VCS { VOLUNTARY CARBON STANDARD

Voluntary Carbon Standard
Project Description

May 19, 2010

1 Description of Project:

1.1 Capricorn Ridge 4 Wind Farm

The Capricorn Ridge 4 Wind Farm will be referred to throughout this document as The Project. It is owned by NextEra Energy Resources ("NextEra"), a subsidiary of FPL Group, Inc. NextEra is the sole project proponent for the project.

1.2 Type/Category of the project

The Project is a Grid-connected Electricity Generation from Renewable Sources; the category is Individual.

1.3 Estimated amount of emission reductions over the crediting period including project size:

The Project is expected to generate emissions reductions equivalent to 212,735tCO_2 per year (see section 4 GHG Emission Reductions). This calculation is based on a generating rate of 345,000 MWh/year using an expected net capacity factor of approximately 35%. Over the ten year crediting period, the expected emissions reductions will be 2,127,350 tCO_2.

The Project net capacity factor is generated based on 31 months of historical met tower wind speed data at the site, then normalized with two 31-years' long-term NOAA stations (San Angelo and Abilene).

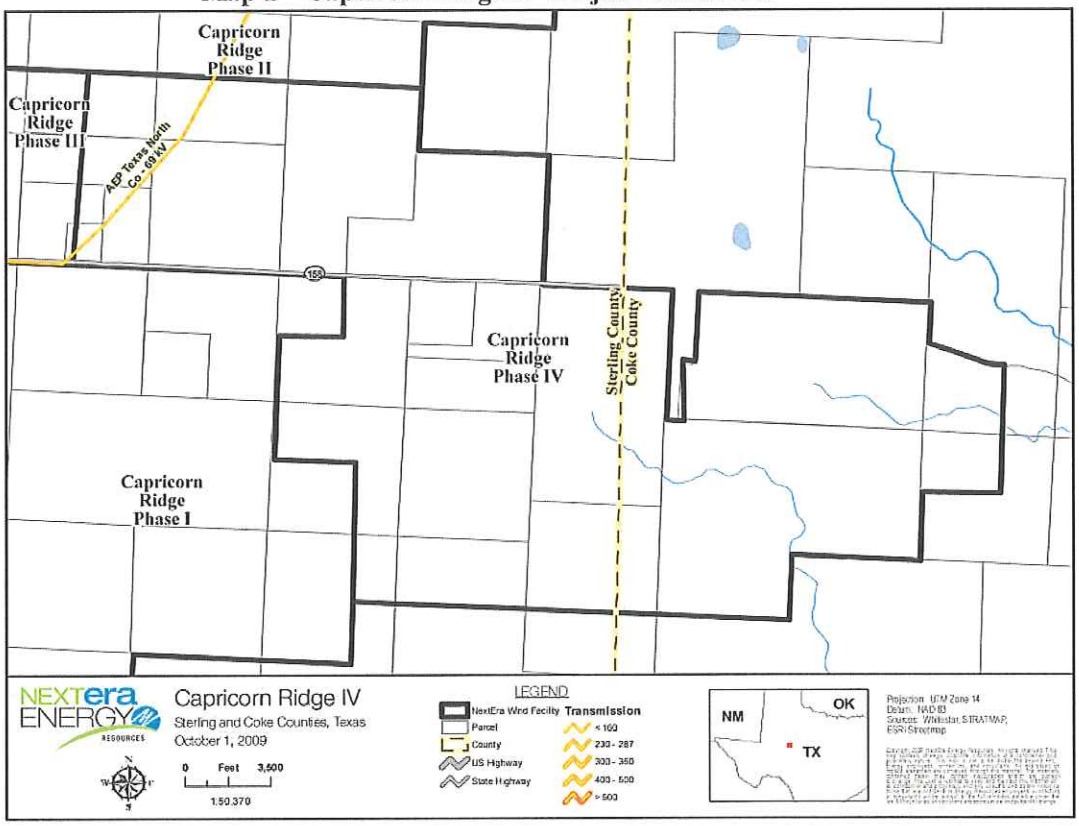
1.4 A brief description of the project:

The Project is the second phase of the Capricorn Ridge Wind Farm and became operational on May 20, 2008. The Project is a new addition that is metered separately from the existing phases of the wind farm. The Project has 75 GE 1.5 MW wind turbines with a capacity of 112.5 MW. The towers have a rate wind speed of 12 m/s, three rotor blades, a rotor diameter of 77 meters, sweep area of 4,657m^2 and a rotor speed of 10.1-20.4 rpm. The towers also come equipped with a control system that is a programmable logic controller and has a remote control and monitoring system. The objective of the project is to increase the amount of wind-generated electricity that is supplied to the Lower Colorado River Authority (LCRA) substation in Coke County, TX, a part of the Electricity Reliability Council of Texas (ERCOT) grid. The Project will produce clean renewable energy that will displace traditional fossil-fueled energy sources and reduce green house gas emissions.

1.5 Project location including geographic and physical information allowing the unique identification and delineation of the specific extent of the project:

The Project is located about five miles east of Sterling City, Coke County, Texas at latitude 31.900878 and longitude -100.817413. Of the 75 turbines, 33 are located in Coke County and 42 are located to the west in adjacent Sterling County. The Project occupies approximately 11,000 acres. The map below demonstrates the Project boundaries, size and general locality the other NextEra Energy wind farm projects.

Map 1 – Capricorn Ridge IV Project Boundaries



1.6 Duration of the project activity/crediting period:

The Project was approved on [redacted]; commercial operation of the Project began on 20 May, 2008. One month prior to this, initiation of test electricity to the grid began. The crediting period is from January 1, 2010 until December 31, 2020.

1.7 Conditions prior to project initiation:

Prior to The Project construction, there was electricity generation from the other phases of the Capricorn Wind Farm. This project is a new addition that is separately metered.

1.8 A description of how the project will achieve GHG emission reductions and/or removal enhancements:

The Project will achieve GHG emissions reductions by replacing electricity into the ERCOT grid that might have been produced by conventional, fossil-fuel means (i.e., natural gas) with that produced by renewable wind.

The project uses a small amount of power from the grid for offices, an equipment warehouse, an operations and maintenance building and substation back-up power. The project buys the retail electricity from Concho Valley Electric Cooperative. The

emissions associated with the generation of this power is subtracted from the emissions reductions calculated for the Project so that the Project emission reductions are net of the emissions produced from grid consumed electricity (see Section 4.4 – Quantifying GHG emission reductions and removal enhancements for the GHG project).

1.9 Project technologies, products, services and the expected level of activity:
The Project has a collection substation (300 MVA, 345/138 KVA transformer) for the 75 GE turbines, and approximately 4 miles of transmission line connecting the Capricorn Ridge 4 substation to LCRA's Divide Substation. NextEra Energy provides maintenance for the wind turbines, the substation, and the transmission lines.

1.10 Compliance with relevant local laws and regulations related to the project:
There are no local laws and regulations pertaining to construction of this Project.

1.11 Identification of risks that may substantially affect the project's GHG emission reductions or removal enhancements:
The primary risk that might inhibit the GHG emission reductions is the possible overload of the local electric grid. The nature of wind energy is that when meteorological conditions are ideal for maximum wind-generated electricity, there may be more electricity generated by the local turbines than the grid capacity can handle. In such conditions, ERCOT (grid operator for this part of Texas) will request that wind plants curtail plant output to prevent the transmission lines from overloading.

1.12 Demonstration to confirm that the project was not implemented to create GHG emissions primarily for the purpose of its subsequent removal or destruction.
The Project will generate wind energy for an estimated 25 years. There are no GHG emissions produced by the project; it displaces electricity that might otherwise be generated by fossil fuel-fired plants.

1.13 Demonstration that the project has not created another form of environmental credit (for example renewable energy certificates).
The Project originally requested renewable energy certificates for the Capricorn 4 expansion through the ERCOT REC program. As of December 31, 2008 the Project stopped participating in the ERCOT REC program. The ERCOT REC tracking system will only be used as an independent third party certification of the generation (MWh) from the Project. The project owner will provide proof to the verifier that the project is not selling RECs. Periodically, the project owner will seek to create Verified Emission Reductions (VERs) for the output of the project. To create the VERs, the project owner will retire the RECs associated with the output in the ERCOT REC tracking system. A third party verifier will observe, in real time, the REC retirement process. Once a REC is retired in the ERCOT REC tracking system, it cannot be "unretired".[1]

1.14 Project rejected under other GHG programs (if applicable):
N/A

1.15 Project proponents roles and responsibilities, including contact information of the project proponent, other project participants:
NextEra Energy Resources, LLC
Regional Director : John Mantyh
700 Universe Boulevard
Juno Beach, FL 33408
561.304.6150

[1] ERCOT Protocols Section 14: State of Texas Renewable Energy Credit Trading Program, Section 14.10 Retiring of RECs or Compliance Premiums, and Section 14.10.2, Voluntary Retirement

Responsibilities:	Carbon Offset Credit Market and Sales; Carbon Offset Verification
NextEra Energy Resources, LLC	
Manager:	Tina Reine 700 Universe Boulevard Juno Beach, FL 33408 561.304.6153
Responsibilities:	Carbon Offset Credit Market and Sales; Carbon Offset Verification
NextEra Energy Resources, LLC	
Business Manager:	Brian Harris 700 Universe Boulevard Juno Beach, FL 33408
Responsibilities:	Financial Management and Forecasting; Revenue Contracts; Regulatory and Compliance

1.16 Any information relevant for the eligibility of the project and quantification of emission reductions or removal enhancements, including legislative, technical, economic, sectoral, social, environmental, geographic, site-specific and temporal information:

The Project is located in West Texas which has an abundance of open lands very favourable for wind-based alternative energy production. The U.S. wind industry grew by 45 percent in 2007, half of which was contributed by Texas-based projects. However, wind energy generation still only comprises less than 1% of the United State's total energy production in 2007.[2]

The Texas Renewable Portfolio Standard ensures that the public benefits of renewable energy continue to be recognized as electricity markets become more competitive. It requires companies that sell electricity to retail customers to support renewable energy generation. The RPS mandates that electricity providers (competitive retailers, municipal electric utilities and electric cooperatives) collectively obtain 2,000 MW of additional renewable energy by 2009, increases include 5,880 MW by 2015 and a target of 10,000 MW in 2025. The mandate does not require electricity producers to build new renewable energy plants; rather the mandate encourages electric utilities and power producers to support and invest into renewable energy development. The Texas Public Utility Commission has approved additional transmission lines that may be able to deliver up to 25,000 MW of wind energy from rural areas to the urban centers in the state. However, funding for the project does not begin until 2012.

The project was not built for regulatory (RPS) purposes. NextEra has minimal RPS obligations in ERCOT – only the very small parasitic load of the Forney and Lamar fossil plants. Furthermore, the supply of RPS eligible RECs in TX far exceeded the demand for the RECs. RECs generated in TX were being sold into both the RPS market and the national voluntary REC market. RECs sold into the national voluntary market were being used by entities making "carbon neutral" claims and "green energy" usage claims. According to the 2009 Texas renewable energy compliance report (May 17, 2010), voluntary REC retirements (8.9 million) outpaced compliance retirements (6.8 million) for the second year in a row.[3]

In 2007 the TX RPS RECs and the national voluntary RECs were trading at the same price, and they continue to trade at price parity. The national voluntary REC market is

[2] US EIA 1990 - 2007 Net Generation by State by Type of Producer by Energy Source (EIA-906)http://www.eia.doe.gov/cneaf/electricity/epa/epa_sprdshts.html

[3] https://www.texasrenewables.com/staticReports/Annual%20Report/2009_Report.doc

available to wind generation plants located anywhere in the country, including states without an RPS. Wind plants located in non-RPS states that are adjacent to Texas, like Oklahoma, can sell into the national voluntary market, so the revenue stream for wind generators located in non-RPS states is the same as for wind plants located in Texas.

The Texas wind industry contributes millions of dollars to the State's Permanent School Fund from requisite state land usage fees. Additional funds are generated as royalty income for landowners, and thousands of jobs are created by the wind industry.[4]

1.17 List of commercially sensitive information (if applicable):

Any discussion of internal rate of return, project financial modelling and project approval process is considered confidential.

2 VCS Methodology:

2.1 Title and reference of the VCS methodology applied to the project activity and explanation of methodology choices:

The methodologies that will be used are:

- Version 9 of the consolidated baseline and monitoring methodology ACM0002 – "Consolidated baseline methodology for grid-connected electricity generation from renewable sources."
- "Tool for Demonstration and Assessment of Additionality", Version 05.2.
- Version 01.1 of "Tool to calculate the emission factor for an electricity system".

For more information about the methodology consult the following link: http://cdm.unfccc.int/methodologies/PAmethodologies/approved.html

2.2 Justification of the choice of the methodology and why it is applicable to the project activity:

The ACM0002 consolidated methodology is applicable to grid-connected renewable power generation project activities and to the Project due to the following aspects: The project activity is the installation or modification/retrofit of a power plant/unit of one of the following types: hydro power plant/unit (either with a run-of-river reservoir or an accumulation reservoir), wind power plant/unit, geothermal power plant/unit, solar power plant/unit, wave power plant/unit or tidal power plant/unit; the geographic and system boundaries for the relevant electricity grid can be clearly identified and information on the characteristics of the grid is available from the following sources: the ERCOT website, Electric Reliability Council of Texas, (http://www.ercot.com/); the US EPA eGRID website, United States Environmental Protection Agency Office of Atmospheric Programs, Emissions & Generation Resource Integrated Database, (http://www.epa.gov/cleanenergy/energy-resources/egrid/index.html); and the EIA website, Energy Information Administration (http://www.eia.doe.gov/).

According to the ACM0002 methodology, for most renewable energy project activities the **project emissions PE_y=0.** However, the current project does consume a small amount of grid electricity for several uses as described in section 1.8 and below in section 4.1.

2.3 Identifying GHG sources, sinks and reservoirs for the baseline scenario and for the project:

[4] Texas State Energy Conservation Office

According to ACM0002, version 09, the spatial extent of the Project boundaries includes the Project power plant and all power plants physically connected to the electricity system that the VCS Project power plant is connected to. The Capricorn Ridge 4 project is connected to the NERC TRE (ERCOT) regional grid.

The greenhouse gases and emission sources included in or excluded from the project boundary are shown in **Table 1: Emission Sources Included or Excluded from the Project Boundary**

	Source	Gas	Included?	Justification/Explanation	Controlled, Related, or Affected
Baseline	CO_2 emissions from electricity generation in fossil fuel fired power plants that are displaced due to the project activity.	CO_2	Included	Main Emission Source In the absence of the Capricorn Ridge 4 project, natural gas fired plants located in the ERCOT system would produce electricity that would cause GHG emissions.	Potential GHG emissions are affected by presence or absence of project activity.
		CH_4	Excluded	Minor Emission Source	Potential GHG emissions are affected by presence or absence of project activity.
		N_2O	Excluded	Minor Emission Source	Potential GHG emissions are affected by presence or absence of project activity.
	N/A	N/A	N/A	The methodology excludes project emissions for wind power projects.	N/A
Project Activity	For all renewable energy plants, CO_2 emissions from backup power generation	CO_2	Included	The project uses a small amount of grid electricity for offices and several buildings, and substation backup power.	GHG emissions from grid electricity controlled by project through use.
		CH_4	Excluded	Minor Emission Source	Ditto
		N_2O	Excluded	Minor Emission Source	Ditto

2.4 Description of how the baseline scenario is identified and description of the identified baseline scenario:

In the absence of the project activity, the clean electricity generated by The Project and dispatched to the ERCOT system would have been generated by non-renewable power plants connected to the interconnected grid, which would have resulted in the emissions of green house gases. Thus, The Project displaces greenhouse gas emissions that would otherwise be produced by a fossil-fuel powered plant.

The Electric Reliability Counsel of Texas (ERCOT) is the appropriate electricity system for determining the emission factor to use in calculating the emission reduction from the Capricorn Ridge project since it is an "isolated" electrical operating system. ERCOT has very limited interconnections to the rest of the North American power grid. Unlike the Eastern Interconnection region where the various power pools have alternating current (AC) ties to each other, ERCOT has no AC ties to the rest of the U.S. power grid. There are only two direct current (DC) ties - the 600 MW east tie into the Southwest Power Pool (SPP) and the 200 MW north tie also into SPP.[5] Due to this very limited interconnection to other parts of the U.S. power grid, ERCOT is the only logical electrical system to use in calculating the effects the Capricorn Ridge project on other electrical generators interconnected to the power grid.

According to the methodology ACM0002, if the project activity is the installation of a new renewable grid connected power generation plant, the baseline scenario is the following: "Electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generating sources, as reflected in the combined margin calculations described in the 'Tool to calculate the emission factor for an electricity system'."

The calculation of the CO_2 emission factor follows the methodological tool "Tool to calculate the emission factor for an electricity system" approved by the CDM Executive Board and published in the Annex 12 of EB 35 Report. The data used for the calculation are from the most recent EPA data in eGRID (eGRID2007 Version 1.1 Plant File (Year 2005 Data)).

2.5 Description of how the emissions of GHG by source in baseline scenario are reduced below those that would have occurred in the absence of the project activity (assessment and demonstration of additionality):

The Project proponents selected the methodological tool, "Tool for the demonstration and assessment of additionality," (Version 05.2) of the methodology ACM 0002 to demonstrate the project additionality. The methodology provides a step-wise approach to demonstrate and assess additionality.

Step 1: Identification of alternatives to the project activity consistent with current laws and regulations.

The alternatives to this project are: the proposed project activity without being registered as a CDM project activity; and, same capacity electric generation from a fossil-fuel (combined gas) fired plant. The latter is the typical form of electric generation in the ERCOT grid (eGRID2007 Version 1.1 Plant File (Year 2005 Data)).

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[5] ERCOT presentation to the Gulf Coast Power association, Austin, TX, September 26, 2005, "Today's ERCOT In Plain English", K. Saathoff, B. Bojorquez, R. Gruber, B. Day, P. Wattles, page 3, page 5
http://www.ercot.com/content/news/presentations/2006/Gulf_Coast_Power_Association.pdf

The project is located in the West Zone of ERCOT. Since January 1, 2005 the majority (82%) of the new electric generating capacity installed in ERCOT used the combined cycle technology.[6]

Table 2
"New" * ERCOT Generation by Technology Type Other Than Wind Turbines

Technology Type	Nameplate Capacity (MW)	Share of "New" Capacity
Combined Cycle	3,192.6	81.8%
Cumbustion Turbine	410.4	10.5%
Steam Turbine: Boiler	250.0	6.4%
Internal Combustion	49.6	1.3%
Solar: Photovoltaic	0.2	0.0%
Fluidized Bed		0.0%
Total	3,902.7	100.0%

* generation installed from 2005 through 2008

The project activity of NextEra is not mandated by any Texas or Federal Law, Statute, or other Regulatory system. The Texas state government has produced a Renewable Portfolio Standard (RPS) first in Senate Bill 7 and revised in Senate Bill 20 requiring electricity providers (competitive retailers, municipal electric utilities, and electric cooperatives) to purchase prescribed amounts of additional renewable energy. The bills required more renewable energy be added to the grid which encouraged the building of more renewable energy units. However, no law in Texas or federal law requires electricity generators to build new renewable energy units to meet the RPS mandates. Therefore the project is voluntary and the project emission reductions are considered surplus in nature.

Step 2: Investment Analysis

Sub-step 2a: Determine appropriate analysis method

As per the Tool for demonstration and assessment of additionality, there are three analysis options to determine whether the project is not economically or financially feasible without the revenue from the sale of verified emission reductions (VERs): (1) simple cost analysis, (2) investment comparison analysis, or (3) benchmark analysis. Since the project derives revenue from selling electricity to the grid, the simple cost analysis is not applicable. NextEra chose to use the second option – investment comparison analysis.

The analysis assumed that the project was selling energy from the wind plant into the ERCOT market, without a long-term power purchase agreement which was not common practice in the wind development business. Typically, projects are not feasible unless they sign a long term power purchase agreement as the purchase agreement allows project developers to secure financing necessary to construct the

[6] Analysis using proprietary SNL generation database.

project. A plant that is not under a long term power purchase agreement is referred to as a "merchant" generating plant. At the time the project was being developed NextEra was the only project developer in the U.S. building merchant wind generating plants. (Step 4: Common practice analysis).

Since the NextEra was the only project developer evaluating the feasibility of merchant wind facilities in the U.S., there were no existing banker's views and / or private equity investors / funds' required return on comparable projects. Likewise, there were no government / official approved benchmarks where such benchmarks are used for decisions to invest in merchant wind plants. Lacking any industry benchmarks for merchant wind projects, NextEra's required project internal rate of return (IRR) for a merchant wind generation plant serves as the financial indicator most suitable to assess the economic attractiveness of the project activity. The IRR requirement for a merchant wind facility is readily understood to be higher than that of a wind project under a long term power purchase agreement due to the increased risk associated with variable revenue expectations driven by the price of electricity in the ERCOT market and the avoided emissions attributes.

Sub-step 2b: Option II - Apply investment comparison analysis

An investment analysis of the project activity was conducted with NextEra's merchant wind project IRR as the financial indicator (benchmark). NextEra projected the IRR of the project in two scenarios: (1) the Base Case where the only revenue is from selling the energy of the plant into the ERCOT west zone spot market, and (2) the "Emissions Benefit" Case where the project receives the energy revenue as in the Base Case and receives additional revenue from selling Renewable Energy Credits (RECs) or Verified Emission Reduction (VER) credits from the plant. The Emissions Benefit Case assumed a REC price of $3.00 / MWh, or since RECs have a carbon equivalent value of 0.617 metric ton per MWh (Section 4.2, $EF_{grid,CM,y}$), VERs at $4.86 / ton. In both the Base Case and the Emissions Benefit Case NextEra's proprietary forward curve for west zone energy was used.

Sub-step 2c: Calculation and comparison of financial indicators

When Capricorn Ridge 4 was being considered for development, it was the common practice at NextEra that a merchant project brought to senior management for vetting and approval required an after-tax Internal Rate of Return (IRR) of at least [redacted]%. The three key drivers that will determine a project's IRR are: (1) the capital expenditure required to design the project, procure the equipment for the project and to build the project ("capex"); (2) revenue from the project's energy and emission credits; (3) the wind resource that drives the amount of electricity produced (MWh).

The wind resource is measured by the projected Net Capacity Factor (NCF) for a specific plant. The NCF is location specific and is developed using short term (2 to 4 years) actual meteorological data gathered from the plant site, normalized to longer term (20 – 30 years) wind data from nearby National Weather Service sites. The normalized NCF data is expressed in terms of a "12x24 matrix" which has an NCF value each hour of the day (24) for each month of the year (12). The average of these 288 values is the NCF for the project. The project NCF becomes the figure of merit for comparing the wind resource between projects.

The IRR for the Base Case was [redacted]%. The IRR for the Emissions Benefit Case was [redacted]%.

Therefore, under the Base Case with a projected IRR of [redacted]% the project would not have been taken forward in the development process since the IRR was less than [redacted]%. However, by including revenue from the sale of RECs / VERs the project projected IRR increased to [redacted]%, passing the initial screening and was moved to the vetting and risk assessment phase of the development process, ultimately being approved for construction.

At the time the project was being considered for development, NextEra was evaluating other merchant wind projects in west Texas. These projects, with the exception of Red Canyon, had the same forward energy price curve and capex as Capricorn Ridge 4 (Red Canyon had a much higher capex). Therefore, since 2 of the 3 key drivers of the project IRR were constant (capex and energy price), the only variable driving differences between project IRRs was the project NCFs. Since the Capricorn Ridge 4 IRR only exceeded [redacted]% due to the emission benefits only projects that had an NCF greater than Capricorn Ridge 4 were considered for development. Projects that had an NCF less than that for Capricorn Ridge 4 were screened out. Table 3 summarizes the merchant projects being considered at the same time as Capricorn Ridge 4 and demonstrates through the comparison of project NCFs that the minimum IRR for a project to move further in the development process was [redacted]%. Without the inclusion of revenue from the sale of emissions benefits Capricorn Ridge 4 would not have had a projected IRR above [redacted]%

Table 3
NextEra Energy Resources Texas Merchant Wind Projects
Under Consideration in 2006-2007

Project Name	Project NCF	Proceed With Development	Project IRR [1]
Horse Hollow 1	[redacted]	Yes	[redacted]
Horse Hollow 2		Yes	
Horse Hollow 3		Yes	
Red Canyon		Yes	
Capricorn Ridge 1 / 2 [2]		Yes	
Capricorn Ridge 3		Yes	
Capricorn Ridge 4		Yes	
Wichita Divide	[redacted]	No	[redacted]
Beaver creek		No	
Arrowhead		No	
Palo Pinto		No	
Fox Ridge		No	

[1] includes emission reduction benefits

[2] Capricorn Ridge 1 and Capricorn Ridge 2 were taken to the Board as a combined project

Sub-step 2d: Sensitivity analysis

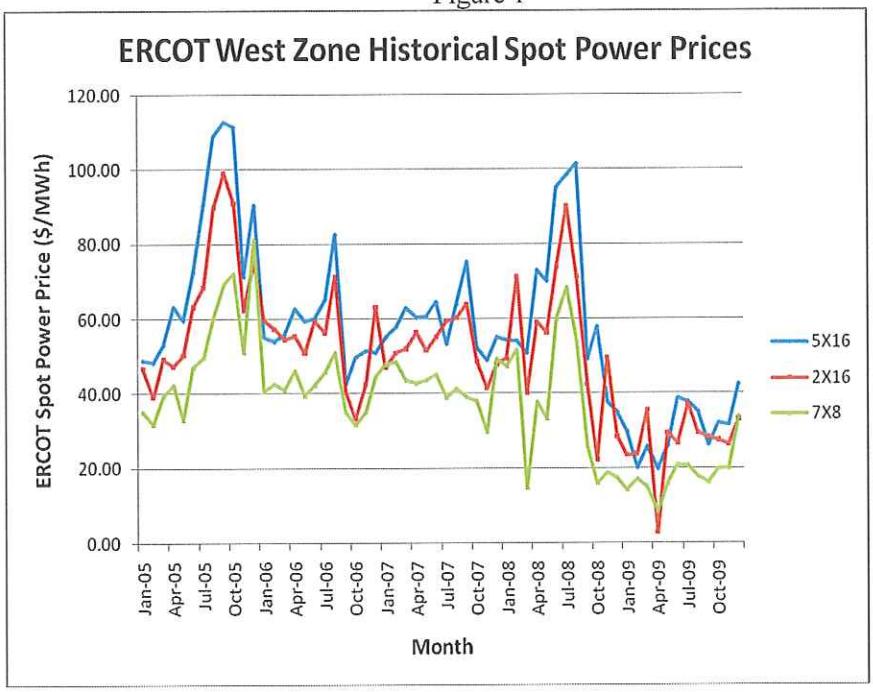
As identified in Sub-step 2c, two key assumptions in evaluating the project are the wind resource and merchant market energy prices.

The sensitivity analysis around the wind resource deviates from the general UNFCCC guidance of ± 10% due to NextEra's unique capabilities with respect to wind forecasting. As the largest developer of wind plants in the U.S. NextEra has vastly more experience with forecasting wind resources than any other project developer in the country. Due to the constant wind forecasting required to support its continuing investment in wind generation NextEra acquired a company, WindLogics, whose core business is providing long-term wind resource forecasts. WindLogics, a NextEra subsidiary, uses physics-based modeling which factors in the topography of the actual project site. With these capabilities NextEra is comfortable that the long-tern NCF will fall in a range of ± 1.0% around the base case NCF ([redacted]% - [redacted]%), and these are the financial sensitivities that were performed with respect to the wind resource.

The sensitivity around ERCOT west zone energy prices also deviates from the ± 10% guidance, but for a different reason. The UNFCC guidance on investment sensitivity analysis states that "the sensitivity analysis should at least cover a range of +10% and -10%, *unless this is not deemed appropriate in the context of the specific project circumstances*" (emphasis added). The circumstances of this project support a departure from the 10% increase in long-term west zone energy price scenario. There is considerable transmission congestion between the ERCOT west zone and the east, north and south zones where the load is located. This congestion combined with the

build-out of wind generation in west Texas was anticipated to put downward pressure on wind prices. The probability of an increase in west zone prices was highly unlikely when the project was being considered. While NextEra anticipated that west zone power prices would decrease, what we did not correctly predict was what actually happened: the average round-the-clock west zone energy price fell by 50% between 2006 ($51.32) and 2009 ($25.70) - see Figure 1. Therefore, for this specific project in the west zone of ERCOT an energy price increase scenario does not make sense. However, to embrace the integrity of the process, we looked at the impact on IRR of a 2.5% increase in west zone energy prices.

Figure 1



The results of the sensitivity analysis are shown in Table4.

None of the Base Case scenarios, which assume no VER revenue, had a projected IRR above the [redacted]% hurdle rate. Only scenarios that included revenue from the sale of VERs achieved the required IRR of at least [redacted]%.

Table 4. Capricorn Ridge 4 Investment Sensitivity Analysis

Case	Sensitivity			
	Energy Price		Wind Resource	
	2.5% Higher	10% Lower	1.0% Higher	1.0% Lower
Base Case	[redacted]			
Emission Benefit Case				

Step 3: Barrier Analysis

Investment Barriers

Capricorn Ridge 4 was constructed as a merchant project. The term "merchant" refers to a generating plant that sells into the spot market without the benefit of a long term power purchase agreement (PPA) with a buyer.

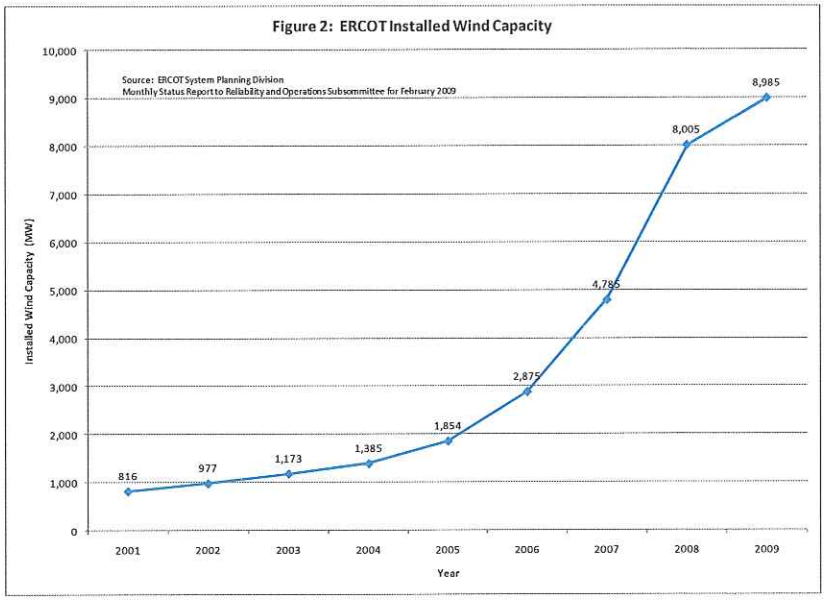
The financial implications of building a merchant wind plant are very different than constructing a wind plant that has a long-term PPA. Without a PPA the project faces complete price uncertainty for both the energy and the emission benefits. The revenues from both the energy and emissions benefits are important to diversify the merchant price risk across at least two revenue streams.

Without a PPA it is much more difficult or impossible to obtain financing for a project. Long-term financial markets look to a PPA to ensure that revenues will fall in a narrow range of certainty. If financing is obtained, the terms of the financing are much less advantageous than financing with a PPA. To date, the project has not obtained long-term financing.

Capricorn Ridge 4 was in more precarious financial position than the other merchant plants that NextEra was building at this time in that it had the lowest projected IRR of the plants that were constructed in NextEra's Texas merchant wind portfolio. The revenues from the emissions benefits were important for reducing the project's commodity price risk.

Step 4: Common Practice Analysis

The construction boom of wind generation in ERCOT was in the early stage when the project was conceived, planned and approved in 2006 and early 2007. The installed ERCOT wind capacity in Figure 2 shows the build-out.



At this time in the wind generation business it was common practice for wind developers to first negotiate a Power Purchase Agreement (PPA) with an "off-take"

entity that would purchase the energy and emissions benefits from the wind facility at a fixed price, with or without year-on-year escalation. However, due to the number of wind developers working in the Texas market, the prices for energy and emissions benefits were under pressure and off-take counterparties were unwilling to pay the wholesale forward commodity price for these products.

As discussed in the Investment Analysis sub-section 2c of this document, the key inputs to the project financial model are the project capex, the projected revenue from the project's energy and emission credits and the wind resource as measured by NCF. Given the input assumptions to the financial model, the project was not projected to achieve an adequate return with revenues based on pricing under a PPA, due primarily to the low NCF relative to other NextEra projects in the region. However, the project was projected to have a satisfactory return based on the forward curves for energy and emission benefits. The only way that NextEra could possibly realize revenues commensurate with the forward commodity prices was to build the project as a merchant generator and sell the energy and emissions benefits on the open market.

In order to continue to develop pipeline of wind projects, for which equipment had already been ordered, NextEra embarked on a unique development strategy. Rather than waiting to enter into a PPA with sufficient pricing to support a project NextEra would build wind projects without a PPA and rely on realizing the wholesale commodity prices for the energy and emission benefits. NextEra was the first company in the country to deploy such a "merchant" strategy for wind generation projects. In fact, NextEra built the first merchant wind facility in ERCOT, Callahan Divide, in 2005. Capricorn Ridge 4 was part of this unique strategy of building merchant wind plants when PPAs were difficult to find or prices under a PPA would not support the costs of project development. At the time the project was being planned in 2007, NO company other than NextEra had a merchant wind project in operation in ERCOT, or in the U.S.

The financial implications of building a merchant wind plant are very different than constructing a wind plant that has a long-term PPA. Without a PPA the project faces complete price uncertainty for both the energy and the emission benefits. The revenues from both the energy and emissions benefits are important to diversify the merchant price risk across at least two revenue streams. Capricorn Ridge 4 was in more precarious financial position than the other merchant plants that NextEra was building at this time in that it had the lowest projected IRR of the plants that were constructed in NextEra's Texas merchant wind portfolio. The revenues from the emissions benefits were important for reducing the project's commodity price risk. Looking back at historical wholesale pries in the ERCOT west zone, the risk profile of this undertaking becomes apparent (see Figure 1 in Step 2: Investment analysis).

The decision not to pursue a PPA put the project in a very different investment framework than other projects that were built under a PPA. Up until this time, financial institutions had not loaned money to wind projects that did not have a PPA. When NextEra completed this project, the market for financing merchant wind projects did not exist, a condition which persists today. Since the Capricorn Ridge 4 project could only go forward as a merchant plant, it was dissimilar from all the other plants built up until that time that had PPAs in that it did not have access to financing, and therefore was not common practice. To this day, Capricorn Ridge 4 does not have any debt financing.

3 Monitoring:

3.1 Title and reference of the VCS methodology (which includes the monitoring requirements) applied to the project activity and explanation of methodology choices:

Monitoring methodology: ACM0002 (version 09) "Consolidated Baseline Methodology Monitoring Grid-Connected Electricity Generation from Renewable Sources". The monitoring methodology is included in the selected ACM0002 methodology.

The method was selected because the project activity is a renewable energy wind project that meets the ACM0002 method requirements. The Project is a new wind energy project that is located in West Texas which provides geographically favorable conditions for a wind farm.

According to the project methodology there are no project activity emissions since the project does not have a backup power generator. The project sends all produced electricity to the grid and any required electricity is purchased from the grid. Additionally, according to the ACM0002 methodology leakage emissions are not applicable to this type of renewable energy project and are thus not included.

The monitoring methodology for wind projects requires the following parameters be monitored: the project baseline emissions, the project installed capacity, quantity of electricity supplied to the grid, the total electricity produced by the project activity and the combined margin for the Texas ERCOT grid.

3.2 Monitoring, including estimation, modelling, measurement or calculation approaches:

Purpose of Monitoring

The purpose of the monitoring is to determine the project GHG emissions reductions throughout the project crediting period. NextEra has established a monitoring plan consistent with ACM0002 that is described in detail in section 3.4.

Types of Data and Information to be Reported, Including Units of Measurement

The primary parameters that will be monitored, controlled and reported include: gross electricity generation (MWh), grid electricity consumed for project requirements as described in section 1.8, the eGRID emission factor to calculate the emissions from that electricity consumption, and the combined margin CO_2 emission factor for the Texas ERCOT regional electricity grid (tCO_2/Mwh).

Origin of Data

To measure the net quantity of electricity sent to the grid The Project utilizes the revenue meter located at the Lower Colorado River Association (LCRA) Divide Substation at the point of interconnection. The revenue meter is owned and maintained by the LCRA. The Project also has a backup meter located at The Project substation. If The Project does need to purchase electricity back from the grid the purchased electricity is monitored by electricity purchase statements.

Monitoring, including estimation, modelling, measurement or calculation approaches
The combined margin (CM) emission factor for this project is calculated using the operating margin (OM) and build margin (BM) according to the methodology outlined in the CDM Methodological Tool, "Tool to calculate emission factor for an electricity system". The OM and BM for this project were calculated from the US EPA eGRID database using the geographic section specific to the TRE (formally ERCOT) region electricity grid in Texas. The OM and BM will be monitored by NextEra Energy's Brian Harris using the latest data sets from the US EPA and the US EIA.

Monitoring times and periods, considering the needs of intended users
The net electricity generated by The Project supplied to the grid is tracked and monitored electronically in real-time by the ERCOT. The real-time data is sent via two separate systems. The first system used for the Zonal Market sends data to ERCOT every two seconds over an emulated DNP RTU feed that is connected over a T1 data link to ERCOT's Tyler and Austin sites.

The second system used for the Nodal Market sends data via one server in Juno and one in Orlando, Florida that exchange data using the Institute for Certification of Computing Professionals (ICCP) protocol. Bidirectional data is exchanged approximately every two seconds over the servers. Both servers exchange data simultaneously with the Tyler and Austin ERCOT sites. In addition to the real-time data links The Project also has a market data interface between its Market servers and the ERCOT private Wide Area Network (WAN).

NextEra monitors the additional project data parameters such as the CM CO_2 emission factor yearly. NextEra's Monitoring Plan is further described in section 3.4 of this Project Description. NextEra plans to generate internal monitoring reports monthly and aggregate them yearly for verification.

Monitoring roles and responsibilities
The responsibilities of the project participants in project monitoring are described in section 3.4 of this Project Description.

Managing data quality
NextEra maintains the quality of their project data through their duplicate electronic data monitoring practices, by comparing their project data to ERCOT data for accuracy, by maintaining a back up meter onsite to the revenue meter and by using the best available data from the US EPA and EIA for the CM in the ERCOT region.

3.3 Data and parameters monitored / Selecting relevant GHG sources, sinks and reservoirs for monitoring or estimating GHG emissions and removals:

Table 5. Data Parameters Monitored

Data / Parameter:	Electricity Supplied to the Grid (EG_y)
Data unit:	MWh
Description:	Electricity supplied by the project activity to the grid
Source of data to be used:	Project activity revenue meter at the LCRA Divide Substation
Value of data applied for the purpose of calculating expected emission reductions	The expected generation capacity of 345,000 MWh/year was used to calculate the expected emission reductions
Description of measurement methods and procedures to be	The electricity supplied to the grid is measured continuously by the project revenue meter located at

applied:	the LCRA Divide Substation and is sent to the ERCOT electronic data gathering system. NextEra compiles the continuous readings into monthly reports.
QA/QC procedures to be applied:	Routine/standard maintenance is performed on the control and data system as needed. Total generation from the control and data system is frequently compared to the generation metered at the point of interconnect. The metering equipment at the point of interconnection is required to be maintained and calibrated in accordance with good utility practice and ERCOT requirements.
Any comment:	

Data / Parameter:	($EF_{grid,CM,y}$) Combined Margin CO_2 Emission Factor
Data unit:	tCO_2/MWh
Description:	The combined margin CO_2 emissions factor ($EF_{grid,CM,y}$) for a grid connected power generation plant in year y, will be calculated using the latest version of the "Tool to calculate the emissions factor for an electricity system".
Source of data to be used:	The combined margin emissions factor ($EF_{grid,CM,y}$) used for the NextEra project will be calculated from the operating margin ($EF_{grid,OM,y}$) and build margin ($EF_{grid,BM,y}$) according to the CDM methodology as described, with the exception that the data is from the US EPA eGRID database. NextEra will monitor the variables ($EF_{grid,OM,y}$) and ($EF_{grid,BM,y}$) and will calculate yearly the ($EF_{grid,CM,y}$).
Value of data applied for the purpose of calculating expected emission reductions	The values of the OM ($EF_{grid,OM,y}$) and BM ($EF_{grid,BM,y}$) are .695 and .384 tCO_2 respectively. Using the calculation method in the "Tool to calculate the emissions factor for an electricity system" and simple arithmetic the CM CO_2 emissions factor ($EF_{grid,CM,y}$) used for the NextEra emissions reduction project is .617 tCO_2 (weighted 75% OM and 25% BM).
Description of measurement methods and procedures to be applied:	As described in the most recent version of the "Tool to calculate the emissions factor for an electricity system".
QA/QC procedures to be applied:	As described in the most recent version of the "Tool to calculate the emissions factor for an electricity system". There is low uncertainty associated with this data.
Any comment:	The OM & BM are sourced from the US EPA eGRID and the US EIA data sets.

Data / Parameter:	Project Emissions (PE_y)
Data unit:	tCO_2/MWh
Description:	The Project uses a small amount of electricity as described in section 1.8. The project buys the retail electricity from Concho Valley Electric Cooperative. The emissions associated with the generation of this power is subtracted from the emissions reductions calculated for the Project so that the Project emission reductions are net of the emissions produced from grid

	consumed electricity (see Section 4.4 – Quantifying GHG emission reductions and removal enhancements for the GHG project). The EPA eGRID emission factor for the ERCOT sub-region will be used to calculate PE_y
Source of data to be used:	Utility bill from the Project's Retail Electric Provider (REP) – Concho Valley Electric Cooperative and EPA eGRID data.
Value of data applied for the purpose of calculating expected emissions from the Project	The utility bills for the 12 months from August 20, 2008 through August 20, 2009 were used to calculate the expected annual electricity consumption.
Description of measurement methods and procedures to be applied:	The electricity purchased from the grid is measured continuously by meters located at the point of interconnection with LCRA and is sent to the ERCOT electronic data gathering system. The meters are owned and maintained by LCRA. The meter reads given to Concho Valley Electric Copperative and are used by Concho Valley Electric Cooperative to generate the monthly electricity bill for the Project.
QA/QC procedures to be applied:	Routine/standard maintenance is performed on the control and data system as needed. The metering equipment at the point of interconnection is required to be maintained and calibrated in accordance with good utility practice and ERCOT requirements.
Any comment:	

3.4 Description of the monitoring plan

1. Responsibility
Overall responsibility for monitoring and carrying out the monitoring following this monitoring plan lies with NextEra Energy. The Site Manager is responsible for the monitoring and reporting of the wind farm. The Production Manager will assist the Site Manager to complete the monitoring and reporting.

2. Training
The Project VCU project management office will assign and train the dedicated people carrying out the monitoring work. Jesse Navarez will assist Brian Harris to complete the monitoring personnel training.

4. Installation of meters
The net electricity supplied to the grid will be monitored through the main revenue meter installed at the point of interconnection into the Lower Colorado River Authority's Divide Substation power grid in Coke County. The Project also has a back-up meter installed at the Capricorn Ridge 4 substation.

In addition, at the project site, electricity from the turbines and the transmission lines connected to the turbines are controlled by a computerized turbine control and data systems. The turbines are monitored by site personnel and are also monitored remotely by a 24- hour control room.

If in the future, some other wind farms share the same transformer, substation or transmission lines with the Capricorn Ridge 4 wind farm, the appropriate separate

meters will also be installed in the project site so that the electricity generation can be monitored respectively to calculate the share of this wind farm of the net supply to the grid.

5. Calibration

The metering equipment at the point of interconnection is required to be maintained and calibrated in accordance with good utility practice and ERCOT requirements.

The main and back-up metering equipment at the substation are calibrated and checked periodically by qualified third party for accuracy so that the metering equipment shall have sufficient accuracy, and any error resulting from such equipment shall not exceed 0.5% of full-scale rating. The net generation output registered by the meters alone will suffice for the purpose of billing and emission reduction verification as long as the error in the meters is within the agreed limits.

The main and back-up meters shall be jointly inspected and sealed on behalf of the parties concerned and shall not be interfered with by either party except in the presence of the other party or its accredited representatives. All the meters installed shall be tested by a qualified entity after: the detection of a difference larger than the allowable error in the readings of both meters; the repair of all or part of meter caused by the failure of one or more parts to operate in accordance with the specifications.

6. Monitored data

During the first ten operating years, the net electricity supplied to the grid (EGy) will be monitored and recorded following the procedures above. Data variables to be monitored are presented in Section 3.3 of this Project Description.

6.1 Meter failure

Should any previous months reading of the main meters be inaccurate by more than the allowable error, or otherwise function improperly, the net energy output shall be determined by: (a) reading the backup meter installed, unless a test by either party reveals it is inaccurate; (b) if the backup system is not within acceptable limits of accuracy or is otherwise performing improperly the developer and Grid Company shall jointly prepare an estimate of the correct reading; or, (c) if the Grid Company and the developer fail to agree then the matter will be referred for arbitration according to agreed procedures.

6.2 Additions to the proposed generating capacity

If the project shares the substation with other projects in the future, the output data from turbines and other relevant data will need to be monitored and be used to calculate the share of the project in the overall net output, and the net electricity supplied by the project activity ($EG_{project}$) will be calculated as follows:

$$EG_{project} = (EG_{total} * E_{project}) / (E_{project} + E_{others})$$

E_{Gtotal} = Total net electricity supplied to the grid based on the data metered by the main meter;
$E_{project}$: the electricity generation from the project activity metered by the separate meter;
E_{others}: the electricity generation from other projects metered by the other separate meters.

7. Quality control
Net electricity supplied to the grid will be double checked with receipt of sales and purchases and relevant commercial data and will be approved and signed off by VCU manager before it is accepted and stored.

This internal audit will also identify potential improvements to procedures to improve monitoring and reporting in future years. If such improvements are proposed these will be reported to VCS and only operated after approval by VCS and the validator and verifier.

8. Data management system
Physical document such as paper-based maps, diagrams and environmental assessments will be collected in a central place. In order to facilitate auditors' reference of relevant literature relating to The Project, the project material and monitoring results will be indexed. All paper-based information will be stored by the technology department of The Project and all the material will have a copy for backup. The Project will also follow ACM0002 record retention policy and shall archive all data collected as a part of the project monitoring electronically and keep all paper and electronic records for at least 2 years after the end of the last crediting period.

9. Reporting
The necessary steps to meet the requirements for emissions reduction monitoring include:
• NextEra reviews the ERCOT meter readings continuously for The Project.
• NextEra generates monthly reports of the readings.
• NextEra carries out an internal audit and reports the readings to VCS before the verification is requested.

10. Verification
NextEra will facilitate the verification of The Project by providing the verification body with all required necessary information at any stage.

All units are controlled by a computerized turbine control and data system. The turbines are monitored by site personnel and are also monitored remotely by a 24-hour control room.

Generation for The Project is metered at the point of interconnection into the Lower Colorado River Authority's Substation in Coke County. Routine/standard maintenance is performed on the control and data system as needed. Total generation from the control and data system is frequently compared to the generation metered at the point of interconnect.

The project will also follow ACM0002 record retention policy and shall archive all data electronically and keep the records for at least 2 years after the end of the last crediting period.

4 GHG Emission Reductions:

4.1 Explanation of methodological choice:

According to ACM0002 methodology (version 09), the emission reduction is calculated as follows:

$$ER_y = BE_y - PE_y - LE_y \qquad \textbf{Equation 1}$$

ER_y = Emission Reductions in year y (t CO_2e/year)
BE_y = Baseline emissions in year y (t CO_2e/yr)
PE_y = Project emissions in year y (t CO_2e/yr)
LE_y = Leakage emissions in year y (t CO_2e/yr)

PEy Calculation (project emissions in year y (t CO_2e/year))

As described in Section 1.8, the Project uses electricity from the grid (ERCOT) for several activities including offices, an operations and maintenance building and substation back-up power.

LEy Calculation (leakage emissions in year y (t CO_2e/year))

The main emissions potentially giving rise to leakage in the context of electric sector projects are emissions arising due to activities such as power plant construction, fuel handling (extraction, processing, and transport), and land inundation. According to the Methodology applied, the project participants do not need to consider these emission sources as leakage. The project participants will not claim any credit for the project on account of reducing these emissions below the level of the baseline scenario. Therefore, The Project, the leakage emissions represented by LEy is 0 (zero).

BEy Calculation (Baseline emissions in year y (t CO_2e/year)

The baseline methodology ACM0002 establishes that baseline emissions include only CO_2 emissions from electricity generation in fossil fuel fired power plants that are displaced due to the project activity. The baseline emission is calculated as follows:

$$BE_y = (EG_y - EG_{baseline}) * EF_{grid,CM,y} \qquad \textbf{Equation 2}$$

Where:
BE_y = Baseline Emission in year y (t CO_2e/year)
EG_y = Electricity supplied by the project activity to the grid (MWh)
$EG_{baseline}$ = Baseline electricity supplied to the grid in case of modified or retrofit facilities (MWh). For new power plants this value is taken as zero.
$EF_{grid,CM,y}$ = Combined margin CO_2 emission factor for grid connected power generation in year *y* calculated using the latest version of the "Tool to calculate the emission factor for an electricity system"

Capricorn Ridge 4 is a new wind power plant to be connected to the interconnected grid, therefore, **the $EG_{baseline}$ is 0 (zero).**

EG_y is calculated as follows:

EG_y = (# turbines * turbine capacity) * 365 days * 24 h/day
* 0.35 net capacity factor
= (75 * 1.5MW) * 365day * 24h/day * 0.35 **Equation 2a**
= 344,925 MWh; this value was rounded to 345,000 MWh.

The expected net capacity factor of approximately 35% was developed by NextEra Energy Resources based on 31 months of historical met tower wind speed data at the site, then normalized with two 31-years' long-term NOAA stations (San Angelo and Abilene).

To calculate $EF_{grid,CM,y}$ data supplied by the US EPA (in the eGRID database system) are used. The CDM "Tool to calculate the emission factor for an electricity system" (version 01.1) will be used to calculate the build margin, the operating margin and the combined margin.

eGRID "is a comprehensive inventory of the environmental attributes of electric power systems" in the United States, that provides data including but not limited to all U.S. electricity generating plants, resource mix (for renewable and non-renewable generation), and emissions rates for carbon dioxide (CO_2), methane (CH_4), and nitrogen oxides (N_2O). The eGRID data system subdivides the inventory data into 26 eGRID sub-regions and 10 NERC regions. The US EIA system provides information on the existing and planned capacities, generation of electricity by source and producer as well as information on the sales, revenues and prices associated with the generation and supply of electricity in the US. The eGRID and EIA information is considered to be the best available data on US electricity production and transmission and is widely used by governmental, academic and professional organizations. Therefore, the data used to calculate the combined margin is considered to be representative of the NERC region TRE and will be used to calculate the emissions reductions from the Capricorn Ridge 4 Project.

The combined margin emissions factor will be calculated as follows:

$$EF_{grid,CM,y} = (EF_{grid,OM,y} \times w_{OM}) + (EF_{grid,BM,y} \times w_{BM}) \qquad \textbf{Equation 3}$$

Where:

$EF_{grid,BM,y}$	=	Build margin CO_2 emission factor in year y (tCO_2/MWh)
$EF_{grid,OM,y}$	=	Operating margin CO_2 emission factor in year y (tCO_2/MWh)
w_{OM}	=	Weighting of operating margin emissions factor (%)
w_{BM}	=	Weighting of build margin emissions factor (%)

The following default values should be used for w_{OM} and w_{BM}:
Wind and solar power generation project activities: $w_{OM} = 0.75$ and $w_{BM} = 0.25$ (owing to their intermittent and non-dispatchable nature) for the first crediting period and for subsequent crediting periods.

The operating margin CO_2 emission factor will be calculated ex-post, using one year of data from the most recent year for which data is available. Because the most recent year of available data is 2005, the data vintage will be considered y-3, according to the methodology, and will be updated annually accordingly. Ex-ante data and the ex-ante methodology will be used to calculate the build margin. As previously discussed, the build margin emission factor and operating margin emission factors are calculated according to CDM "Tool to calculate the emission factor for an electricity system." The data sources used for the operating and build margin are based on the latest available data generated and distributed by the US EPA eGRID system and the US EIA system; this is a deviation from the CDM protocol.

The combined margin was calculated by using the operating and build margins and applying the Equation (3) above. As prescribed by the methodology The Project used $w_{OM} = 0.75$ and $w_{BM} = 0.25$ to calculate the combined margin.

4.2 Quantifying GHG emissions and/or removals for the baseline scenario:

As described in section 4.1, the quantification of the baseline scenario was done according to version 09 of the ACM0002 methodology where only CO_2 emissions from

electricity generation from fossil fuel fired power plants that are displaced due to the project activity are included. The baseline emissions were, therefore, calculated according to equation (2), described in section 4.1. As Capricorn Ridge 4 is a new wind power plant connected to the ERCOT interconnected grid, the $EG_{baseline}$ is 0 (zero).

Operating Margin

The operating margin was calculated according to the "Tool to calculate the emission factor for an electricity system." The specific method chosen was the Simple OM Option A, using one year of ex-post data; the tool calls for using the year in which the project activity displaces the grid electricity, The most recent year of data available from EPA (in the eGRID files is 2005 (2007 eGRID); because this data is 3 years older than the year in which the project is displacing the grid electricity, the data is considered to be y-3, and will be updated annually accordingly. For each year of the crediting period the OM will be recalculated using the most recent year ex-post data available from eGRID.

The equation for the simple operating margin (Equation 4) requires data from the specific fuel type consumed in the power plants in the grid. The data in the eGRID files do not have these specific parameters ($FC_{i,m,y}$ and $NCV_{i,y}$); however, there is a column of data [(Column E, Sheet 05, of the attached spreadsheet, CaP4EmissionsCalcs.xls), Plant annual heat input in GJ], that is the product of these two parameters. Thus, the actual calculation in the spreadsheet is Column E (plant annual heat input in GJ) times $EF_{CO2,m,y}$. The OM was calculated as follows:

$$EF_{grid,\,OMsimple,\,y} = \frac{\sum_{i,m} FC_{i,\,m,\,y} \bullet NCV_{i,\,y} \bullet EF_{CO2,\,i,\,y}}{\sum_{m} EG_{m,\,y}}$$

Equation 4

$Ef_{grid},OM_{simple,y} = (192,874,494.68)/(277,450,380.1) = 0.695$

Where:

$EF_{grid,OMsimple,y}$	Simple operating margin CO_2 emission factor in year *y* (tCO_2/MWh)
$FC_{i,m,y}$	Amount of fossil fuel type *i* consumed by power plant/unit *m* in year *y* (mass or volume unit)
$NCV_{i,y}$	Net calorific value (energy content) of fossil fuel type *i* in year *y* (GJ/mass or volume unit)
$EF_{CO2,i,y}$	CO_2 emission factor of plant m in year *y* (tCO_2/GJ)
$EG_{m,y}$	Net electricity generated and delivered to the grid by power plant / unit *m* in year *y* (MWh)
m	All power plants / units serving the grid in year y except low-cost / must-run power plants / units
i	All fossil fuel types combusted in power plant / unit m in year y
y	The most recent year for which data is available at the time of submission of the CDM-PDD to the DOE for validation (ex post option), 2005 (y-3)

Build Margin Calculation

As defined in the "Tool to calculate the emission factor for an electricity system," the build margin emissions factor is the generation-weighted average emission factor (tCO_2/MWh) of all power units *m* during the most recent year *y* for which power generation data is available, calculated as follows:

$$EF_{grid,\,BM,\,y} = \frac{\sum_{m} EG_{m,\,y} \times EF_{EL,\,m,\,y}}{\sum_{m} EG_{m,\,y}}$$

Equation 5

Where:

$EF_{grid, BM, y}$	= Build margin CO_2 emission factor in year *y* (tCO_2/MWh)
$EG_{m,y}$	= Net quantity of electricity generated and delivered to the grid by power unit *m* in year *y* (MWh)
$EF_{EL,m,y}$	= CO_2 emission factor of power unit *m* in year *y* (tCO_2/MWh)
m	= Power units included in the build margin
y	= Most recent historical year for which power generation data is available

The data for the above equation is from the most recent eGRID data from the EPA[7], and the 2007 and 2006 EIA-906/920 databases[8] The most recent electrical generation plants in the TRE/ERCOT grid that have a combined annual net generation comprising 20% of the total annual net generation in TRE/ERCOT were used (*m*). The compiled data and the calculation of the equation are shown below. A spreadsheet of the source data for the OM will be provided to the validator.

$EF_{grid, BM, y}$ = (26,657,137.95)/(69,394,566.78)
= 0.384

Table 6 contains the operating margin for the TRE/ERCOT region in its published form (lbs/MWh) and in the converted form of t/MWh. Also in Table 6 is the calculated value of the build margin.

Table 6. Operating and Build Margins

Operating Margin calculated from CDM methodology	Build Margin (calculated from CDM methodology)
0.695 (t/MWh)	0.384 (t/MWh)

Combined Margin Calculation

The combined margin emission factor $EF_{grid,CM,y}$ for the baseline year is calculated as follows:

$$EF_{grid,CM,y} = EF_{grid,OM,y} \times w_{OM} + EF_{grid,BM,y} \times w_{BM} \qquad \textbf{Equation 6}$$

Where:

$EF_{grid,BM,y}$ = 0.384 (tCO_2/MWh)
$EF_{grid,OM,y}$ = 0.695 (tCO_2/MWh)
w_{OM} = 0.75
w_{BM} = 0.25

Then $EF_{grid,CM,y}$ = (0.695 (tCO_2/MWh) × 0.75) + (0.384 (tCO_2/MWh) × 0.25)
= 0.617

[7] http://www.epa.gov/cleanenergy/energy-resources/egrid/index.html
[8] (http://www.eia.doe.gov/cneaf/electricity/page/eia906_920.html).

Therefore the Capricorn Ridge 4 **combined margin is 0.617 (tCO_2/MWh).**

BEy Calculation (Baseline emissions in year y (t CO_2e/year)

The Project is expected to have a max generation capacity of 345,000 MWh per year (Equation 2a). Therefore the baseline calculation for the project is as follows:

$BE_y = (EG_y - EG_{baseline}) * EF_{grid,CM,y}$

Where:

EG_y = 345,000 (MWh)

$EG_{baseline}$ = 0 (MWh)

$EF_{grid,CM,y}$ = 0.617 (tCO_2/MWh)

Then BE_y = (345,000 (MWh) – 0 (MWh)) * 0.617 (tCO_2/MWh)
= 213,030 (tCO_2)

Therefore the baseline scenario is 213,030 (tCO_2) would be emitted by fossil-fueled power plant in the absence of the project activity.

Table 7 summarizes the baseline scenario data and baseline calculation results for the Capricorn Ridge IV project in the TRE (ERCOT) interconnected grid.

Table 7. Baseline Scenario Data and Results

Operating Margin (tCO_2/MWh)	Build Margin (tCO_2/MWh)	Combined Margin (tCO_2/MWh)	Baseline Scenario (tCO_2)
0.695	0.384	0.617	213,030

4.3 Quantifying GHG emissions and/or removals for the project:

The project emissions (PE_y) are due to retail electricity purchased from the grid for offices, an equipment warehouse, an operations and maintenance building and substation back-up power. Using retail electricity bills from the period August 20, 2008 through August 20, 2009, the estimated annual energy usage is 489 MWh. Using the EPA eGRID ERCOT emission factor of 1,324.35 lbs CO_2/MWh[9] (0.601 tCO_2/MWh), the emissions associated with this electric consumption is approximately 295 metric tons per year.

4.4 Quantifying GHG emission reductions and removal enhancements for the GHG project:

As described in section 4.1, the project emission reductions will be calculated according to equation 12 of the ACM0002 methodology version 09. As mentioned previously, LE_y is zero. Therefore, the emission reductions calculation has been simplified to the following equation:

$ERy = BE_y - PE_y$

Where:

[9] U.S. Environmental Protection Agency, eGRID2007 Version 1.1, Year 2005 Summary Tables, Table 4, eGRID Subregion Emissions – Greenhouse Gases, http://www.epa.gov/cleanenergy/documents/egridzips/eGRID2007V1_1_year05_SummaryTables.pdf

ER_y = Emission Reduction in year y (t CO_2e/yr)
BE_y = 213,030 (t CO_2e/yr)

PE_y = 295 (tCO_2e/yr)

Then ER_y = 213,030 (tCO_2e/yr) – 295 (tCO_2e/yr) = 212,735 (tCO_2e/yr)

The emission reductions for each crediting year were calculated in the same manner using the current combined margin and the electrical output of the project activity as depicted in Table 8; updates to these projections can be amended each year as new build and operating margins for ERCOT wind are published. Actual electricity consumption will be used to calculate emission deductions from the project.

Table 8. Projected Annual Emissions for The Project Through 2019

Year	Combined Margin Emission Factor (tCO_2/MWh)	Electrical Output of Project Activity (MWh)	Resulting Emission Reductions (tCO_2e/y)
2010	.617	345,000	212,735
2011	.617	345,000	212,735
2012	.617	345,000	212,735
2013	.617	345,000	212,735
2014	.617	345,000	212,735
2015	.617	345,000	212,735
2016	.617	345,000	212,735
2017	.617	345,000	212,735
2018	.617	345,000	212,735
2019	.617	345,000	212,735
2020	.617	345,000	212,735
Total for 10 years			2,127,350

5 Environmental Impact:

The Project is on private land thus had no federal activation of NEPA. NextEra performs its own critical issues analyses (CIAs) and environmental evaluations that identify endangered plant and animal species habitat as well as any significant archaeological areas. Disturbance of archaeologically significant areas is avoided.

ASTM (American Society for Testing and Materials) Phase I Environmental Site Assessment was also conducted by a contractor. The purpose of the Phase I ESA was to evaluate existing environmental conditions, if any, as they pertained to the then-proposed construction of wind turbines and/or their supporting infrastructure. The findings of the Phase I ESA were general oil staining of soils at several sites due to historic oil production throughout the area. The full Phase I ESA is available upon request from FPL.

The Black-capped Vireo (*Vireo atricapilla*), a thumb-sized endangered bird, has habitat that stretches from central Oklahoma through central Texas, to Coahuila, Mexico. NextEra Energy Resources wind power projects intersect this habitat. In accordance with our corporate commitment to sustainability, NextEra Energy works diligently with State and Federal agencies and experts to meet all legal obligations to protect and advance Black-capped Vireo (BCV) populations. To date, NextEra Energy's research

has contributed significantly to agency understanding about the species. Biologists have discovered a sizable number of BCVs on wind power property, and we continue to work with the U.S. Fish & Wildlife Services (USFWS) to learn more about protecting the species.

NextEra Energy's work with the USFWS and Texas Parks and Wildlife Department (TPWD) started before construction, and they participated in helping us design this site. We continued to work together to ensure that the BCV species was not impacted during construction of the project. In addition to consultation with USFWS and TPWD in advance of beginning wind farm construction, the following steps were taken to avoid disturbing the bird's habitat.

1. The BCV habitat was mapped in advance of construction.
2. "Presence/absence" surveys were conducted prior to construction.
3. The BCV habitat was avoided during construction, especially during the bird's March through September mating season.

NextEra Energy Resources has an ongoing BCV monitoring program in cooperation with the USFWS.

Science to Protect the Black Capped Vireo: NextEra Energy studies the BCV and its activities at the wind farms. Prior to NextEra Energy's 2006 research, conducted by Turner Biological, no recent occurrences of Black-capped Vireo were known in Sterling County. NextEra Energy's Capricorn Ridge wind farms are in Coke and Sterling counties. Sterling County is in the Concho Valley Recovery Unit as defined by the Black-capped Vireo Recovery Plan (U.S. Fish & Wildlife Service 1991). In the most recent comprehensive accounting, only 32 males were known from this Recovery Unit (U.S. Department of Agriculture 2004). The results of the 2006 surveys added 20 to 22 males to the total known from the region and the 2007 surveys added another 65 – 73 males in Coke and Sterling Counties. Black-capped Vireos were detected in 7 of the 8 areas resurveyed from 2006 and 6 of the 11 new survey locations in 2007. Across 2006 and 2007, 14 of the 21 presence absences (P/A) survey plots contained at least one BCV. BCV also occupy habitat outside of these sampling plots.

Since 2007, NextEra Energy has added additional components to the BCV research. In March of 2008, research began to understand population dynamics and nesting ecology of the Black-capped Vireo populations at operational wind facilities. Monitoring techniques were centered on areas that had the highest potential to impact nesting vireo. Nesting ecology of breeding pairs was closely examined to observe other potential threats to the species such as brood parasitism and scavenging.
Research included:

-Habitat Mapping
-Presence/Absence Surveys
-Nest Searches
-Nest Monitoring
-Nest Site Evaluations

These data have been shared with state and federal agencies and are currently being analyzed.

Through a partnership with Pandion Systems Inc, the Shrub Nesting Passerine Collaborative Project (SNP) and the Environmental Bioindicators Foundation, Inc. BCV research is also being conducted at other sites in Texas, to determine the

relationship between reproductive success and distance to wind turbines in the Black-capped Vireo.

6 Stakeholder comments:

The Project did not activate NEPA or any other state permitting process that requires formal stakeholder scoping or public comment. Stakeholder outreach was handled on a case-by-case basis. Any stakeholder comment is considered relevant; however no significant adverse stakeholder comments were encountered.

7 Schedule:

Table 9. Schedule of Project Cycle

Parameter	Date
Project Approval	[redacted]
Initiation of electricity generation to the grid	April 1, 2008
Initiation of Commercial Operation	20 May, 2008
Begin Project Design Documents for VCS	May, 2009
Begin VCS Validation	June, 2009
Complete VCS Verification	May, 2010
Project Termination	March 30, 2019

8 Ownership:

8.1 Proof of Title:

Capricorn Ridge Wind II (the legal title of the Capricorn Ridge 4 Wind Project) completed the registration requirements for a power generation company under the Public Utility Commission of Texas on Feb. 27, 2008. Documents showing proof of titles and ownership of emissions reductions credits will be provided to the validator.

8.2 Projects that reduce GHG emissions from activities that participate in an emissions trading program (if applicable):

N/A