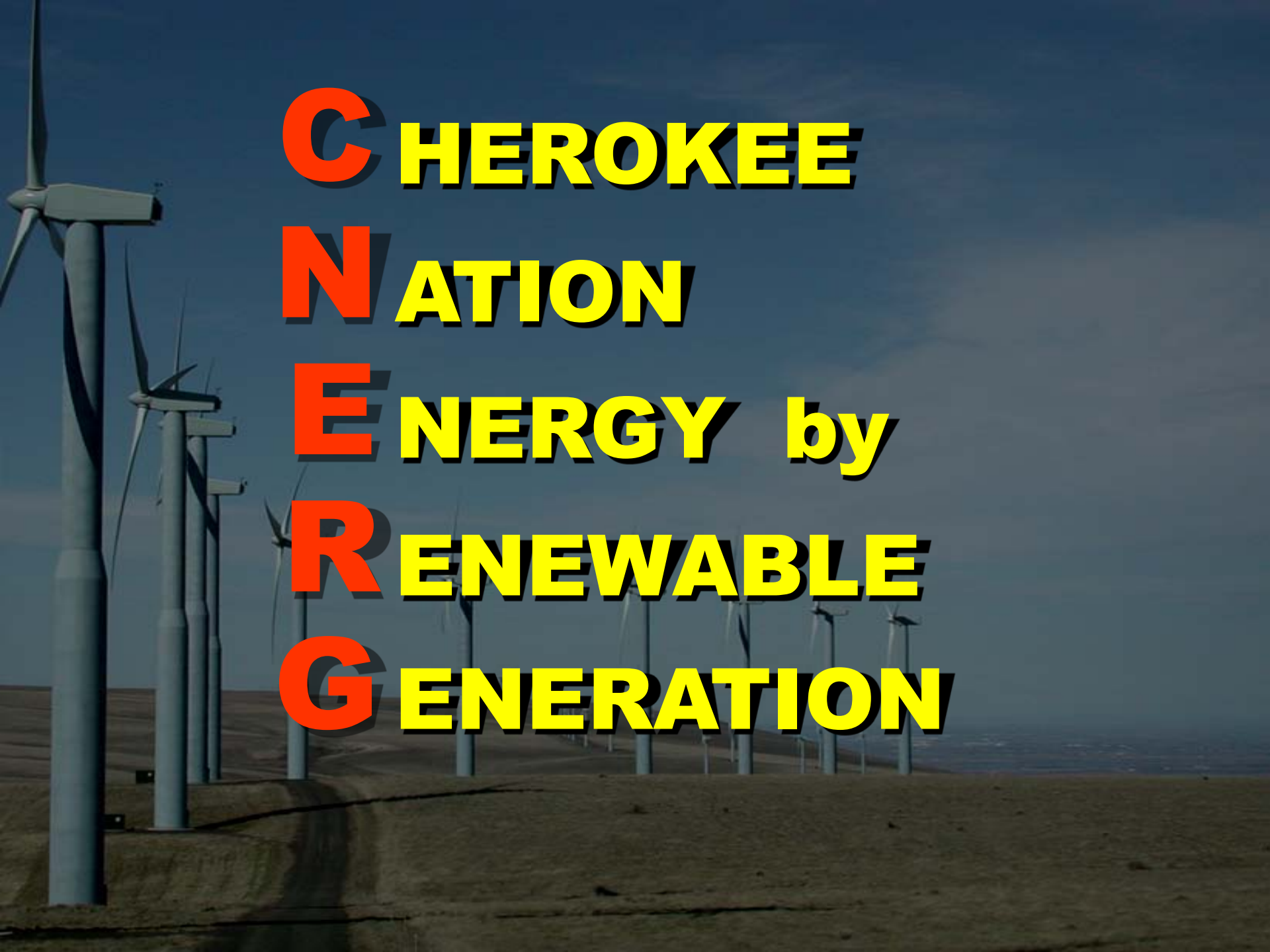




# **Tribal Energy Program 2008**

**November 18, 2008**

**Presented by: Carol Wyatt**  
**Cherokee Nation Businesses**

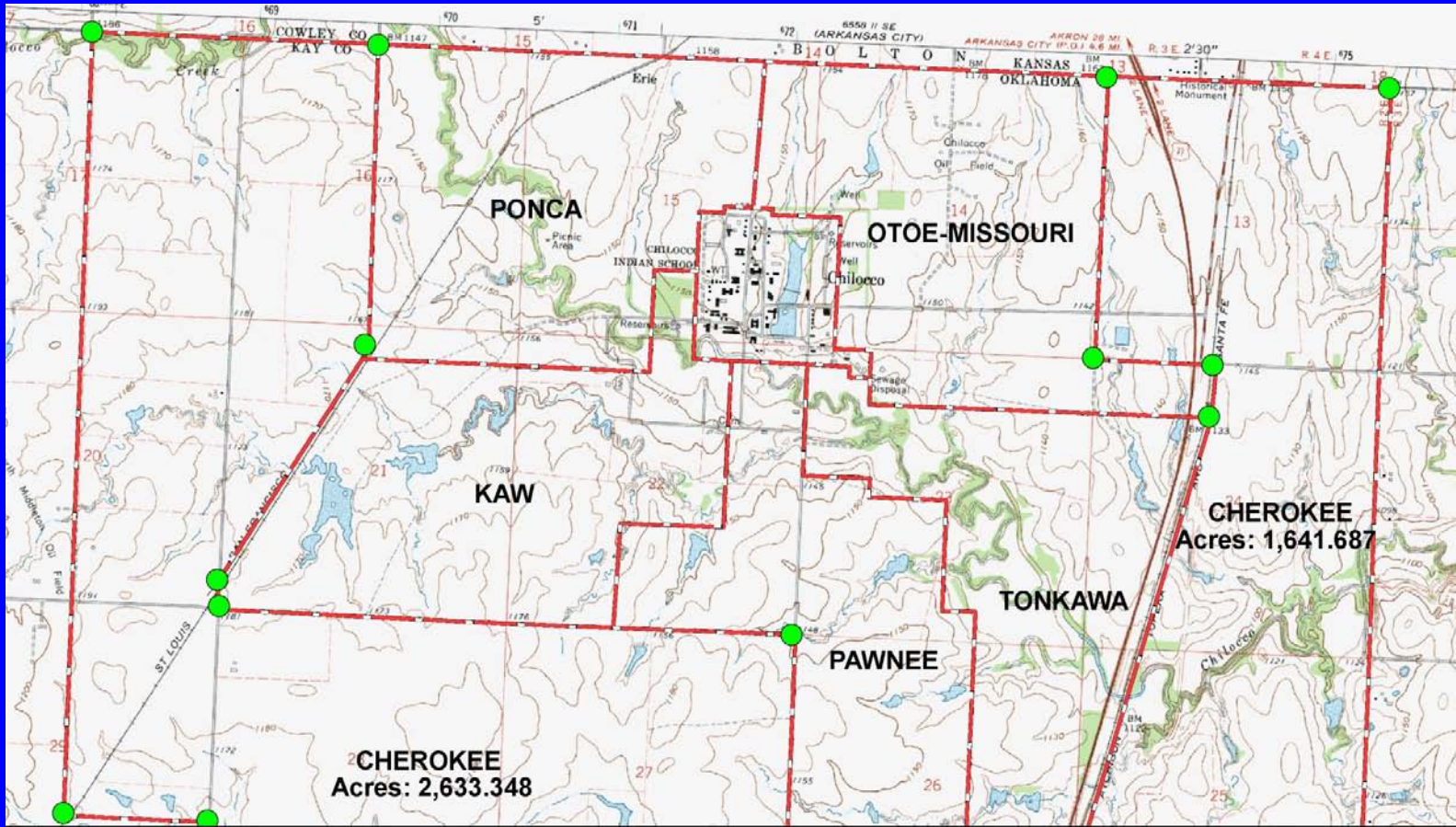


**C**HEROKEE  
**N**ATION  
**E**NERGY by  
**R**ENEWABLE  
**G**ENERATION



# Wind Farm Project Location





**CNE-R-G**

**Wind Speeds  
Measured for  
4 Years at  
Chilocco. . .**

**Class III/  
Commercial  
Wind!**



**CNE-R-G**



**ROI in less than 6 years**

**\$672+ Million Net Income  
for 25 yrs.**

**ONLY if we own 100%**

**CNE-R-G**

File Edit View Insert Format Tools Data Window Help Adobe PDF										
Arial 10 B I U [Text Formatting Icons] \$ % [Calculation Icons]										
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	A	B	C	D	E	F	G	H	I	J
1	<b>Probable Case with Green Tags and Production Tax Credits</b>									
2										
3	Number of 2.75 Megawatt Turbines Installed / Installed Capacity (Megawatts)									
4				1	7	14	21	28	36	42
5				2.75	19.25	38.5	57.75	77	99	115.5
6		Wind Speed in m/s @ 80m	Turbine Efficiency Coefficient	Estimated		Project Costs @	\$ 1,750,000	per Megawatt Installed (in \$ Millions)		
7				\$ 4.81	\$ 33.69	\$ 67.38	\$ 101.06	\$ 134.75	\$ 173.25	\$ 202.13
21	Average	7.07	0.365							
22	Annual Total Output in Megawatts Estimate			8,801	61,606	123,212	184,818	246,425	316,832	369,637
23										
24	<b>Income and Expenses Years 1 - 10</b>									
25	Annual Potential Income/kWh (Estimate)			I N C O M E - Years 1 - 10						
26	Power Sales (Wholesale)	\$	0.0500	\$ 440,044	\$ 3,080,308	\$ 6,160,616	\$ 9,240,924	\$ 12,321,232	\$ 15,841,584	\$ 18,481,848
27	Green Tags	\$	0.0200	\$ 176,018	\$ 1,232,123	\$ 2,464,246	\$ 3,696,370	\$ 4,928,493	\$ 6,336,634	\$ 7,392,739
28	Production Tax Credits	\$	0.0170	\$ 149,615	\$ 1,047,305	\$ 2,094,609	\$ 3,141,914	\$ 4,189,219	\$ 5,386,139	\$ 6,283,828
29	Sale of Depreciation	\$	0.0371	\$ 102,136	\$ 714,954	\$ 1,429,908	\$ 2,144,862	\$ 2,859,816	\$ 3,676,906	\$ 4,289,724
30	Per Turbine Lease Adj.	\$	4,500	\$ 4,500	\$ 31,500	\$ 63,000	\$ 94,500	\$ 126,000	\$ 162,000	\$ 189,000
31	<b>TOTAL EST. GROSS ANNUAL INCOME</b>			\$ 872,313	\$ 6,106,190	\$ 12,212,380	\$ 18,318,570	\$ 24,424,760	\$ 31,403,263	\$ 36,637,140
32	<b>Total Est. Gross Project Income (Years 1-10)</b>	\$		\$ 8,723,128	\$ 61,061,899	\$ 122,123,799	\$ 183,185,698	\$ 244,247,598	\$ 314,032,626	\$ 366,371,397
33	E X P E N S E S - Years 1 - 10									
34	Assets Financed (see note below)	\$	3,031,875	\$ 21,223,125	\$ 42,446,250	\$ 63,669,375	\$ 84,892,500	\$ 109,147,500	\$ 127,338,750	
35	Annual Principal and Interest Payment	\$	448,491	\$ 3,139,437	\$ 6,278,875	\$ 9,418,312	\$ 12,557,750	\$ 16,145,678	\$ 17,939,642	
36	Annual Turbine Maintenance Costs	\$	50,000	\$ 350,000	\$ 700,000	\$ 1,050,000	\$ 1,400,000	\$ 1,800,000	\$ 2,100,000	
37	Annual Insurance (see note below)	\$	12,683	\$ 88,780	\$ 177,561	\$ 266,341	\$ 355,121	\$ 456,585	\$ 532,682	
38	<b>Total Annual Expenses</b>	\$	511,174	\$ 3,578,218	\$ 7,156,435	\$ 10,734,653	\$ 14,312,871	\$ 18,402,263	\$ 20,572,324	
39	<b>TOTAL ADJUSTED ANNUAL INCOME</b>	\$	361,139	\$ 2,527,972	\$ 5,055,944	\$ 7,583,917	\$ 10,111,889	\$ 13,001,000	\$ 16,064,815	
40	<b>Total Project Adjusted Income Years 1-10</b>	\$	3,611,389	\$ 25,279,722	\$ 50,559,445	\$ 75,839,167	\$ 101,118,889	\$ 130,010,000	\$ 160,648,155	
41	ROI - In Years Needed to Pay Off Project		5.94	5.94	5.94	5.94	5.94	5.94	5.94	5.94
42	<b>ROI- After Project is Paid Off Years 1-10</b>	\$	3,283,799	\$ 22,986,596	\$ 45,973,192	\$ 68,959,788	\$ 91,946,384	\$ 118,216,780	\$ 137,919,577	
43	<b>Income and Expenses Years 11 - 20</b>									
44	I N C O M E - Years 11 - 20									
45	<b>TOTAL EST. GROSS ANNUAL INCOME</b>	\$	770,177	\$ 5,391,236	\$ 10,782,472	\$ 16,173,708	\$ 21,564,944	\$ 27,726,356	\$ 32,347,416	
46	<b>Total Gross Project Income (Years 11-20)</b>	\$	7,701,766	\$ 53,912,359	\$ 107,824,718	\$ 161,737,078	\$ 215,649,437	\$ 277,263,562	\$ 323,474,155	
47	<b>Total Gross Project Income (Years 1 - 20)</b>	\$	16,424,894	\$ 114,974,259	\$ 229,948,517	\$ 344,922,776	\$ 459,897,035	\$ 591,296,187	\$ 689,845,552	
48	E X P E N S E S - Years 11 - 20									
49	Annual Turbine Maintenance Costs	\$	50,000	\$ 350,000	\$ 700,000	\$ 1,050,000	\$ 1,400,000	\$ 1,800,000	\$ 2,100,000	
50	Annual Insurance (see note below)	\$	12,683	\$ 88,780	\$ 177,561	\$ 266,341	\$ 355,121	\$ 456,585	\$ 532,682	
51	<b>Total Annual Expenses</b>	\$	62,683	\$ 438,780	\$ 877,561	\$ 1,316,341	\$ 1,755,121	\$ 2,256,585	\$ 2,632,682	
52	<b>TOTAL EST. ADJUSTED ANNUAL INCOME</b>	\$	707,494	\$ 4,952,456	\$ 9,904,911	\$ 14,857,367	\$ 19,809,822	\$ 25,469,772	\$ 29,714,734	
53	<b>Total Project Adjusted Income Years 11-20</b>	\$	7,074,937	\$ 49,524,556	\$ 99,049,112	\$ 148,573,668	\$ 198,098,223	\$ 254,697,716	\$ 297,147,335	
54	<b>Total Adjusted Project Income (Years 1-20)</b>	\$	10,686,325	\$ 74,804,278	\$ 149,608,556	\$ 224,412,834	\$ 299,217,113	\$ 384,707,716	\$ 457,795,490	



A						B	C	D	E	F
1	<b>Assumptions:</b>									
2						Site:	Chilocco			
3						Turbines:	Vestas V-100 Midland			
4						Rating (kW):	2,750			
5						Number:	36			
6						Project (kW):	99,000			
7										
8										
9										
10										
11	<b>1.0 Development</b>									
12										
13	<u>1.1 General Administrative, Corporate, and Overhead Expenses</u>									
14	1.1.1	Wind Project Developer				1 ea		150,000		150,000
15	1.1.2	Wind Project Coordinator (CNE)				1 ea		65,000		65,000
16	1.1.3	Marketing Consultant; Greentags, Power Branding				1 ea		55,000		55,000
17	1.1.4	Contract Analyst / Risk Manager				1 ea		55,000		55,000
18	1.1.5	IT, Maintenance, and Support				1 ea		10,000		10,000
19	1.1.6	CNE-R-G Web Site Development				1 ea		50,000		50,000
20	1.1.7	Travel and Expenses				1 ea		100,000		100,000
21										
22										
23	<u>1.2 Consulting (Avian, Wetlands, Cultural, FAA, Transmission, etc.)</u>									
24	1.2.1	Avian Studies				1 ea		60,000		60,000
25	1.2.2	Wetland Studies				1 ea		40,000		40,000
26	1.2.3	Cultural Studies				1 ea		25,000		25,000
27	1.2.4	FAA Study and Filing of Form FAA 7460-1f				1 ea		7,500		7,500
28	1.2.5	Transmission Evaluation				1 ea		160,000		160,000
29										
30										
31	<u>1.3 Legal Services (Permitting, Real Estate, Regulatory)</u>									
32	1.3.1	State and Local Permitting				1		10,000		10,000
33	1.3.2	Real Estate Acquisition				1		10,000		10,000
34	1.3.3	Compliance with Federal, State and Local Regulatory Issues				1		10,000		10,000
35										
36										
37	<u>1.4 Meteorological Services (land, towers, instr. analysis, etc.)</u>									
38	1.4.1	Land Acquisition for Met Mast				1 ea		5,000		5,000

# **Precise Project Management**

- **Vendor Reliability**
- **Knowledgeable Personnel**
- **Timetables and Schedule Mgmt.**

**Risk Management**

**Risk Management**

**Risk Management**

# Investment vs. Expenses (Revenue for 2007)

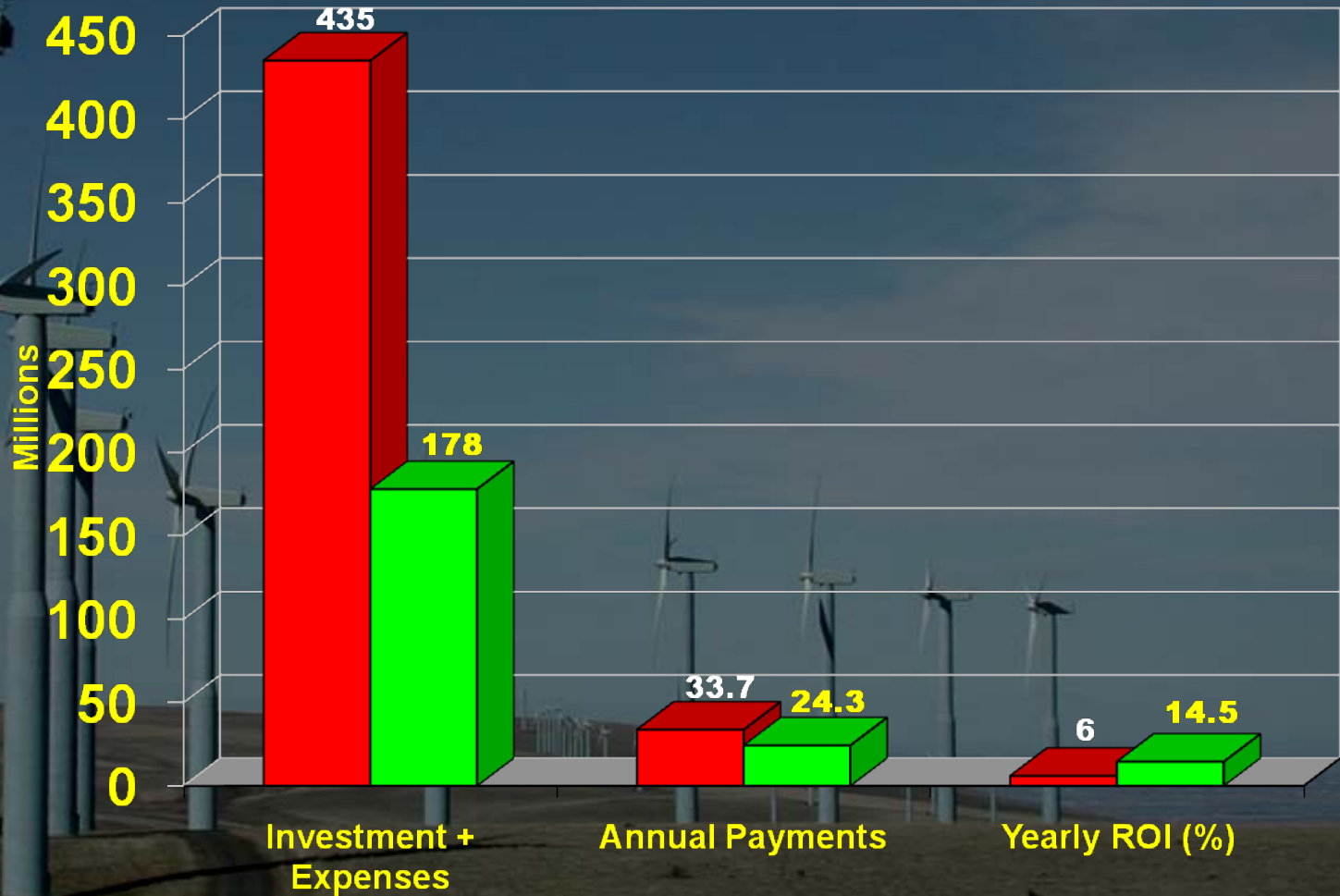


**GAMING**

**WIND ENERGY**

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# Investment + Expenses vs. Annual ROI % for Tribe

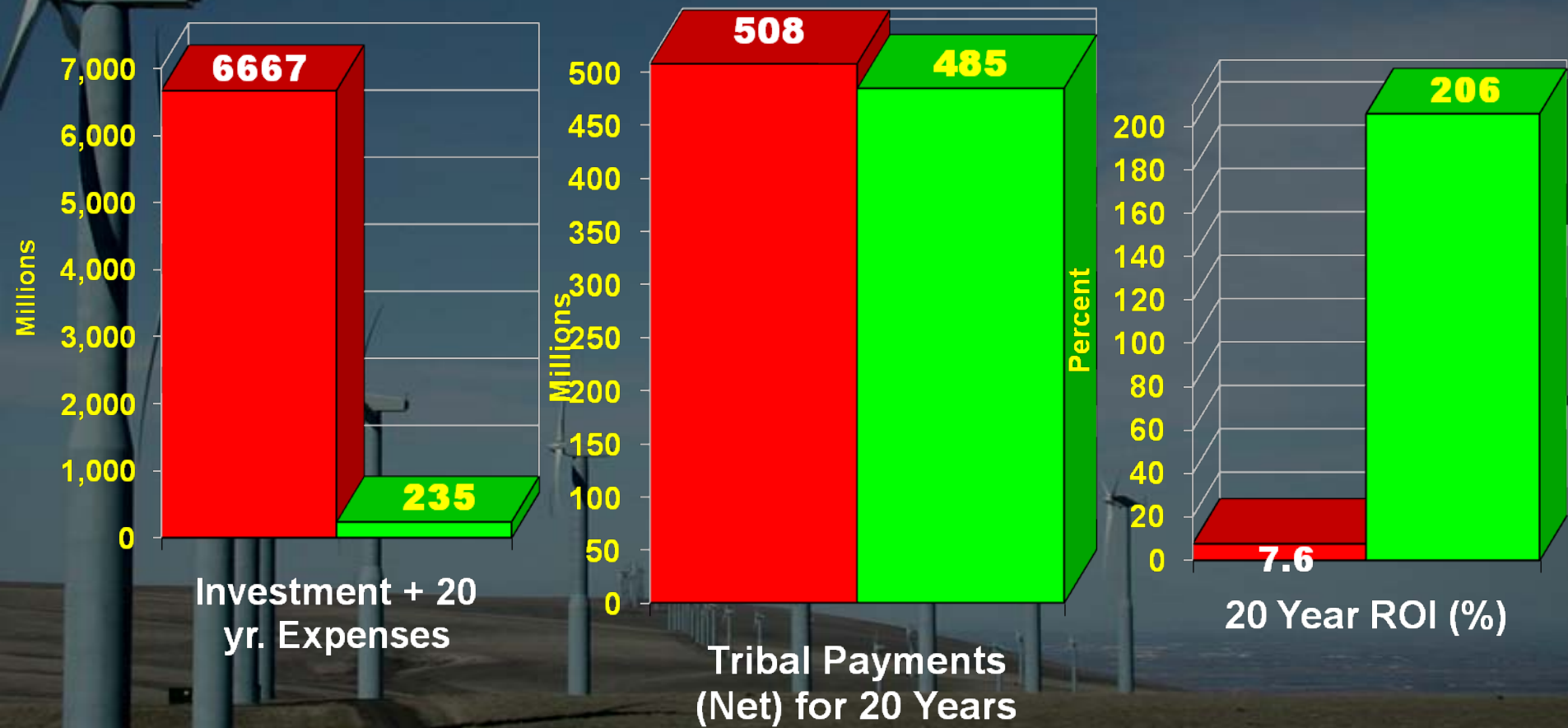


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# Investment + Expenses vs. 20 YEAR ROI % for Tribe

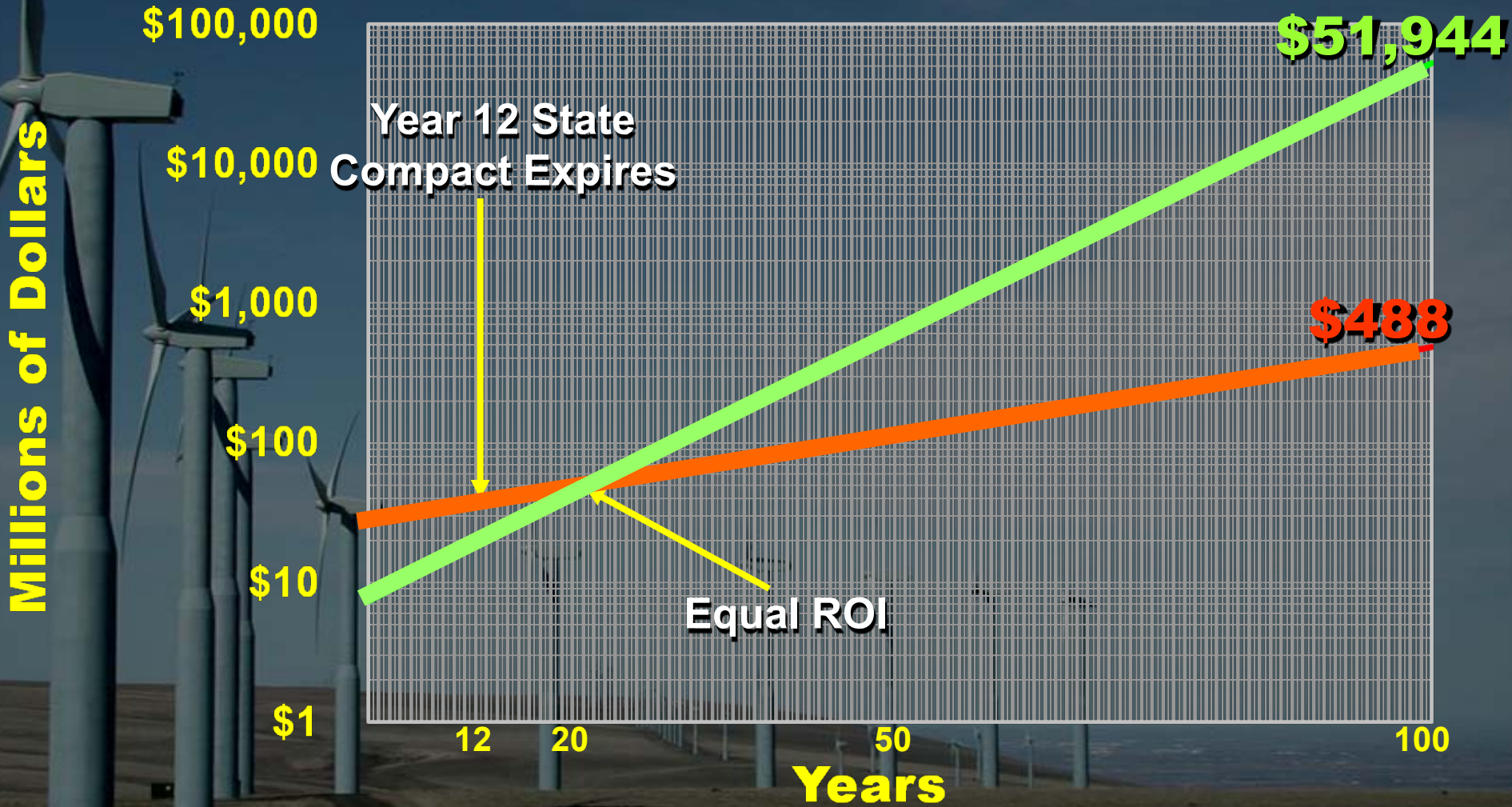


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# Tribal Payments Over 100 Years



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**Precise Project Mgmt.**

**Equals**

**Financial Prosperity**

**Equals**

**Tribal Sustainability**

***CNE-R-G***