3.11.1 above.

3.11.3 Emissions Reductions

RCE verified that Anew calculated emission reductions according to relevant Methodology equations and that the methods are included in the GHG Project Plan.

RCE recalculated emission reductions for the first reporting period according to the equations defined in the Methodology and the GHG Project Plan and found the Project assertion to be free of material misstatement.

RCE and FRST also recalculated and confirmed the uncertainty assessment for the Project. The uncertainty calculation is the compiled square roots of the summed errors of the strata using a 90% confidence interval. RCE and FRST confirmed that the live, dead, and total uncertainties for the reporting period onsite carbon stocks were accurate. Below is a table of the project developer and FRST & RCE uncertainties calculated for this reporting period.

Party	Baseline Uncertainty	Project Uncertainty	Total Uncertainty
Anew	7.5%	7.5%	7.5%
RCE & FRST	7.5%	7.5%	7.5%

3.12 Leakage Assessment

RCE and FRST recalculated and confirmed the leakage for the project in accordance with the ACR Validation and Verification Standard version 1.1 section 6.F and 9.H.

4 Validation and Verification Results

RCE developed a combined List of Findings for both the validation and verification. The List of Findings noted all corrective action requests (CARs), non-material findings (NMs), additional documentation requests (ADRs), and clarification requests (CRs). Anew appropriately responded to all items in the List of Findings. The List of Findings is provided as Appendix B.

5 Validation and Verification Conclusion

RCE conducted a risk-based analysis of the Anew – Cumberland Gap Forestry Project GHG assertion including a strategic review of the Project data and evidence. Based upon the processes and procedures and the evidence collected, RCE concludes that the Project emission reductions during the reporting period April 13, 2022 through March 31, 2023 can be considered:

- GHG-related activity: Improved Forest Management on the Project area
- GHG statement: 4/13/2022 – 3/31/2023
- Criteria
    - In conformance with ACR's Improved Forest Management Methodology for Quantifying GHG

Removals and Emission Reductions through Increased Forest Carbon Sequestration on Non‐Federal U.S. Forestlands v.2.0, July 2022 and ISO 14064-3:2019 standards,

- Without material discrepancy, and
- Verified to a reasonable level of assurance.

The data and information supporting the GHG statement were historical in nature.

RCE has ensured Anew's effective use of controls related to the GHG statement. RCE concludes that there is sufficient and appropriate evidence to support Anew's GHG statement and is issuing an Unmodified Opinion.

RCE confirms that the GHG statement has been prepared:

- Without material discrepancy,
- In accordance with all applicable criteria, and
- Verified to a reasonable level of assurance.

The verified emission reductions are listed in Table 2. While RCE confirmed the emission reduction calculations and the total emission reductions to be correct and within the materiality threshold, the values in Table 2 are summary data only with significant figures rounded for summary purposes in this report.

Table 2. Total ERTs

Vintage	Total Emission Reductions / Removals	Buffer Pool / Reserve Account Contribution	Net Emission Reductions / Removals	Removals Subset	Emission Reductions Subset
2022	553,542	99,638	453,904	79,566	473,976
2023	189,425	34,097	155,328	27,228	162,197
Total	**742,967**	**133,735**	**609,232**	**106,794**	**636,173**

Note: Totals might not sum due to rounding.

Lead Validator and Verifier

Zach Eyler

Internal Reviewer

Bonny Crews

APPENDIX A—DOCUMENTS REVIEWED

#	Documents Reviewed Title
1.	Draft_CumberlandGap_MonitoringReport_7_31_24.pdf
2.	ACR_GHGPlan_CumberlandGap_8_9_24.pdf
3.	CumberlandGap_ACR_PDA_PDD_8_9_24.pdf
4.	CumberlandGap_Start_RP_CO2_07_24_2024.xlsx
5.	CumberlandGap_100Yr_calcs_07_24_2024.xlsx
6.	CumberlandGap_Regeneration_Calcs_07_24_2024.xlsx
7.	CumberlandGap_RP_ERT_HWP_07_24_2024.xlsx
8.	CumberlandGap_SiteIndex_Calcs_05_12_2023.xlsx
9.	CumberlandGap_SiteVisit_CO2_07_24_2024.xlsx
10.	68 FVS .out files for the CC, SHW50, SHW60, STS75BA, VT 10BA, VT 20BA prescriptions
11.	FT0044-BMPs-Streamside-Management-Zones_pub.pdf
12.	CumberlandGap_ForesterAttestation.pdf
13.	CumberlandGap_MillCapacity_8_9_24.xlsx
14.	for_130_bmp_guide_small.pdf
15.	Cumberland Gap Mud Hole.pdf
16.	Cumberland Gap Twila Jan - Mar.pdf
17.	CumberlandGap_ScaleSlipRequest_PageNotes_10_11_23.xlsx
18.	Cumberland Gap Bob Lowe Knob.pdf
19.	Cumberland Gap Brock Cemetery.pdf
20.	Cumberland Gap Hemlock Patch Jan - Mar.pdf
21.	Cumberland Gap Hobbs Branch.pdf
22.	Cumberland Gap James Switchback.pdf
23.	Cumberland Gap Kenny Salvage.pdf
24.	Cumberland Gap McGee Silo Part1.pdf
25.	Cumberland Gap McGee Silo Part2.pdf
26.	USGS SSURGO soils shapefiles, for 7 regions.
27.	CumberlandGap_Boundary_7_17_24.shp
28.	CumberlandGap_Harvest_RP1_12_18_23.shp
29.	CumberlandGap_Plots_4_26_23.shp
30.	Cumberland_2_1200m_label.shp
31.	CumberlandGap_SMZ_7_17_2024.shp
32.	CumberlandGap_Strata_7_17_2024.shp
33.	RP1_Volumes_CumberlandGap_Prescription.xlsx
34.	Cumberland Data Sheet_Part2.xlsx
35.	Cumberland Data Sheet_Part1.xlsx
36.	Cumberland Check Cruise Table.xlsx
37.	Cumberland2_Voluntary_CarbonPlot_Methodology_02_06_23.pdf
38.	Tab 28 - Virginia-RFO Title Policy.CV01.PDF
39.	Tab 29 - Kentucky-RFO Title Policy.CV01.PDF
40.	Tab 51 - Virginia-Non-RFO Title Policy.CV01.PDF
41.	Tab 52 - Kentucky-Non-RFO Title Policy.CV01.PDF

42. Tab 27 - West Virginia-RFO Title Policy.CV01.PDF
43. Tab 50 - West Virginia-Non-RFO Title Policy.CV02.PDF
44. Appalachian B Loan Title Policy - First American - Kentucky.pdf
45. Appalachian B Loan Title Policy - First American - Virginia.pdf
46. Appalachian B Loan Title Policy - First American - West Virginia.pdf
47. Nally Notice.pdf
48. DJC Farms LLC.pdf
49. Alden Notice-1.pdf
50. EQT 12-16-2010.pdf
51. Nally Notice-2.pdf
52. Stokes 2021-22.pdf
53. Penn VA Oceana 5-6-11.pdf
54. Town of Gilbert 7-26-11.pdf
55. L&B Oil and Gas-8-9-2010.pdf
56. Page-Kincaid PSD 11-5-10.pdf
57. EDC Gas Gathering 6-17-13.pdf
58. L&B Oil and Gas-9-17-2009.pdf
59. App A CawoodWaterDistrictDOE.pdf
60. Global Towers Assets-7-20-12.pdf
61. Twisted Gun Golf Course-2015.pdf
62. Southern Minerals Lease App B.pdf
63. AEP-4-23-09-Pinnacle Land Prop..pdf
64. App A_Riverside-Ext 1-8-21_exec.pdf
65. Spearhead Trails License- signed.pdf
66. Thomasson Ag Lease 2020 Executed.pdf
67. Hatfield-McCoy Mercer Co License.pdf
68. Page-Kincaid PSD-sewer line-4-9-09.pdf
69. RoE_Boone-TKY_Sang Branch 20190215.pdf
70. Riverside Energy Agreement 7-15-13.pdf
71. Tazewell Co PSD-Horsepen-12-16-2010.lnk
72. 07-11-2019 MSPCD DOE (Eff 3-6-2014).pdf
73. CNX-Pardee Tract-Road ROW 8-21-2012.pdf
74. Penn VA - 65inch-Kopperston-2-12-09.pdf
75. Vitruvian Exploration, LLC 10-10-12.pdf
76. 6-1-2020 DiversifiedMidstreamROWAgmt.pdf
77. Cabot Oil and Gas Corp ROW-term 2018.pdf
78. Cardinal States Gathering R-W 3-7-12.pdf
79. Geomet Gathering Amendment - 7-15-11.pdf
80. Raleigh Co PSD-water line - 4-9-2008.pdf
81. AEP - Man WV-Chauncy Huff Cr 7-10-17 .pdf
82. HFFIV - Norman Holdings License Signed.pdf
83. 03-23-2020 APCO Easement-fully executed.pdf
84. Dominion Exploration - 2in 6in 10-21-08.pdf
85. Global Tower Assets-Kopperston-2-1-2011.pdf
86. AEP-AppBCabinCrClendenin-Executed1-27-20.pdf

87. Carbon WV Co. LLC Premier WV 9-3-18_exec.pdf
88. Classic Oil & Gas - 2in pipeline- 3-2-09.pdf
89. Equitable Production-piplines -6-20-2008.pdf
90. GNG Farm Partnership Lease 2020 Executed.pdf
91. 2021 AEP-Hatfield ROW App B Agreement_TFG.pdf
92. Equitable-Logan Mingo Co-8in 20in 3-20-09.pdf
93. RoW Agreement - Southern Minerals 7-18-11.pdf
94. ROW Agreement - Highland Towers - 8-31-11.pdf
95. 9 Xinergy_Salt_Trace_Amendment_--_02-01-09.pdf
96. Appalachain Forests A CROE-NL-CORP-ANI_TFG.pdf
97. Cardinal States Gathering-Supp ROW-7-27-11.pdf
98. 11-07-2018 MCPSD DOE (Ben's Creek Phase II).pdf
99. Columbia Gas Transmission-Amendment-4-16-12.pdf
100. Global Towers Assets-7-20-12 corrected pg 9.pdf
101. Diversified-App B Executed Agreement-3-25-22.pdf
102. Dominion Exploration - 6in -Skygusty-6-25-09.pdf
103. Eastern Wyoming PSD-But Mt, Mullins 10-13-10.pdf
104. The County Commission of McDowell Co-7-18-12.pdf
105. APP-B_Cumberland Valley Electric Easement-ROW.pdf
106. Appalachian Forests A EROE_Montecarlo20200123.pdf
107. Town of Gilbert -water line easement 11-12-10.pdf
108. 10-01-2021 DiversifiedMdstrmMemoPiplinEsmt&ROW.pdf
109. ROW License-Lauren Land- Pardee tract-9-8-2008.pdf
110. J.M.L Oil & Gas-Beech Fk Martin Co KY 10-20-09.pdf
111. Eastern Wyoming PSD-Barkers-Big-Beetree 2-26-15.pdf
112. ROW License-Lauren Land- Pardee tract-2-25-2010.pdf
113. 01-10-2022 APCO-Itmann Quitclaim Deed of Easement.pdf
114. 08-15-2021 KY Power (Dewey-Inez) Supp Easement & ROW.pdf
115. APCO Logan Switchback - Supp ROW Easement No 111A_TFG.pdf
116. 201807 Vinland Easement and Pipeline Agreement Elk Forest surface Bell County.pdf
117. Blue Source Sustainable Forests Company FSC FM_COC Certificate 27.3.2023.pdf
118. Appalachian A_10yr plan_update_2011.pdf
119. AppalachianForestsB_10yr plan_update_2011.pdf
120. CumberlandGap_StumpagePrice.csv
121. Cumberland Gap_RP1_ERT_MR_SectionVI_Appendix..pdf
122. CumberlandGap_MonitoringReport_11_22_24_signed.pdf
123. ACR_GHGPlan_CumberlandGap_11_21_24_signed.pdf
124. AppendixB_CumberlandGap_Multi-Site-Design-Document.pdf
125. AppendixC_Risk Analysis and Buffer Determination Analysis_CumberlandGap.pdf
126. AppendixD_CumberlandGap_ACR-Environmental-and-Social-Impact-Assessment-Report-v1.0_11_21_24.pdf
127. AppendixE_CumberlandGap_ACR-SDG-Cont-Report-AFOLU-Project-v1.0_11_19_24.pdf

APPENDIX B—LIST OF FINDINGS

Includes Corrective Action Requests (CAR), Non-Material Findings (NMs), Additional Documentation Requests (ADR), and Clarification Requests (CR), as necessary.

Corrective Action Request, Non-Material Finding, Additional Documentation Request, or Clarification Request ID#	Finding	Section of Regulation or COP	OPO/APD response	RCE response	Additional OPO/APD response	Additional RCE response	Additional OPO/APD response	Additional RCE response	Open or Closed
CAR 1	Approximately 39 acres of the project overlaps with the adjacent Finite Carbon - Alma Land Company IFM project (CAR 1208). While some overlaps are minor slivers, others show significant disagreement over property boundaries. See CAR 1 tab for screenshots of larger overlaps.	1.2	Thank you. The boundary was conservatively adjusted to remove overlapped areas.	Thank you this item may be closed.					Closed
CAR 2									
CAR 3									
NM 1	Column P of the "RP_Tree_C02" tab of the "CumberlandGap_Start_RP_CO2_06_26_2023" workbook and column P of the "SV_Tree_C02" tab of the "CumberlandGap_SV_CO2_05_03_2023" workbook use different methods for calculating decay class reductions. These workbooks should use the same method.	4.2.3	The method to calculate decay class reduction has been updated in the "CumberlandGap_SV_CO2_09_22_2023" workbook to match it with "CumberlandGap_Start_RP_CO2_09_22_2023".	Thank you this item may be closed.					Closed
NM 2	Trees 721 and 3957 have the FVS species code of SI, despite being hickories.	4.2.3	The FVS species codes have been updated to HI for trees 721 and 3957	Thank you this item may be closed.					Closed
NM 3	Multiple page number in the table of contents of 'ACR_GHGPlan_CumberlandGap_12_19_2023' have "Error! Bookmark not defined."	GHG Plan	Page numbers are updated in the GHG plan	Thank you this item may be closed.					Closed
NM 4	In the GHG plan in Section D1, "Parameter - Harvested Wood product" says "carbon remaining in stores....in year t". Is this the correct tense for this word?	GHG Plan	Thanks, this has been corrected to "stored".	Thank you this item may be closed.					Closed
NM 5	In the GHG plan in Section D2, "Technical review" there is a sentence that say: "This individual.... calculations though the chain of Excel.... database". Is this meant to be through instead of though?	GHG Plan	Thanks, this has been corrected to "through".	Thank you this item may be closed.					Closed
NM 6	In the GHG plan in Section E1, there is a sentence that references the Decay Class as a part of the ACR Standard, but Decay Classes are referenced in ACR IFM methodology applied to the project, not the standard. Is this intentional?	GHG Plan	This has been revised to "ACR methodology".	Thank you this item may be closed.					Closed
NM 7	In the GHG plan in Section E1, "Cost Assumptions" a sentence references "stumpage by species". Is this meant to reference stumpage price?	GHG Plan	The sentences is revised to "stumpage price for each species" for clarification.	Thank you this item may be closed.					Closed
NM 8	In the GHG plan in Sections E4 & E5, is it intentional to refer to ACR methodology as ACR protocol?	GHG Plan	GHG plan Section E4 and E5 are revised to correctly refer to ACR methodology.	Thank you this item may be closed.					Closed
NM 9	In the GHG plan in Sections E6, is the reference for A6 meant to be for A7?	GHG Plan	For Section E6, It is intentioal to refer to A6 and E2 that include languages about project action and project scenario.	Thank you this item may be closed.					Closed
NM 10	In the GHG plan in Sections E6, are the CO2e stocks referenced supposed to be CO2e/acre?	GHG Plan	The reference is updated to be CO2e/acre stocks for clarification.	Thank you this item may be closed.					Closed
NM 10	In the GHG plan in Sections F1, are the "Sustainable Development Goals" set by a specific entity?	GHG Plan	The reference is updated to describe them as United Nations' Sustainable Development Goals.	Thank you this item may be closed.					Closed
NM 11	Is it intentional to omit reference of the PDA addendum in the GHG plan?	GHG Plan	A reference to the addendum has been added in Section A9.	Thank you this item may be closed.					Closed
NM 12	The total project acres in section B3 and D1 do not reflect the current acres of the project, is this intentional?	GHG Plan	The current acres are updated in section B3 and D1.	Thank you this item may be closed.					Closed
NM 13	The landowner is listed in the PDA PDD as Bluesource Sustainable Forests Company instead of Aurora, is this intentional.	PDD Addendum	Thanks, the landowner's name has been updated to Aurora.	Thank you this item may be closed.					Closed

ADR 1	Please provide documentation of how the stumpage prices on the "Stumpage_Prices" tab of the "CumberlandGap_100Yr_calcs_06_26_2023" workbook were obtained.	2.4	Stumpage price were obtained from TFG/BSFC stumpage data aggregated from all timber sales on the App A&B properties since 2022. The spreadsheet has been placed to the verification folder.	Thank you for the provided documents. This item may be closed.					Closed
ADR 2	Please provide evidence of the 10% plot auditing as described on page 32 of the "ACR_GHGPlan_CumberlandGap_7_13_23" document.	5.1	The inventory QAQC check cruise has been added to the InventoryData folder of the verification folder. The GHG plan has been updated to reflect the 5% audit requirements for an experienced carbon cruiser.	Thank you this item may be closed.					Closed
ADR 3	Please provide copies of original cruise cards for review.	5.1	Original cruise data has been added to InventoryData folder of verification folder.	Thank you for the provided documents. This item may be closed.					Closed
ADR 4	Please provide copies of the harvest scale tickets list in the ADR 4 tab.	4.2.4	Scale tickets are provided in the verification folder.	Thank you for the provided documentation. Please provide the documents related to the Mud Hole contract.	Mud Hole scale tickets are added to the verification folder	Thank you for the provided documents. This item may be closed.			Closed
ADR 5	Please provide documentation of mill capacity around the project area to support the 112,855 MBF/year modeled harvest baseline.	4.1	Analysis of the mill capacity is added to RegionalForestryDocs in the verification folder.	Thank you for the provided documents. This item may be closed.					Closed
ADR 6	Please provide soil geodata used for Site Index calcs.	4.2.1	Soil data is added to Soils folder in the verification folder.	Thank you for the provided documents. This item may be closed.					Closed
CR 1	The modeling in rows 24 and 26 of the "Financials" tab of the "CumberlandGap100Yr_Calcs_06_26_2023" workbook indicates that a verification is planned to occur every 5 years, but a new inventory will only be performed every 10 years. Is this accurate?	4.1	Yes, this reflects the monitoring effort to meet the protocol requirements for 5-year full verifications, and all plots will be remeasured at least once every 10 years.	Thank you this item may be closed.					Closed
CR 2	In cell E24, 26, 29 and 78 of the "ACR_IFM_ERT_Calcs" tab of the "CumberlandGap_RP_ERT_HWP_06_26_2023" workbook, the formula refers to the 20yr average Baseline HWP in cell E14 rather than the HWP Baseline in cell E13 which is prorated for the length of RP1. Please clarify.	5.3	We are averaging 20 years of HWP, not 20 RPs of HWP. So even though the RP1 is shorter, we are still using 20 years of HWP and getting the average of that for the 20 year avg baseline HWP. As you can see cells E24, E26 and E29 are referenced in the 20-year average Baseline HWP in cell E14.	Thank you this item may be closed.					Closed
CR 3	The formulas in row 23 of the "Financial_Barriers_Test" tab of the "CumberlandGap_RP_ERT_HWP_06_26_2023" workbook refer to a blank row. Please clarify.	2.4	The formulas in row 23 of the 'Financial_Barriers_Test' have been updated to (ACR_IFM_ERT_Calcs!E45) to show the correct Tradable balance at time t	Thank you for the update, please apply the fix to all of row 23, in addition to the update of the registry fees in row 27 to $0.17.	The fix has been applied throughout the row 23 and row 27	Thank you this item may be closed.			Closed
CR 4	The Pad 2.0 shapefiles list a conservation easement under a portion of the southeastern block of the project. Has the text of this easement been provided?	2.4	According to PAD 3.0 database, this related areas are associated with the Black Mountain Conservation Easement, which description could be find at (https://eec.ky.gov/Nature-Preserves/Locations/Pages/Black-Mountain-Conservation-Easement.aspx). Project proponent confirmed that there are no restrictions on timber harvesting except for a buffer zone around the top of the mountain where mining is prohibited.	Thank you, please clarify if the mountain top buffer zone is included in constrained acres for project and baseline harvest scenarios.	The buffer zone is only applicable to mining activities between the top of the mountain and the minable areas. It does not posed any constraint on timber harvest so the area is not included as project or baseline constraints.	Thank you this item may be closed.			Closed
CR 5	A large portion of the Southeastern block of the project is also in the George Washington and Jefferson National Forests. See CR 5 tab for screenshot. Please clarify how project timber rights are maintained in these areas.	1.2	These are proclaimed National Forest Boundary. The surface owner is ACIN LLC for most of the area and the project proponent has confirmed they have full unconstrained rights to the timber on this land. Project proponent will conduct periodic monitoring and deed review to ensure their timber rights in these areas.	Thank you for the clarification regarding the proclamation boundary. There is also a 14.9 acre overlap with the National Forest that does not appear to the be from the proclaimed boundary. Please clarify. Please refer to tab CR 5.1 for screenshot.	The overlap with the National Forest has been removed from the project area.	Thank you this item may be closed.			Closed
CR 6	How were the physical locations of the SMZs show in the "CumberlandGap_RMZ_04_26_2023" shapefile determined?	4.1.1	Stream and waterbody locations are ground truthed in the field. Once their location is confirmed, the appropriate prescription is applied in accordance with the local BMPs. Operators follow BMPs as directed by BSFC.	In comparing NHD data of perennial streams to 'CumberlandGap_RMZ_12_8_2023', it appear roughly 4.8 miles of perennial waterways are not represented in the BMP layer. Please clarify. See tab CR 6 for examples.	We have updated our SMZs using the most recent NHD dataset that includes the identified perennial waterways.	Thank you this item may be closed.			Closed
CR 7	Are there known to be any threatened or endangered species within the project area?	2.4	List of endangered species that may occur on the property and management practices are detailed in Section F.2 in the management plan provided for verification.	Thank you this item may be closed.					Closed
CR 8	Is the project enrolled in any other environmental asset programs for non-carbon benefits?	2.4	The project is not enrolled in any other environmental asset programs for non-carbon benefits.	Thank you this item may be closed.					Closed
CR 9	Some harvests in the "RP1_HarvestArea_CumberlandGap" shapefile extend beyond the project boundary. Is this accurate? If so have the harvested volumes been prorated to account for this?	4.2.4	All reported harvest units are confirmed to be within the project boundary. There are minor discrepancies between the harvest boundary and project boundary due to the harvest units were aligned to the older version of the project boundary. The harvest boundary has been updated to align with the most recent project boundary.	Thank you this item may be closed.					Closed
CR 10	Plots 52 and 171 are within harvest units but are not listed as having any trees harvested. Were these plots checked to see if any trees were harvested?	5.1	Both plot 52 and plot 171 were measured after harvesting, thus they already reflected the post-harvesting status and do not need to be checked.	Thank you this item may be closed.					Closed
CR 11	Overlaying a fishnet grid over the "CumberlandGap_Plots_4_26_23" shapefile indicates there are 11 locations within the project boundary where there may be missing plots. While some may be from projection issues or because a cruiser determined real world boundaries put the plots outside the project area, several are well within the project area. Please clarify and provide original fishnet grid used to generate plot locations. The CR 11 tab contains screenshots of some noted locations while the attached "Cumberland_Gap_potential_missing_plots" shapefile contains locations where potentially missing plots were noted.	5.1	Original fishnet grid is provided in the verification folder. It has been discovered that there has been a version control issue where the project boundary provided was not the finalized version we used for inventory and missed some additional non-forest removal and edits made in the process. The most recent project boundary and related shapefiles were updated in the verification folder.	Thank you this item may be closed.					Closed

CR 12	In the "GHG_Plan_Tables" tab of the "CumberlandGap_RP_ERT_HWP_06_26_2023" workbook Cell E26 contains a sum of all the annual total tradable balances, rather than the Buffer Credits. Please clarify.	5.3	The correction has been made to Excel formulas to show the sum of the buffer credits in cell E26.	Thank you this item may be closed.					Closed
CR 13	Utility lines cross the project in several areas with easements that allow the line owner to control vegetation within the easement at their discretion. However generally only portions of the areas covered by these easements are removed from the project area. Why were the areas covered by these powerline easements not entirely removed from the project area? An example of such an area and the portion of the easement that covers vegetation control is included on CR 13 tab.	2.4	The forested area with easements are included in the project areas. While the easement allows the line owner to control vegetation, the project proponent still owns the timber rights in the easement areas. Non-forested areas under the easement were excluded as they are periodically maintained by the easement holder which is recognized as a permanent non-forest feature not to be included in the carbon boundary.	Thank you this item may be closed.					Closed
CR 14	The description of the SHW60 and SHW50 FVS prescriptions in the "ACR_GHGPlan_CumberlandGap_7_13_23" indicate that the first and second entries should occur as a pair, however a review of their outfiles has the second entries occurring whether or not the first entries have occurred (see CR 14 tab for example screenshots). Please clarify.	4.1	Thanks for the comment, we have fixed this issue in the updated key and outfiles.	Thank you this item may be closed.					Closed
CR 15	The modeling in the "Financials" tab of the "CumberlandGap100Yr_Calcs_06_26_2023" workbook indicates a baseline harvest of 112,855 MBF per year is modeled for the first 5 years. An average log truck carries between 4-5MBF per load. With 112,855 MBF/year modeled, that equates to roughly 28,200 loads in a year, or 77.3 loads per day, every day, including holidays and weekends. Please justify the feasibility of these modeled prescriptions.	4.1	The baseline represents a harvesting scenario that could be implemented to maximize NPV of wood products while considering all legal and operational constraints. The majority of NPV maximization occurs in the first 10 years while subsequent years consist of less frequent harvesting and forest growth. The baseline was derived through interviews with local foresters and operators, investigation of local mill capacity, and the historical management seen in the project area prior to acquisition and in the region. The project proponent would explore this scenario as it can legally and feasibly occur on the property in the absence of the carbon project and the project proponent has a fiduciary responsibility to provide financial returns to their investors through forest management.	Thank you for the clarification. Please provide an attestation by a professional forester in support of the baseline harvesting scenario.	The forester attestation on the mill capacity and baseline harvesting prescription is uploaded to the RegionalForestryDocs in the verification folder.	Thank you this item may be closed.			Closed
CR 16	Portions of the project area are within Virginia which is in the Southeast region for determining mill efficiencies. Why are baseline mill efficiencies in the CumberlandGap_RP_ERT_HWP_06_26_2023 only using South Central mill efficiencies rather than using a proportional representation between the two regions?	4.1	In the updated ERT workbook, both South-central and southeast mill efficiencies have been used. Mill efficiencies were calculated using weighted averages based on acres between the two regions.	Thank you this item may be closed.					Closed
CR 17	Tree 2975 exists on the "CumberlandGap_SV_CO2_05_03_2023" workbook's Tree List, while in the CumberlandGap_Start_RP_CO2_06_26_2023 workbook it has been removed. Please clarify.	5.1	Thank you for the question. Tree 2975 has been included in the updated CumberlandGap_Start_RP_CO2 workbook.	Thank you this item may be closed.					Closed
CR 18	Please clarify the choice of site index coefficients for sugar maple in 'CumberlandGap_SiteIndex_Calcs_05_12_2023'.	4.2.1	The SI coefficient from Carmean (1978) for Northern Wisconsin and Upper Michigan was used because it is more recent than the one from the Vermont Green Mountains.	Thank you this item may be closed.					Closed
CR 19	After reviewing "Cumberland Check Cruise Table" and "Cumberland Data Sheet_Part1", plots 294 and 295 were failed plots due to the misidentification of all trees on plots, which exceeds the 25% threshold. As the plots were done by the same team of cruisers during the same audit day, please clarify if the plot revisit took place.	5.1	Confirming that these plots were revisited after internal audit with tree species corrected in the final data delivery.	Thank you this item may be closed.					Closed
CR 20	In an intersection of 'CumberlandGap_RMZ_12_8_2023' and 'CumberlandGap_Harvest_RP1_12_8_23', there is 1.5 acres of overlap. Please clarify how logging operations were managed to meet BMPs.	4.1.1	The SMZ layer was designed to conservatively cover more ground than may be necessary for the on-the-ground conditions. It therefore may not reflect on-the-ground conditions found for individual harvests. For harvest boundaries encompass some SMZ areas, all buffer requirements are met as evidenced by their ongoing forest certification and best management practices are followed.	Thank you this item may be closed.					Closed
CR 21	Prices the Stumpage_Prices of CumberlandGap_100Yr_calcs_10_04_2023 do not match the prices provided in CumberlandGap_StumpagePrice for the sawtimber prices of basswood, black birch (aka sweet birch), yellow buckeye, blackgum, hemlock, the hickory species. The pulpwood prices for basswood and yellow poplar also do not match. Please clarify.	4.1	Stumpage prices has been updated. For species that do not have a specific stumpage price, their prices are set to using the mixed hardwood or softwood prices based on the species group. Species marked as 1 in pulp_only column in the 100Yr calcs only use corresponding pulp prices with sawtimber price set to 0.	Thank you this item may be closed.					Closed
CR 22	In the 'Core Analysis' tab of 'CumberlandGap_SiteIndex_Calcs_05_12_2023', on plot 271, 3 years are being added to the base age of black locust trees. According to 'Site Index Curves for Forest Tree Species in the Eastern United States' (nc 128) Black Locusts with a SI between 46 and 65 must have 2 years added to the tree's age. Please clarify.	4.2.1	Tree ages have been corrected.	Thank you this item may be closed.					Closed
CR 23	In an intersect of 'CumberlandGap_Plots_4_26_23' and 'CumberlandGap_Harvest_RP1_12_18_23', three plots were found within harvest boundaries than what listed is the 'HarvestedTrees' tab of 'CumberlandGap_Start_RP_CO2_12_19_2023'. Given that Please clarify if unmentioned plots were affected by harvest activities.	4.1.1	These three plots were inventoried after harvest took place so they already reflected the post harvest conditions.	Thank you this item may be closed.					Closed

CR 24	In the table at the bottom of page 8 in section VI 2 of 'Draft_CumberlandGap_MonitoringReport_12_19_23', the total HWP t CO2e at the end of the RP does not match the HWP Project in VI 5 on page 9. Please clarify.	Monitoring Report	Thanks. This has been updated.	Thank you this item may be closed.					Closed
CR 25	Please clarify the ownership and carbon rights in relation to the parcels identified on tab 'CR 25'. Particularly the stated owners per Kentucky and Virginia property records found on beacon.schneidercorp.com/qPublic.net, leecova.interactivegis.com, and wisecova.interactivegis.com, as they do not say Appalachian Forests A LLC or Appalachian Forests B LLC.	4.1	Surface right for the identified parcel are owned by other parties and project proponent confirms they hold the timber rights and carbon rights in these identified parcels within the carbon project. Table A3.1 and Section G1.1 of the GHG plan has been updated accordingly to clarify the carbon rights.	Thank you this item may be closed.					Closed
CR 26	Pellet mills were found to be utilized in the mill capacity analysis following a review of 'CumberlandGap_MillCapacity_8_1_24'. Wood products consumed through combustion cannot carry 100-year storage factors. Please clarify.	4.2.4	Thanks. Pellet mills were removed from the analysis, and baseline harvest level is still well below the regional mill capacity.	Thank you this item may be closed.					Closed
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