

VERIFICATION REPORT FOR CAPRICORN RIDGE 4 WIND FARM



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Summary:

The Capricorn Ridge 4 Wind Farm (Project) consists of electricity generation from a renewable source. The Project provides electricity to the Electric Reliability Council of Texas (ERCOT) grid with interconnection with the Lower Colorado River Authority (LCRA). Through the installation of 75 GE 1.5 MW turbines with a total capacity of 112.5 MW, the project activity results in the reduction of greenhouse gases (GHG) through displacement of carbon dioxide (CO₂) emissions from fossil fuel combustion for electricity generation.

NativeEnergy, Inc. (NativeEnergy) contracted with Ruby Canyon Engineering (RCE) to perform the verification of the monitoring period 1 January 2016 – 31 December 2016. NativeEnergy assists the project proponent, NextEra Energy Resources (NextEra), through the verification process as NativeEnergy is the buyer of the credits and needs to complete verification of the project prior to purchase. RCE performed a site visit during a previous verification in March 2015. The verification of the current monitoring period included a desktop verification with a detailed document review of relevant Project information.

The purpose of the verification is to ensure that the Project Proponent implemented the project activity according to the monitoring plan, that the emission reduction assertion submitted by NativeEnergy is materially correct and free of errors and omissions, and that the Project meets all criteria requirements. Specifically, RCE assessed the Project against the Clean Development Mechanism methodology ACM0002, Version 09 – “Consolidated baseline methodology for grid-connected electricity generation from renewable sources” and the validated VCS Project Description dated May 19, 2010. RCE assessed the Project Monitoring Report, including the Project’s monitoring plan, based on the above criteria documents as well as relevant VCS criteria and guidance documents.

During the verification process, RCE completed a desk review of the monitoring report and associated documents to confirm that NextEra implemented the project activity as stated in the validated VCS Project Description. This included a review of data and information control systems and interviews with key personnel. During the desktop review, RCE issued two Corrective Action Requests and two requests for additional documentation. NativeEnergy provided adequate responses to all requests.

RCE concludes, to a reasonable level of assurance, that the Project’s GHG assertion of 135,816 metric tonnes of CO₂ equivalent emissions for the period of 1 January 2016 – 31 December 2016 is fairly stated.

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1 INTRODUCTION

1.1 Objective

The objective of the verification is to ensure that the GHG emission assertion made by NativeEnergy is materially correct and that the data provided are accurate, complete, and transparent. Additionally, RCE ensured that the Project is in conformance with the criteria as stated in Section 1.2.

1.2 Scope and Criteria

The scope of the Project includes the organizational boundaries of the Capricorn Ridge 4 Wind Farm Project and all of the grid-connected power plants in the ERCOT region. The GHG included in the scope of the project is CO₂.

RCE conducted the verification based upon the following criteria:

- Verified Carbon Standard Version 3.7 (21 June 2017);
- VCS Program Guide Version 3.7 (21 June 2017);
- Validation and Verification Manual Version 3.2 (October 19, 2016);
- Clean Development Mechanism (CDM) methodology ACM0002, Version 09, “Consolidated baseline methodology for grid-connected electricity generation from renewable sources”;
- Clean Development Mechanism (CDM) Tool 07, “Tool to calculate the emission factor for an electricity system,” Version 01.1
- Validated VCS Project Description, dated 19 May 2010;
- ISO 14064-3 “Greenhouse gases – Part 3: Specification with guidance for the validation and verification of greenhouse gas assertions”.

Additionally, RCE reviewed the Project’s monitoring period-specific Monitoring Report Version 04 dated 15 June 2017, including the monitoring plan, during verification activities.

1.3 Level of Assurance

RCE conducted the verification to a reasonable level of assurance.

The VCS Standard defines materiality as errors, omissions, or discrepancies resulting in misstatement of greater than five percent of the Project’s GHG assertion. Additionally, RCE considered qualitative non-conformances with criteria requirements as material during the verification process.

1.4 Summary Description of the Project

The Project activity consists of the installation of 75 wind turbines and the generation of renewable energy fed into the grid from Capricorn Ridge Wind Farm near Sterling, Texas. The Project is located at latitude: 31.900878 and longitude: -100.817413 over an area of approximately 11,000 acres. The monitoring period under verification is 1 January 2016 – 31 December 2016.

The project achieves emission reductions through the replacement of electricity into the ERCOT grid that otherwise would have been produced by fossil fuel combustion or a mix of fossil fuel and renewable electricity generation. The Project reduces the quantity of CO₂ released to the atmosphere by generating electricity using a zero-emission source. In the absence of the Project, the majority of electricity produced would be from coal or natural gas.

2 VERIFICATION PROCESS

2.1 Method and Criteria

The verification process involved the following independent and objective activities:

- Select a Verification Team;
- Perform a Conflict of Interest Review;
- Conduct a kick-off meeting with NativeEnergy;
- Review the validated Project Description;
- Review the Validation Report;
- Review the previous Verification Report;
- Review the current Monitoring Report Version 04 dated 15 June 2017;
- Develop a verification plan and risk-based sampling plan;
- Conduct a site visit to the Project;
- Review the Project information control systems and quality control procedures;
- Review the Project's emission reduction calculations;
- Issue corrective action requests, additional documentation requests, and clarification requests;
- Issue a verification report and verification representation; and
- Conduct an exit meeting with NativeEnergy.

RCE selected the verification team according to its GHG Verification Policies & Procedures to ensure team members are qualified to perform verification activities pertaining to the Project. The verification team consisted of the following individuals:

Lead Verifier: Jessica Stavole-Carter
Internal Reviewer: Nina Pinette

Prior to verification activities, RCE performed a Conflict of Interest Assessment to determine whether any potential conflicts exist with the project developer. No issues were discovered that would affect the impartiality or independence of the verification team.

RCE held a kick-off call with NativeEnergy on 8 June 2017. The purpose of the kick-off call was to introduce the NativeEnergy personnel and the RCE verification team, review the verification objectives and process, review the VCS requirements, and to confirm the verification schedule.

RCE developed a verification plan and sampling plan that were used throughout the verification of the Project. RCE created the plans after reviewing the Project Monitoring Report, validated Project Description, and the VCS Standard (Version 3.7). RCE performed a risk assessment based upon the criteria listed above and evidence provided to RCE by NativeEnergy for the current monitoring period.

RCE used the verification plan throughout the verification as a basis for assessing the completeness, consistency, accuracy, and transparency of the Project's GHG emission reductions. RCE conducted a site visit at the Project location near Sterling, Texas on 18 March 2015 during the verification of a previous monitoring period as described in Section 2.4.

2.2 Document Review

RCE performed a risk-based analysis of the Project and document sampling in order to verify that the Project is in conformance with all criteria requirements and that the stated emission reductions are materially correct. RCE reviewed the following documents:

- Validated Project Description,
- Validation report,
- Previous verification report,
- Monitoring Report Version 04(dated 15 June 2017),
- Emission reduction calculation spreadsheet,
- Capricorn Ridge meter hourly data,
- ERCOT data,
- ERCOT REC tracking documentation,
- Operating margin calculation spreadsheet,
- LCRA Operations Test Report for the primary meter, 12 July 2016,
- LCRA Operations Test Report for the backup meter, 12 July 2016,
- Electricity consumption invoices, and
- Operations Attestation.

2.3 Interviews

RCE held discussions with the following personnel during the verification:

- Lauren Wilkinson, NativeEnergy: Lauren is responsible for development and maintenance of the Project Monitoring Report and emissions reductions calculations. She was the primary contact during the verification and addressed all Corrective Action Requests (CARs) and requests for additional documentation (ADRs).

2.4 Site Inspections

As part of RCE's preliminary risk assessment, RCE determined that a site visit was not required to provide a reasonable level of assurance for the verification of the emission reductions during this monitoring period as none of the Project equipment had changed since RCE's verification of a previous monitoring period. RCE conducted a site visit during the verification of a previous monitoring period, 1 January 2014 – 31 December 2014, at the Project location near Sterling, Texas on 18 March 2015 which involved a tour of the facility and adjacent leased properties. The site visit activities included a physical inspection of the Project operations and a review of the Project information control systems, data handling, QA/QC activities, and equipment calibration schedules. RCE confirmed the presence of seventy-five wind turbines via the SCADA system which tracks operational information for all turbines. In addition, RCE inspected the monitoring equipment in the Capricorn Ridge 4 substation which meters kWh

generation and viewed the LCRA substation from which the electricity is delivered to the grid and kWh generation is metered with a revenue-quality meter.

2.5 Resolution of Findings

During the verification process, RCE issued two corrective action requests (CAR) and two additional documentation requests (ADR). RCE documented these requests in the List of Findings. NativeEnergy sufficiently addressed all requests as documented below.

Corrective Action Requests (CARs) and Clarification Requests (CLs)		
ID #	Action Item	Resolution
CAR 1	There is a non-material misstatement in calculated project emissions. The error can be traced back to an overstatement in NativeEnergy's summary worksheet relating to project electricity usage.	12 July 2017: NativeEnergy corrected this typo in its summary worksheet and revised the emission reduction calculation spreadsheet.
CAR 2	There is a non-material misstatement in calculated project emissions. The value of total electricity imported into the ERCOT region, used in calculations, is outdated.	12 July 2017: NativeEnergy updated this value from the eGRID 2010 value to the eGRID 2012 value, which is the most up-to-date value provided through eGRID.
ADR 1	Provide an updated Monitoring Report which reflects the following: <ul style="list-style-type: none"> • Section 4 – Correction of values found under Quantification of GHG Emission Reductions and Removals; and • Updated value for project electricity consumption throughout the report. 	12 July 2017: NativeEnergy revised the Monitoring Report to address all items.
ADR 2	Provide ERCOT data for the month of October 2016.	7 July 2017: NativeEnergy provided the requested documentation. October ERCOT data showed a 0.29% difference against project metered data.

2.5.1 Forward Action Requests

There were no forward action requests.

2.6 Eligibility for Validation Activities

RCE did not perform validation activities as part of the verification process.

3 VALIDATION FINDINGS

No validation activities took place during the verification of this monitoring period.

3.1 Participation under Other GHG Programs

The Project with facility ID 00114 also generated 95,000 Renewable Energy Certificates (RECs) in the ERCOT REC Program and has registered its RECs in the ERCOT registry. These RECs are excluded from the quantity of electricity generated by the Project when calculating emission reductions and no emission reductions are claimed from associated electricity production. At the time of verification, the remaining RECs equivalent to the quantity of electric generation claimed for this monitoring period, 232,279 MWh, had not been retired.

RCE verified that all forms of environmental credit that the Project received for this monitoring period are identified and that the project is eligible to participate under the VCS program. However, to prevent double counting, RECs need to be retired before VCUs can be issued.

3.2 Methodology Deviations

There were no methodology deviations for this monitoring period.

3.3 Project Description Deviations

There were no project description deviations for this monitoring period.

3.4 Grouped Project

The Project is not a grouped project.

4 VERIFICATION FINDINGS

4.1 Project Implementation Status

The Project start date is 20 May 2008, the date upon which commercial operation began. The crediting period is for ten years, beginning on 1 January 2010 and ending on 31 December 2019. RCE found that the Project was implemented in conformance with the validated Project Description with no deviations. RCE also confirmed that the Project continues to meet the requirements of the VCS Standard Version 3.7.

RCE confirmed that there were no changes to the project proponents for this monitoring period. NextEra is identified as the Project Proponent in the Monitoring Report. NativeEnergy is involved in the project as a technical consultant with the roles of developing the Monitoring Report and managing the Project's VCUs. During verification activities, RCE confirmed that NextEra is the Project owner and operator and thus has rights to all emission reduction credits generated by the Project.

The Project uses revenue quality electric meters located at the LCRA substation and confirmed by ERCOT to measure electricity generation by the Project. LCRA operates these meters which continuously measure kWh generation. In the event of a failure, there is a back-up meter installed at the same location, also owned by LCRA. A technician inspected and certified the primary and back-up meters during the monitoring period on 15 July 2016. Both were in compliance with the requirements of ERCOT protocols.

The project did not participate in and was not recognized in any GHG emissions trading program since it last participated under VCS. Also, the project did not receive credits of any kind specifically for GHG reductions but did track, register, and sell its RECs measured in MWh via the ERCOT program and Green-e voluntary REC markets which included environmental attributes.

4.2 Accuracy of GHG Emission Reduction and Removal Calculations

NativeEnergy calculated the Project's emission reductions in accordance with the equations in ACM0002 Version 09 and the validated Project Description. RCE reviewed the NativeEnergy GHG assertion spreadsheet to ensure the accuracy of the formulas, emission factors applied, and functionality of the spreadsheet. RCE sampled the Project's raw data sets to ensure the accuracy of reported data and to ensure that there were no transcription errors.

The primary Project data includes the electricity generated and supplied to the grid. NativeEnergy uses this data to calculate the carbon dioxide emissions displaced by the Project. RCE sampled the Project data recorded via the kWh meter at the Capricorn Ridge 4 substation which is aggregated hourly as well as the raw data recorded via the LCRA revenue meter in 15 minute intervals. RCE also reviewed the ERCOT REC documentation. All quantities tied out with small discrepancies.

Native Energy calculates baseline emissions from wind power generation by multiplying the quantity of net electricity produced and supplied to the grid by the combined margin CO₂ emission factor for grid connected power generation (0.655 tCO₂/MWh). RCE reviewed the calculation of the combined margin factor that NativeEnergy calculated in accordance with the CDM methodological tool 07 "Tool to calculate the emission factor for an electricity system" Version 01.1 using a weighted average of the operating and build margin emission factors. The weighted operating margin and build margin values were consistent with the CDM methodological tool 07 default values. Per the validated Project Description, the build margin is calculated ex-ante and is fixed for the Project's crediting period (0.384 tCO₂/MWh). The Project calculates the operating margin on an ex-post basis and assesses the operating margin during each verification for changes. The Project determines the operating margin using the U.S. EPA's eGRID database. RCE verified that NativeEnergy correctly calculated the operating margin and appropriately applied it in the calculation of the combined margin factor. Finally, RCE confirmed that the combined margin factor was correctly applied in the calculation of emission reductions for this monitoring period.

NativeEnergy calculated project emissions by multiplying the quantity of electricity consumed by the Project, as determined by invoices, by a CO₂ emission factor. RCE reviewed invoices for electricity consumed by offices, an operations and maintenance building, an equipment warehouse, turbine start-up, and substation backup power. Some of these are shared across all phases of the Project, so NativeEnergy attributed a portion to Capricorn Ridge 4 by applying a capacity share factor to the total kWh metered. RCE confirmed that calculated project emissions were materially correct and that NativeEnergy applied the most recent eGRID factor for the ERCOT region.

RCE recalculated the emission reductions for the entire monitoring period and found the GHG emission reduction calculations to be in conformance with the ACM0002 Version 09 methodology and the validated Project Description and to be free of material misstatement.

4.3 Quality of Evidence to Determine GHG Emission Reductions and Removals

NativeEnergy provided adequate documentation for the emission reduction calculations as well as the Project's information control systems, data management processes, and data quality assurance procedures. RCE reviewed the Project's Monitoring Report, meter test reports, raw data, and all emission reduction calculations. Additionally, RCE interviewed Project personnel to assess their understanding of the Project equipment and data outputs including data management. Multiple meters collect and record data. These meters are owned and maintained by NextEra and LCRA. NextEra receives continuous electric data via telemetry from the LCRA revenue quality meters. Additionally, NextEra captures and stores data from its own meter and saves and backs up the data in its market data software package managed at corporate headquarters in Florida.

RCE found the information provided to be transparently documented and in accordance with requirements of the ACM0002 Version 09 methodology and the validated Project Description.

4.4 Non-Permanence Risk Analysis

Not applicable.

5 SAFEGUARDS

5.1 No Net Harm

Not applicable.

5.2 Local Stakeholder Consultation

Not applicable.

6 VERIFICATION CONCLUSION

RCE conducted a risk-based analysis of the Capricorn Ridge 4 Wind Farm Project including a strategic review of the Project data, documentation, and emission reduction calculations. RCE concludes to a reasonable level of assurance that the GHG assertion is free of material misstatement. The emission reductions resulting from avoided emissions of methane for the reporting period 1 January 2016 – 31 December 2016 can be considered in conformance with the:

- Verified Carbon Standard Version 3.7 (21 June 2017),
- Clean Development Mechanism methodology ACM0002 Version 09, “Consolidated baseline methodology for grid connected electricity generation from renewable sources,” and
- Validated VCS Project Description, dated 11 November 2011

Verification period: From 1 January 2016 – 31 December 2016
Verified GHG emission reductions and removals in the above verification period:

Year	Baseline emissions or removals (tCO ₂ e)	Project emissions or removals (tCO ₂ e)	Leakage emissions (tCO ₂ e)	Net GHG emission reductions or removals (tCO ₂ e)
2016	136,348	532	0	135,816
Total	136,348	532	0	135,816

7 LEAD AUDITOR SIGNATURE



Jessica Stavole-Carter

8 INTERNAL REVIEWER SIGNATURE



Nina Pinette