



Crow Creek Tribal Wind Farm Project
Developed by: Winterhawk Energy
& Development

Presented by:
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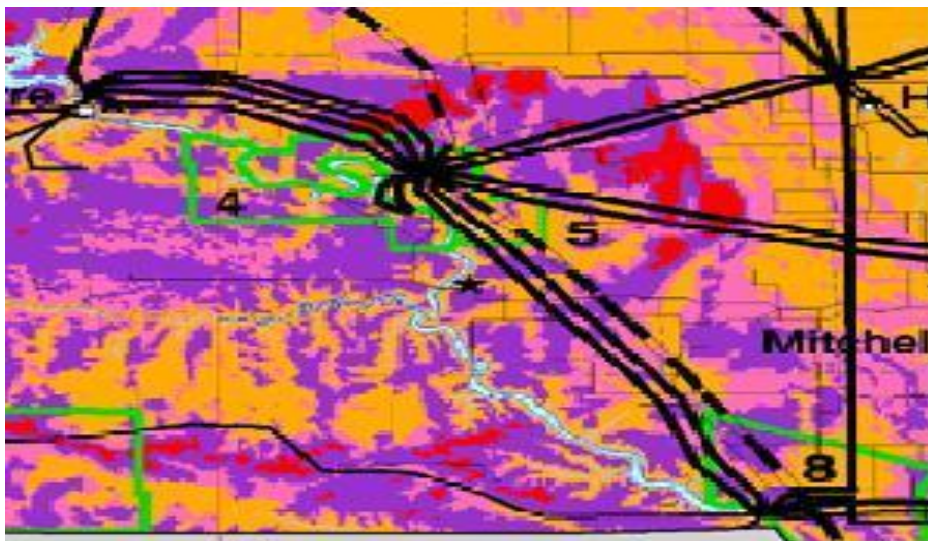


Overview

- **Project Mission: Improve the economy for Crow Creek Sioux Tribe and surrounding area**
- **EPA Webinar Objective:**
 - **First – Find \$4 Million Mezzanine level financing to finish Pre-Construction tasks**
 - **Second – Find entity/s interested in Purchased Power Agreement (PPA)**
- Crow Creek Tribal Wind Project (CCTWP) = 400 MW nameplate capacity
- Using (182) 2.2 MW Vestas Wind Turbines
- Developed jointly: Winterhawk Energy & Development and the Crow Creek Tribe
- Pending Bureau of Indian Affairs (BIA) & Department of Interior (DOI) Approval
- BIA is Lead Agency for all related Federal Permitting
- Located in Hughes, Hyde, Buffalo Counties, SD, all on Tribal Lands
- East of the Missouri River, on Big Bend Dam, surrounding the Integrated System's (IS) Fort Thompson 345 kV/230 kV Substation
- Construction & Permanent Financing Assured After "\$4.0M of Mezzanine Financing" for Final Pre-Construction Tasks is Secured



Crow Creek Tribal Wind Project Hughes, Hyde & Buffalo Counties, SD



Transmission Line Voltage	
	69 Kilovolts
	115 Kilovolts
	230 Kilovolts
	345 Kilovolts

Wind Power Classification				
Wind Power Class	Resource Potential	Wind Power Density at 50 m W/m ²	Wind Speed ^a at 50 m m/s	Wind Speed ^a at 50 m mph
	2 Marginal	200 - 300	5.6 - 6.4	12.5 - 14.3
	3 Fair	300 - 400	6.4 - 7.0	14.3 - 15.7
	4 Good	400 - 500	7.0 - 7.5	15.7 - 16.8
	5 Excellent	500 - 600	7.5 - 8.0	16.8 - 17.9
	6 Outstanding	600 - 800	8.0 - 8.8	17.9 - 19.7
	7 Superb	800 - 1600	8.8 - 11.1	19.7 - 24.8

^a Wind speeds are based on a Weibull k value of 2.0

Indian Reservations	
	1 Standing Rock
	2 Cheyenne River
	3 Lake Traverse
	4 Lower Brule
	5 Crow Creek
	6 Pine Ridge
	7 Rosebud
	8 Yankton
	9 Flandreau



Detailed Pre-Construction Assessment

1) Land Issues 2) Transmission Issues 3) Resource Issues and 4) Off-take/Customer Issues:

Legend: Each assessment criteria is point-weighted for its own level of significance relative to the whole project; a zero indicates that criteria activity hasn't started yet, or, is unfavorable; a positive number, or the maximum number, indicates progress or satisfactory completion.

Land Issues	Points	CCTWP
<u>Criteria</u>	<u>Weighting</u>	<u>Assessment</u>
1) Location	0 to 3	3
2) Landowners Identified and willing	0 to 3	3
3) Land Fully Under Developer Control	0 to 15	15
4) NEPA Studies & Permits: Submitted; Approved*	0 to 5	2
5) Wind Farm & Transmission Siting**	0 to 5	4
Subtotal Land Issues Assessment		27

* Preliminary Talks with BIA as Lead Federal Agency indicate EA only for NEPA

** Preliminary talks, No State Permitting Required; Only Crow Creek Tribal; with Cooperation Assured



Detailed Pre-Construction Assessment

Cont'd:

1) Land Issues 2) Transmission Issues 3) Resource Issues and 4) Off-take/Customer Issues:

Legend: Each assessment criteria is point-weighted for its own level of significance relative to the whole project; a zero indicates that criteria activity hasn't started yet, or, is unfavorable; a positive number, or the maximum number, indicates progress or satisfactory completion.

<i>Transmission Issues</i>	Points	CCTWP
<u>Criteria</u>	<u>Weighting</u>	<u>Assessment</u>
1) WAPA Feasibility*; Impact**; & Facilities Studies	0 to 5	3
2) Transmission Upgrade Costs Known	0 to 10	9
3) Preliminary Engineering Underway; or, Complete	0 to 3	0
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Subtotal Transmission Issues Assessment	0 to 18	12

* WAPA Feasibility Study was completed in 2010.

** WAPA Impact Study costing \$90,000 is the CCTWP's next major spending, and is due now.



Detailed Pre-Construction Assessment

Cont'd:

1) Land Issues 2) Transmission Issues 3) Resource Issues and 4) Off-take/Customer Issues:

Legend: Each assessment criteria is point-weighted for its own level of significance relative to the whole project; a zero indicates that criteria activity hasn't started yet, or, is unfavorable; a positive number, or the maximum number, indicates progress or satisfactory completion.

Resource Issues	Points	CCTWP
<u>Criteria</u>	<u>Weighting</u>	<u>Assessment</u>
1) Wind Data, over 1 year's worth & in Hand	0 to 15	15
2) NCF (Net Capacity Factor) Above 30%*	0 to 15	15
3) Construction & Permanent Financing Ready**	0 to 5	4
4) Alliances with Credible Partners***	0 to 5	5
Subtotal Resource Issues Assessment		39

* Net Capacity Factor with new Vestas 2.2 MW model yields approximately 44%

** Vestas and others will finance upon completion of Pre-Construction Tasks, which require Mezzanine Level investment of \$4.0 Million

*** Alliances exist with Vestas and Atwell, LLC



Detailed Pre-Construction Assessment

Cont'd:

1) Land Issues 2) Transmission Issues 3) Resource Issues and 4) Off-take/Customer Issues

Legend: Each assessment criteria is point-weighted for its own level of significance relative to the whole project; a zero indicates that criteria activity hasn't started yet, or, is unfavorable; a positive number, or the maximum number, indicates progress or satisfactory completion.

<i>Off-take/Customer Issues</i>	Points	CCTWP
<u>Criteria</u>	<u>Weighting</u>	<u>Assessment</u>
1) Pro Forma Costs Similar to other SD Projects	0 to 15	10
2) Minimum PPA Price Similar to other SD Projects	0 to 15	10
3) PPA arranged and agreed to*	0 to 45	0
4) Wind Farm & Transmission ISD Known	0 to 10	0
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Subtotal Resource Issues Assessment	0 to 85	20
Grand Total Pre-Construction Issues Assessment	0 to 174	98

* Target: Military Bases with upcoming DOD mandated 25% RPS, Energy Companies, EPA-Green Power Partners, and Incumbent Utilities in Surrounding States



Other Favorable Aspects

- The (182) Vestas Turbine delivery Position with Vestas is a “Priority Position”
- Exclusive Development Contract with the Crow Creek Tribal Leadership – 250,000 Acres
- Received Crow Creek Tribal Sovereign Immunity Waiver
- Transmission Interconnection Line, **Extension Cord**, is 3.0 Miles of 230 kV estimated at \$4.5M
- **Interconnection Cost** at Fort Thompson Substation estimated at \$3.0M for total wind farm
- WAPA Feasibility Study – First 227 MW Capacity Available with no other System Upgrades
- WAPA Feasibility Study – Next 173 MW Capacity Available with \$700K **System Upgrade**
- Tribal Wind Energy Projects Qualify for (3) Year MACRS (Modified Accelerated Cost Recovery System; i.e. Depreciation)
- Tribal Wind Energy Projects May Receive Double the Saleable RECs (Renewable Energy Credits) of Non-Tribal Wind, if current draft energy bill passes





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