

MICROFILM DIVIDER

OMB/RECORDS MANAGEMENT DIVISION

SFN 2053 (2/85) 5M



ROLL NUMBER

DESCRIPTION

1223

2001 HOUSE FINANCE AND TAXATION

HB 1223

2001 HOUSE STANDING COMMITTEE MINUTES

BILL/RESOLUTION NO. HB 1223

House Finance and Taxation Committee

☐ Conference Committee

Hearing Date January 24, 2001

Tape Number	Side A	Side B	Meter #
1		X	4,294
Committee Clerk Signature <i>Janice Stein</i>			

Minutes:

REP. AL CARLSON, CHAIRMAN Opened the hearing and read the fiscal note.

REP. DALE SEVERSON, DIST. 23, Introduced the bill. He stated it is unknown what impact the bill will have.

REP. DROYDAL All this bill says is that the land owner doesn't have to own the land that he is putting a wind generator on, he can lease the land and get the same credit?

REP. SEVERSON That is correct.

JOSEPH BECKER, STATE TAX OFFICE, Appeared before the committee to answer a question. He stated this can only be used on the long form. It is for all taxpayers.

HARLAN FUGLESTEN, NORTH DAKOTA ASSOCIATION OF RURAL ELECTRIC COOPERATIVES, Testified in support of all of the wind bills, HB 1221, 1222 and 1223.

DALE NIEZWAAG, BASIN ELECTRIC COOPERATIVES, Testified in support of all of the wind bills, HB 1221, 1222, and 1223. See attached written testimony.

Page 2

House Finance and Taxation Committee

Bill/Resolution Number HB 1223

Hearing Date January 24, 2001

BRUCE KOPP, XCEL ENERGY, Testified in support of the bill. See written testimony.

STEVE SCHULTZ , OTTER TAIL POWER Testified in support of the bill of all wind bills,
#1221, 1222 and 1223.

MARK BRING, MINNKOTA POWER COOPERATIVE, Testified in support of the bill.

With no further testimony, the hearing was closed.

COMMITTEE ACTION 1-31-01, Tape #3, Side A, Meter #635

REP. BRANDENBURG Presented an amendment which would change some language from
five percent to three percent tax credit for five years.

REP. BRANDENBURG Made a motion to adopt the amendment as presented.

REP. DROVDAL Second the motion. **MOTION CARRIED BY VOICE VOTE.**

REP. DROVDAL Made a motion to amend the bill by adding an end date.

REP. RENNERFELDT Second the motion. **MOTION CARRIED BY VOICE VOTE.**

REP. BRANDENBURG Presented another amendment regarding Section 2, which would
cover partnerships, limited liability corporation, etc. It would cover all people involved in this
section.

REP. BRANDENBURG Made a motion to adopt this amendment.

REP. KELSH Second the motion. **MOTION CARRIED BY VOICE VOTE. REP.**

CLARK VOTED NO.

REP. DROVDAL Made a motion for a **DO PASS AS AMENDED.**

REP. BRANDENBURG Second the motion. **MOTION CARRIED**

14 YES 0 NO 1 ABSENT

REP. GROSZ Was given the floor assignment.

COMMITTEE ACTION 2-6-01, TAPE #1, SIDE B, METER #2100

JOHN WALSTAD Appeared before the committee to explain an amendment 10296.0201 which amends the engrossed bill. He stated he became aware of a potential problem after the bill was engrossed. The problem is, if there are people out there who have installed a facility last year, what happens to them. If the device was installed before January 1, of this year, then the credit is five percent per year for three years, just like it has been in previous law. Beginning January 1, of this year, a new facility will then get the three percent for five year treatment. Another change is replacing 2001 with 2011, and then there is a change in the title of the bill.

REP. RENNER Made a motion to adopt the amendment has presented.

REP. HERBEL Second the motion. **MOTION CARRIED BY VOICE VOTE.**

REP. BRANDENBURG Made a motion for a **DO PASS AS AMENDED**

REP. CLARK Second the motion. **MOTION CARRIED.**

13 YES 0 NO 2 ABSENT

REP. GROSZ Was given the floor assignment.

FISCAL NOTE
Requested by Legislative Council
02/09/2001

Bill/Resolution No.:

Amendment to: Engrossed
 HB 1223

1A. State fiscal effect: *Identify the state fiscal effect and the fiscal effect on agency appropriations compared to funding levels and appropriations anticipated under current law.*

	1999-2001 Biennium		2001-2003 Biennium		2003-2005 Biennium	
	General Fund	Other Funds	General Fund	Other Funds	General Fund	Other Funds
Revenues						
Expenditures						
Appropriations						

1B. County, city, and school district fiscal effect: *Identify the fiscal effect on the appropriate political subdivision.*

1999-2001 Biennium			2001-2003 Biennium			2003-2005 Biennium		
Counties	Cities	School Districts	Counties	Cities	School Districts	Counties	Cities	School Districts

2. Narrative: *Identify the aspects of the measure which cause fiscal impact and include any comments relevant to your analysis.*

Reengrossed HB 1223 allows leased property to qualify for the geothermal, solar, or wind energy tax credit, and alters the credit to be 3% of the cost of acquisition and installation per year for five years.

3. State fiscal effect detail: *For information shown under state fiscal effect in 1A, please:*

A. Revenues: *Explain the revenue amounts. Provide detail, when appropriate, for each revenue type and fund affected and any amounts included in the executive budget.*

For each \$1,000,000 wind tower installed in ND, the property owner or lessor would receive a tax credit equal to \$30,000 or their income tax liability, whichever is less, for the first five years of operation. The baseline forecast does not specifically include the building of large-scale wind-powered electrical generating facilities in the next biennium. It is unknown whether a developer of such a facility would incur an income tax liability sufficient to utilize all or part of this credit.

B. Expenditures: *Explain the expenditure amounts. Provide detail, when appropriate, for each agency, line item, and fund affected and the number of FTE positions affected.*

C. Appropriations: *Explain the appropriation amounts. Provide detail, when appropriate, of the effect on the biennial appropriation for each agency and fund affected and any amounts included in the executive budget. Indicate the relationship between the amounts shown for expenditures and*

appropriations.

Name:	Kathryn L. Strombeck	Agency:	Tax Department
Phone Number:	328-3402	Date Prepared:	02/15/2001

FISCAL NOTE
Requested by Legislative Council
01/15/2001

Bill/Resolution No.: HB 1223

Amendment to:

1A. State fiscal effect: *Identify the state fiscal effect and the fiscal effect on agency appropriations compared to funding levels and appropriations anticipated under current law.*

	1999-2001 Biennium		2001-2003 Biennium		2003-2005 Biennium	
	General Fund	Other Funds	General Fund	Other Funds	General Fund	Other Funds
Revenues						
Expenditures						
Appropriations						

1B. County, city, and school district fiscal effect: *Identify the fiscal effect on the appropriate political subdivision.*

1999-2001 Biennium			2001-2003 Biennium			2003-2005 Biennium		
Counties	Cities	School Districts	Counties	Cities	School Districts	Counties	Cities	School Districts

2. Narrative: *Identify the aspects of the measure which cause fiscal impact and include any comments relevant to your analysis.*

HB 1223 allows property **leased** in North Dakota to qualify for the geothermal, solar, or wind energy tax credit.

3. State fiscal effect detail: *For information shown under state fiscal effect in 1A, please.*

A. Revenues: *Explain the revenue amounts. Provide detail, when appropriate, for each revenue type and fund affected and any amounts included in the executive budget.*

Subsection 1 of section 57-38-01.8 NDCC allows taxpayers a tax credit equal to 5% of the cost of acquisition and installation of the geothermal, solar, or wind energy device per year for three years. If HB 1223 is enacted, a taxpayer who leases property in North Dakota and installs a \$1,000,000 wind tower would receive a credit equal to \$50,000 or their income tax liability, whichever is less, for the first three years of operation. The baseline forecast does not specifically include the building of large-scale wind-powered electrical generating facilities. Additionally, it is unknown whether a developer of such a facility would incur an income tax liability sufficient to utilize all or part of this credit.

B. Expenditures: *Explain the expenditure amounts. Provide detail, when appropriate, for each agency, line item, and fund affected and the number of FTE positions affected.*

C. Appropriations: *Explain the appropriation amounts. Provide detail, when appropriate, of the effect on the biennial appropriation for each agency and fund affected and any amounts included in the*

executive budget. Indicate the relationship between the amounts shown for expenditures and appropriations.

Name:	Kathryn L. Strombeck	Agency:	Tax Department
Phone Number:	328-3402	Date Prepared:	01/23/2001

Date: 1-31-01
Roll Call Vote #: 1

2001 HOUSE STANDING COMMITTEE ROLL CALL VOTES
BILL/RESOLUTION NO. HB 1223

House FINANCE & TAXATION Committee

☐ Subcommittee on _____
or
☐ Conference Committee

Legislative Council Amendment Number _____

Action Taken Do Pass as amended

Motion Made By Rep. Drovdal Seconded By Rep. Brandenburg

Representatives	Yes	No	Representatives	Yes	No
CARLSON, AL, CHAIRMAN	✓		NICHOLAS, EUGENE	✓	
DROVDAL, DAVID, V-CHAIR	✓		RENNER, DENNIS	✓	
BRANDENBURG, MICHAEL	✓		RENNERFELDT, EARL	✓	
CLARK, BYRON	✓		SCHMIDT, ARLO	A	
GROSZ, MICHAEL	✓		WIKENHEISER, RAY	✓	
HERBEL, GIL	✓		WINRICH, LONNY	✓	
KELSH, SCOT	✓				
KROEBER, JOE	✓				
LLOYD, EDWARD	✓				

Total (Yes) 14 No 0

Absent 1

Floor Assignment Rep. Grosz

If the vote is on an amendment, briefly indicate intent:

REPORT OF STANDING COMMITTEE

HB 1223: Finance and Taxation Committee (Rep. Carlson, Chairman) recommends **AMENDMENTS AS FOLLOWS** and when so amended, recommends **DO PASS** (14 YEAS, 0 NAYS, 1 ABSENT AND NOT VOTING). HB 1223 was placed on the Sixth order on the calendar.

Page 1, line 1, remove "subsection 1 of"

Page 1, line 5, replace "Subsection 1 of section" with "Section"

Page 1, after line 6, Insert:

"57-38-01.8. Income tax credit for installation of geothermal, solar, or wind energy devices."

Page 1, line 9, after "installed" insert "before January 1, 2001,"

Page 1, line 11, overstrike "five" and Insert immediately thereafter "three" and overstrike "three" and Insert immediately thereafter "five"

Page 1, after line 14, Insert:

"2. For the purposes of this section:

- a. "Geothermal energy device" means a system or mechanism or series of mechanisms designed to provide heating or cooling or to produce electrical or mechanical power, or any combination of these, by a method which extracts or converts the energy naturally occurring beneath the earth's surface in rock structures, water, or steam.
- b. "Solar or wind energy device" means a system or mechanism or series of mechanisms designed to provide heating or cooling or to produce electrical or mechanical power, or any combination of these, or to store any of these, by a method which converts the natural energy of the sun or wind.

3. If a geothermal, solar, or wind energy device is a part of a system which uses other means of energy, only that portion of the total system directly attributable to the cost of the geothermal, solar, or wind energy device may be included in determining the amount of the credit. The costs of installation may not include costs of redesigning, remodeling, or otherwise altering the structure of a building in which a geothermal, solar, or wind energy device is installed.

4. A partnership, subchapter S corporation, limited partnership, limited liability company, or any other passthrough entity that installs a geothermal, solar, or wind energy device in a building or on property owned or leased by the passthrough entity must be considered to be the taxpayer for purposes of this section, and the amount of the credit allowed with respect to the entity's investments must be determined at the passthrough entity level. The amount of the total credit determined at the entity level must be passed through to the partners, shareholders, or members in proportion to their respective interests in the passthrough entity."

Renumber accordingly

Date: 2-6-01
Roll Call Vote #: 2

2001 HOUSE STANDING COMMITTEE ROLL CALL VOTES
BILL/RESOLUTION NO.

Reconsidered

House FINANCE & TAXATION

Committee

☐ Subcommittee on _____

or

☐ Conference Committee

Legislative Council Amendment Number

10296.0201

Action Taken

Do pass as amended

Motion Made By

Rep. Brandenburg

Seconded By

Rep. Clark

Representatives	Yes	No	Representatives	Yes	No
CARLSON, AL, CHAIRMAN	✓		NICHOLAS, EUGENE	✓	
DROVDAL, DAVID, V-CHAIR	✓		RENNER, DENNIS	✓	
BRANDENBURG, MICHAEL	✓		RENNERFELDT, EARL	✓	
CLARK, BYRON	✓		SCHMIDT, ARLO	✓	
GROSZ, MICHAEL	✓		WIKENHEISER, RAY	✓	
HERBEL, GIL	✓		WINRICH, LONNY	✓	
KELSH, SCOT	✓				
KROEBER, JOE	✓				
LLOYD, EDWARD	✓				

Total (Yes)

13

No

0

Absent

2

Floor Assignment

Rep. Grosz

If the vote is on an amendment, briefly indicate intent:

REPORT OF STANDING COMMITTEE

HB 1223, as engrossed: Finance and Taxation Committee (Rep. Carlson, Chairman)
recommends **AMENDMENTS AS FOLLOWS** and when so amended, recommends
DO PASS (13 YEAS, 0 NAYS, 2 ABSENT AND NOT VOTING). Engrossed HB 1223
was placed on the Sixth order on the calendar.

Page 1, line 2, remove "on"

Page 1, line 3, remove "leased property"

Page 1, line 11, replace "2001" with "2011"

Page 1, line 12, after "section" insert "for a device installed before January 1, 2001, must be in
an amount equal to five percent per year for three years, and for a device installed after
December 31, 2000,"

Renumber accordingly

2001 SENATE FINANCE AND TAXATION

HB 1223

2001 SENATE STANDING COMMITTEE MINUTES

BILL/RESOLUTION NO. 1223

Senate Finance and Taxation Committee

☐ Conference Committee

Hearing Date 3/19/01

Tape Number	Side A	Side B	Meter #
1		x	47.3-end
2	x		0-10.1
	x		27.9-33
Committee Clerk Signature <i>Lynelle H. Kraft</i>			

Minutes:

Senator Urlacher: Opened the hearing on HB1223, relating to application of the income tax credit for geothermal, solar, or wind energy devices.

Senator Stenehjem was absent from the hearing.

Jerome Ertelt: Wind Power Dakota, testified in support to 1221, 1222, and 1223. Read petition with 4,659 signatures of people across ND in support for wind power legislation now. This would bring new wealth for farmers and landowners and new high-paying jobs for our young people. Shows visual aide.

Representative Mike Brandenburg: Testified in support. This bill deals with an income tax credit dealing with wind energy. It would allow 3% a year for 5 years. This bill would help encourage wind development

Bruce Kopp: Excel Energy, testified in support to all three bills.

Page 2
Senate Finance and Taxation Committee
Bill/Resolution Number 1223
Hearing Date 3/14/01

Dale Niezwaag: Basin Electric Power Corp., testified in support of all three bills. Written testimony attached. Also gave absentee testimony from Harlan Fuglesten, ND Assoc. of REC's(attached).

Wayne Anderson: Member of Wind Power Dakota, testified in support of all three bills. Wind is clean and nonpolluting. We should look in the direction of cleaner air.

Sister Paula Larson: Sacred Heart Monastery, testified in support. Wind energy has been wonderful for us, don't be afraid in going ahead with this. Co-generation of the utilities works. This is environmentally friendly. Wind energy is great for economic development.

Senator Urlacher: Closed the hearing. Action delayed.

Others signed the roster in support.

Discussion held later. Meter number 27.9-33.

COMMITTEE ACTION:

Motion made by Senator Wardner for a DO PASS, Seconded by Senator Nichols. Vote was 5 yeas, 0 nays, 1 absent and not voting. Bill carrier was Senator Wardner.

Date: 3/14/01
Roll Call Vote #: 1

2001 SENATE STANDING COMMITTEE ROLL CALL VOTES
BILL/RESOLUTION NO. 1223

Senate Finance and Taxation Committee

☐ Subcommittee on _____
or
☐ Conference Committee

Legislative Council Amendment Number _____

Action Taken DO PASS

Motion Made By Wardner Seconded By Nichols

Senators	Yes	No	Senators	Yes	No
Senator Urlacher-Chairman	✓				
Senator Wardner-Vice Chairman	✓				
Senator Christmann	✓				
Senator Stenehjem					
Senator Kroeplin	✓				
Senator Nichols	✓				

Total (Yes) 5 No 0

Absent 1

Floor Assignment Wardner

If the vote is on an amendment, briefly indicate intent:

REPORT OF STANDING COMMITTEE (410)
March 14, 2001 4:21 p.m.

Module No: SR-44-5637
Carrier: Wardner
Insert LC: . Title: .

REPORT OF STANDING COMMITTEE

HB 1223, as reengrossed: Finance and Taxation Committee (Sen. Urlacher, Chairman)
recommends **DO PASS** (5 YEAS, 0 NAYS, 1 ABSENT AND NOT VOTING).
Reengrossed HB 1223 was placed on the Fourteenth order on the calendar.

2001 TESTIMONY

HB 1223

**Testimony of Agriculture Commissioner Roger Johnson
Submitted by Ken Junkert
House Bill 1221, House Bill 1222, and House Bill 1223
House Finance and Taxation Committee
Fort Totten Room
January 24, 2001**

Chairman Carlson and members of the House Finance and Taxation Committee, I am here on behalf of Agriculture Commissioner Roger Johnson. The Commissioner supports HB 1221, HB 1222, and HB 1223, which relate to wind energy development and taxation in North Dakota.

There is great potential for wind energy development in North Dakota. Wind energy experts estimate that North Dakota has the potential to generate 138,400 megawatts of power per year, which is more than any other state in the country. Wind Powering America estimates that the average annual income for a farmer is \$2000 per wind turbine.

Landowner and public interest in wind energy and other renewable energies is growing in North Dakota and throughout the United States. Wind energy is environmentally friendly and allows us to capitalize on an abundant natural resource.

I believe that wind energy development offers a unique opportunity for our state to complement our existing coal and hydropower energy industries, and to offer a new, supplemental source of income for landowners.

Testimony of Agriculture Commissioner Roger Johnson
House Bill 1221, House Bill 1222, and House Bill 1223
January 24, 2001
Page two

While developing new sources of energy is a good idea, one of the biggest hurdles is going to be transmission of power. Therefore, the best way to overcome the hurdle is to make sure the energy partners work together so we can export energy to bigger markets.

Chairman Carlson and committee members, Commissioner Johnson urges a do pass on HB 1221, HB 1222 and HB 1223. I would be happy to answer any questions you may have.

- Good morning ~~Summer~~ ~~for Mr. Carlson~~, my name is Mike Hohl president of DMI, *manufacturing firm in West Fargo*
- I appreciate the opportunity to talk to you about DMI and the importance of the wind industry to our future.
- I would like to start out by giving you a short history of our company. Dakota Machine Tool was started back in 1978 ~~to service the sugarbeet industry in the Red River valley.~~
- 1st products were sugarbeet pilers and as the company grew we began to branch out into manufacturing process equipment for the sugar factories not only here in the valley but across the US.
- Then a couple of years ago as we saw the struggles that the ag industry was encountering we looked for other opportunities to provide some stability to our company.
- Cold call to Vestas.
- 1st order spring of 1999 - 14 - 65 - meter towers delivered to WPS NW of Green Bay, WI near Lake Michigan.
- 2000 - 84 various towers to 8 states and Canadian provinces.
- Expect to manufacture about 150 towers in 2001.
- **So why is this important to you and North Dakota?**
- In 1999 wind towers occupied approximately 7% of our gross sales which declined approx 22% from 98.
- In 2000 wind towers comprised about 80 % of our gross sales which declined another 29% from 99.
- In 2001 we expect wind towers to occupy in excess of 90% of our gross sales which is budgeted to increase 50% from 2000.
- "DMI would NOT be around today without wind power and the associated 120 jobs would not be there either!
- **Wind power = economic development - that is ~~the message we want you to take away with you today.~~**
- As you ND #1 in the world for wind resources.
- I am also sure that you have access to data indicating the wind power potential in ND - depending on who you talk to, the numbers can vary BUT even the most conservative number indicates that this industry has the potential of contributing billions with a "B" over the next fifty years.
- Rough #'s in current dollars, **each megawatt cost about \$1mm installed** - that means that **over that 50 year period \$5bb** of direct funds would be pumped back into our state not say anything about the **\$2 - 3 thousand of income per wind turbine per year each farmer** would reap as well as how many times that sum will be rolled over in each community indirectly with what workers and others employed by the industry spend.
- That's our story.
- Are there any questions

Tower - 10% of cost

*Major Utility
RFP. for 400 towers
Iowa CA
Kansas Alberta
Oregon*

Testimony on HB 1221, HB 1222, and HB 1223

House Finance and Taxation Committee

January 24, 2001

Mr. Chairman, for the record my name is Dale Niezwaag and I am representing Basin Electric Power Cooperative. Basin Electric Power Cooperative supports HB 1221, 1222, and 1223.

New technologies need governmental support through research and incentives to give them momentum to grow. In the energy industry, much progress must be credited to good public policy and government incentive. Many of our members want access to renewable energy. The Basin Electric board of Directors in recognition of growing interest in renewable energy recently approved a wind power development program. Our program will give our members access to wind power either through outside sources or by helping install equipment for groups of cooperatives.

Just this month, Basin Electric was awarded the first-ever wind energy loan guarantee from the Rural Utilities Service. That loan-guarantee will be used to finance the construction of up to three turbines. The electricity generated from those turbines will be distributed throughout the Basin Electric service area. Several of member cooperatives in North Dakota have already initiated plans to provide their consumers with an option to purchase wind energy.

Where will wind energy go? We don't know for sure, but we do feel it is important to evaluate it, and the incentives proposed for the state along with the efforts of Basin Electric and its members is a good place to start. Similar legislation is also being proposed in South Dakota.

Basin Electric and its members have always been advocates of sound environmental stewardship and progressive alternate energy research. The development of wind energy and is in keeping with that heritage.

Chairman Carlson and Members of the House Finance and Tax Committee.

For the record, I am Representative Bill Devlin, District 23 from Finley. District 23 is a rural district that includes all of Steele, Griggs and Nelson Counties along with parts of Ramsey and Walsh counties.

I am here to give testimony in support of House Bills 1222, 1221 and 1223. As you are well aware, these bills all deal with wind energy issues.

My district has been devastated by the out-migration of population over the last twenty years. Steele and Griggs counties have lost between 25 and 30 percent of their populations during that time period. Other rural counties have seen similar decreases in population.

Wind energy may very well provide the opportunity to reverse that trend and bring economic development opportunities to our farms, our towns and our people.

I look at wind energy in its infancy much like others, generations ago, looked at the coal industry. We have a marvelous opportunity in this legislative session to start harvesting another of our assets, the wind that sweeps across our prairie, and turn it into energy, as well as dollars for our people and our state.

Though this process we can create unlimited opportunities for our people.

I think we have a once in a lifetime opportunity to make this happen. The time is now, and we are the legislature that can make it happen.

We can work hand-in-hand with the coal industry, to meet joint needs for transmission lines that will export the power created by both industries throughout the nation. We don't need to see competition between the industries in North Dakota, but instead we look for collaboration between everyone.

Mr. Chairman, there are people here who will answer every technical question that this committee will have through the hearing process. Because of the number of issues we have before the House Human Services Committee this morning, I respectfully ask the committee to wait for the people that will follow my testimony to get all your questions answered. I urge this committee to give the a Do Pass recommendation to all three bills. Thank you for the opportunity to testify in support of House Bills 1222, 1221 and 1223.

HB 1221
1222
1223

Wind Energy Development Is Good for North Dakota

**By Jay Haley
EAPC Architects Engineers
Grand Forks, ND
1-11-01**

Wind Energy is a Powerful Resource for Rural Economic Development.

- Wind farms offer a new cash crop for farmers and ranchers.
- A landowner receives \$2,000 to \$4,000 per year for each wind turbine depending on its size and production.
- A fully developed section of land can support 10 to 12 megawatts of wind generation.
- A fully developed section of land would generate more than \$30,000 per year in land-lease payments to the landowner.
- Land that is fully developed with wind turbines is still more than 95% available for its original agricultural use.
- Wind development creates 15 to 19 jobs per 100 megawatts of installed capacity.
- Two North Dakota companies are engaged in the manufacture of wind turbine components (towers and blades).

North Dakota has the Greatest Wind Resource in the Nation

- North Dakota's wind potential is over 138,400 MW, which could supply about 1/3 of the nations' annual power requirements.
- There are few poor wind sites in North Dakota. Some sites are just better than others.
- North Dakota ranks at the bottom of states that are utilizing their wind resource.
- North Dakota needs more transmission capacity.
- The transmission grid in the upper Midwest is in need of substantial upgrades and new transmission in order to increase the export capacity of North Dakota.
- WAPA studies indicate there is sufficient transmission capacity available throughout North Dakota in smaller parcels of 50 to 150 MW each.
- Both the coal industry and the wind industry need new transmission capacity in order to expand their industries.
- The coal and wind industries would benefit by working together on solving the transmission issues.

Wind Energy is the Fastest Growing Energy Technology in the World

- Wind energy has had the highest growth rate for over ten years. The annual growth rate last year was more than 40%.
- There are more than 35,000 wind turbines installed worldwide with a capacity of more than 12,000 MW.

Benefits of Wind Development In North Dakota

**By Jay Haley
EAPC Architects Engineers
Grand Forks, ND
1-11-01**

Introduction

The wind industry has been looking closely at North Dakota for years. The reason is simple; North Dakota has the greatest wind potential in the United States. Until now, there's been no utility-scale wind development with the exception of a few single-turbine installations scattered around the state. Things are about to change. Over the last year, every major wind developer in the world has visited North Dakota in preparation for expansion into the Midwest.

The cost of wind energy has dropped dramatically in the last ten years to the point where wind power is competitive with any form of new generation. The demand for clean renewable energy is growing at an ever-increasing rate. Today, wind is the fastest growing energy technology in the world.

What Does Wind Development Mean for North Dakota?

Rural Economic Development

First and foremost, wind energy means rural economic development. Wind development has the ability to revitalize rural communities. For example, the Griggs-Steele Wind Development Group is planning the development of a 130 MW wind farm to be located in Griggs and Steele counties in North Dakota. The project will consist of 85 to 175 wind turbines with a capital cost of approximately \$130 million dollars. It will create around 200 construction-related jobs, and once complete will create 15 to 20 full-time jobs. Local landowners will receive land-lease payments ranging from \$2,000 to \$3,500 per year for each wind turbine placed on their land. This is a new cash crop for the farmer. Land-lease payments to local landowners will total more than \$500,000 annually. All this at no cost to the landowner. In addition, the annual property tax revenue will be approximately \$750,000. This scenario can be repeated all over the state.

Wind development also results in increased tourism. People will travel a long way to see a wind farm. Communities in southern Minnesota and northern Iowa have experienced a distinct increase in business volume for hotels, motels, restaurants, gas stations, convenience stores, hardware stores, lumber yards, and cement plants.

Manufacturing

A number of local businesses already benefit from wind development. Tubular towers are being manufactured by Dakota Machine in West Fargo, and LM Glasfiber in Grand Forks manufactures turbine blades. Additional wind development in the Midwest will increase business volume for these industries as well as create opportunities to add turbine assembly plants.

Wind and Coal - Different Markets

There are many counties engaged in North Dakota's coal industry that could enjoy the economic benefits from wind development without negatively impacting the current coal industry. Wind energy is not meant to replace coal or other forms of generation, but rather to complement them. The market for wind energy is growing at an increasing rate. This market is not necessarily in North Dakota. For example, Northern States Power in Minnesota has a requirement to purchase a total of 825 MW of wind energy by the year 2012 (about 300 MW have been added so far). Major cities such as Chicago, Denver, and Kansas City have increasing demand for wind energy. Green power marketing projects are starting up all over the country. The Federal government is also required to purchase renewable energy. All of these markets can be served by wind energy from North Dakota. Coal-fired generation cannot supply the green power demand of this new market.

Transmission Issues

The electrical grid is somewhat like a vast ocean, with buckets of water being added and drawn off at many points along the shore. Adding 1000 MW of wind energy to our regional grid, the Mid-continent Area Power Pool (MAPP), is comparable to a drop in the ocean. Preliminary studies performed by Western Area Power Administration (WAPA) indicate that the grid can absorb new generation at various locations in increments of 25 MW to 150 MW. However, the export of thousands of megawatts of new generation will require building new transmission lines. Coal and wind interests will both benefit by working together to develop new transmission access to the marketplace. In the short term, North Dakota should develop those 25 MW to 150 MW parcels. Wind energy means rural economic development and it's good for all of North Dakota.

Griggs/Steele Wind Power Group

HB 1221-1222
1223

Chairman -- Carlson

Vice-chairman -- ???

— ~~Rep~~ Committee Members

- Thank you for allowing me to talk on the economic development potential of wind power.
- My name is Keith Monson, and I am here testifying as Chairman of the Griggs/Steele Wind Power Group.
- I don't have a long history in economic development efforts, but I have been around long enough to know that the first and most troublesome hurdle in any effort is usually the funding. Wind Power development has been the single exception to this rule that I have encountered to date. Funding and the expertise to actually construct these projects is readily available, and in fact pushing local groups and the State as a whole to let it happen.
- The second largest hurdle in economic development is usually an agreement as to whether there is sufficient local resources to sustain the effort. In this case the wind regime in ND as a whole is well documented and is literally in everyone's face every day. And, I've never seen anything, especially when it involves using someone else's property for the development, that has what can probably be called unanimous support from those most directly impacted.
- The Griggs/Steele Wind Power Group is currently waiting to hear if its' bid is on a short list for the 80 MW project requested by NSP, now Excel Energy. If I could, I would like to detail some of the benefits we are hoping to receive if this project were to be built in our area.
 1. In anticipation of the project we already have landowners receiving easement payments on land the project would be constructed on.
 2. In the short term we would be looking at a construction boom as the project is being built.
 3. Long-term landowners would receive payments based on the actual production from the turbines on his property. These payments would vary

based on the size of the turbine used, but a figure of \$3000 per turbine per year, should be a conservative number, for a total of about \$200,000/year.

4. In addition, the local property tax generated -- using the rates proposed in the pending legislation --- would amount to about \$250,000 per year.
5. It is also anticipated that this project would create 8 to 10 full time jobs during the life of the project. That conservatively equates to another \$200,000 per year pumped into the local economy.
6. Totaling the straight up cash inflows on a yearly basis, yields \$450,000 per year on what is a relatively small project in light of the potential.
7. Even though these calculations are only valid for the anticipated 20 year life of the contract with NSP, I can't believe wind generated electricity won't be continue to be utilized way into the future.

- In a news conference late last year I forwarded the idea of looking at the generation of electricity, or electricity itself as a product. A product not unlike wheat, barley, or any other of a variety of products that we produce here, for export. Electricity is electricity, - it's a product, - we produce it for export, - and someone on the other end sends us money. That's new wealth, which we then spend in our daily activities that creates additional economic activity.
- California is currently demonstrating a dramatic shortage of a product which we can produce in abundance, with very little investment, and which, as enumerated above has a huge potential for creating new wealth.
- Even though we have the best wind regime in the Nation here in North Dakota, there are concerted efforts going on all over the country, seeking to fill that need. I would like to see North Dakota as a State, take a proactive stance in making sure that everything that can be done, is done, in promoting electricity as a product for export.

Keith Monson
Chairman

Economic Impact of 100 Megawatt Wind-Powered Electrical Generating Facility

During the construction phase:

- 200 construction jobs
- Average wage \$20,000
- Average state income tax per employee: \$259
- Average sales tax per employee: \$300

During the operational phase:

- 20 permanent, full-time jobs
- Average wage \$30,000
- Average state income tax per employee: \$617
- Average sales tax per employee: \$450
- Annual payroll of \$600,000 could mean economic activity in the area of \$1.8 million to local businesses (assumes a conservative multiplier of 3)

Mr. Chairman and members of the Committee:

I am Bruce Kopp representing Xcel Energy. Attached to my testimony is a press release from December of 2000 that gives some detail of our wind project. My company is in favor of these 3 bills offering incentives for wind power development. Xcel Energy has had a wind program since 1986. We believe that although wind energy will never replace baseload generation, it is a viable part of the generation mix. We currently have a request for proposal where at least one bid has come from North Dakota. We will contract with the entity who has presented the best proposal. Bottom line is, a wind farm will be built somewhere, and we will buy the power from it. These incentives certainly help make North Dakota sites more competitive.



NEWS RELEASE

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December 1, 2000

Windpower Capital of the American Midwest

Xcel Energy has studied wind generation for nearly 20 years, and in 1986 installed its first wind turbines near Lake Benton in southwestern Minnesota. Today, Xcel Energy has 270 megawatts (404 turbines) of wind generation under contract in the Buffalo Ridge area in southwest Minnesota. In addition, the company has a 56-megawatt wind-energy program in Colorado and purchases 25 megawatts from Wyoming's Foote Creek Rim project. Today, Xcel Energy has under contract the largest wind generating capacity of any utility outside of California.

By 2002, Xcel Energy plans to have 425 megawatts of wind generation in its northern serving area enough potential capacity to serve the electric needs of 100,000 NSP residential customers, and an additional 36 megawatts of wind power will be added during the next five years in the southern states it serves. Xcel Energy uses a competitive bidding process to select wind power along with its other purchased energy sources. Currently, wind power is more expensive than other options, and is less reliable since the wind does not blow constantly; however, wind energy provides a valuable, renewable source of energy with the company's energy mix.

In addition to issuing requests for proposals (RFP) to solicit offers from large suppliers to meet Xcel Energy wind generation goals, the company is also willing to negotiate power purchase contracts for small projects as long as it is considered to be in the best interests of its ratepayers.

The first thing that a potential small wind developer needs to provide is a proposal that outlines the proposed project. This proposal should include the following information:

- 1) Project size in MW.
- 2) A project site map displaying the proposed turbine locations, the electric collection system, property owners, and wind rights procurement status.
- 3) Information on the firm responsible for the engineering of the project.
- 4) Proposed point of interconnection with the Xcel Energy (NSP) system.
- 5) Information about the manufacturer of the wind turbine equipment.
- 6) Type of turbine and model information.
- 7) Technical data including performance specifications for the turbine model.
- 8) Data on the turbine support structure design.
- 9) A project schedule time-line.
- 10) Proposed year-by-year pricing commitment schedule over the desired agreement term.

A number of months ago, Xcel Energy along with six other regional electric utilities donated the wind data gathered in a three-year research project to the North Dakota Division of Community Services.

The data is the result of a 1993 joint wind-monitoring project commissioned by NSP and a number of other utilities. The monitoring provided data on wind characteristics necessary for assessing the potential for developing utility-scale wind generation.

Eight North Dakota sites that indicated a potential for significant wind resources were studied. Sites were chosen based on topographical features that concentrate wind energy, existing wind data, and anecdotal evidence from North Dakota residents concerning windy areas. The eight sites chosen were in Barnes, Burleigh, Cavalier, Dunn, LaMoure, Nelson, Ward, and Williams counties.

Individuals interested in the wind data may contact the North Dakota Division of Community Services in Bismarck, North Dakota at (701) 328-2094.

Xcel Energy serves 3 million electricity and 1.5 million natural gas customers and operates in 12 Western and Midwestern states.

#

SITE AGREEMENT

This Site Agreement is entered in to this _____ day of _____, 2000, by and between _____ (Owner), the owner of the property, and Energy Unlimited, Inc. (EUI), a Pennsylvania Corporation.

Background

A. Owner owns real property (the Property), more fully described in Exhibit A, that is available for use by EUI for the purposes set forth in this Agreement and desires to lease a portion of the Property to EUI.

B. EUI is a developer, owner and/or operator of wind turbines which generate electricity, and is interested in utilizing the Property for the purpose of installing and operating wind turbines (the Project).

C. Owner is willing to grant EUI a license to enter upon the Property for the purpose of planning and surveying the Property prior to EUI's commencement to lease the Property.

NOW THEREFORE, in witness whereof and intending to be legally bound hereby, the parties agree as follows:

1. EUI, its agents and associates have conducted preliminary wind studies using wind measuring devices (WMDs) to measure and record wind resources available on or near the Property for powering wind turbine generators (WTGs).
2. Subject to the terms of this Agreement, Owner hereby grants to EUI for and during the term of this Agreement a nonexclusive license for access to the Property for planning the Project, surveying the Property, and undertaking wind energy resource evaluations.
3. For the period beginning on the date this Agreement is executed by both parties, hereinafter called the "Effective Date", and continuing through December 31, 2001, EUI shall pay Owner a Standstill fee in the amount of _____ as money consideration for Owner undertaking the rights and obligations of this Agreement. Thereafter, if EUI desires to continue this Agreement beyond December 31, 2001, it may in its sole discretion pay an additional _____ Standstill Fee on or before December 31, 2001 and thereby continue this Agreement through December 31, 2002. Thereafter, this Agreement may be likewise extended by EUI in annual increments through EUI's payment of _____ Standstill Fees through December 31, 2004, which may accordingly result in the extension of this Agreement through December 31, 2005.
4. Owner and EUI jointly agree that EUI will proceed with the planning for installation and operation of WTGs on the Property. This planning and implementation period (P&IP) may include such activities as the award of Federal Aviation Administration (FAA) approval; award of requisite building and site permits; award of any requisite fish and wildlife commission approvals;

interconnection approvals from requisite electric utility(s); erection, relocation, maintenance and operation of anemometers and other wind and weather monitoring equipment to facilitate EUI's wind and weather monitoring activities, flying kites and balloons and conducting other meteorological studies; conducting soils and geologic studies at the Property, execution of a power purchase agreement or similar type instrument with a third party purchaser(s) of the power generated by the WTGs; engineering and related matters. The exact location of said wind and weather monitoring equipment and related facilities shall be determined by EUI in its sole discretion.

5. In consideration of the undertaking by EUI of substantial capital expenses related to the Project, Owner hereby agrees that until the termination of this Agreement, Owner, its directors, officers, managers, employees, representatives and agents shall immediately cease and cause to be terminated any discussions or negotiations with any third parties conducted heretofore with respect to any agreement to provide access to the Property for use as a windpark, and that Owner shall not, directly or indirectly (a) solicit or initiate discussions or negotiations with any person other than EUI concerning the use of the Property as a windpark, or (b) otherwise solicit or initiate inquiries or the submission of any proposal contemplating use of the Property as a windpark, it being understood and agreed that during this period EUI shall be the sole and exclusive developer of a windpark on the Property. Owner agrees that it will immediately notify EUI orally and in writing of such inquiries or proposals. This Agreement shall not be placed of public record.

6. Throughout the P&IP period, Owner will take no action that would unreasonably limit or impair EUI's access to the Property or unreasonably interfere with the installation and operation of a windpark on the Property. The rights granted herein are intended to run with the land, and shall be binding upon Owner's successors and assigns.

7. At the conclusion of the P&IP, it is anticipated that EUI will initiate construction of a permanent wind park (the Permanent Windpark). The Permanent Windpark is more particularly described in the lease attached hereto as Exhibit B hereinafter referred to as, "Lease". All or a portion of the Permanent Wind Park may be located on the Property. The Permanent Windpark will commence on the date EUI notifies Owner in writing, hereinafter referred to as the, "Notice of Lease Commencement" that it intends to initiate windpark construction which includes no less than one WTG. No permanent improvements (other than the wind energy monitoring equipment which EUI is obligated to remove as per Section 9 below) may be made to the Property by EUI prior to Notice of Lease Commencement. The Lease shall be executed by Owner on the Effective Date of this Agreement and shall be executed by EUI and delivered to Owner on the date of Notice of Lease Commencement.

8. The Term of this Agreement shall commence upon the Effective Date hereof and shall continue until the earlier of (a) Notice of Lease Commencement referred to above, (b) the date of any termination of this Agreement as a result of a default a party, or (c) the date of nonpayment of the Standstill Fee defined above which is otherwise required to be paid by EUI to continue this Agreement in full force and effect.

9. No later than 60 days after the termination of this Agreement, except for termination by reason of EUI giving Owner Notice of Lease Commencement, EUI shall remove all wind energy

monitoring facilities, if any, on the Property, and shall return the Property altered by EUI to Owner in substantially the same condition as when received.

10. In the event the actions by EUI performed under this Agreement result in the damage to or loss of greater than one-half acre of crops on the Property, then EUI shall be required to pay for such losses, hereinafter called, "Crop Damages", as specified in this Agreement.

a. The amount of the Crop Damages shall equal to the amount calculated as follows:

Price x Yield x Percentage of Damage x Acreage Damaged or Destroyed-- where

i. Price for damaged or destroyed crops shall mean the higher of either the Edgeley Elevator Price or the County Loan Rate for the applicable damaged or destroyed crop;

ii. Yield will be the average of the previous three years' yield's according the Owner's records for the smallest parcel of land that includes the damaged area.

iii. The parties shall try in good faith to agree to the Percentage of Damage and amount of Acreage Damaged or Destroyed. If they can not agree, they shall agree to have an impartial third party to this Agreement, who is mutually acceptable to the parties, determine the extent of the damage.

b. Payment shall be made within 30 days after determining the extent of the damage.

c. In no case shall EUI be required to pay more than a single total crop loss in one crop year for any given area within the Property.

11. EUI shall indemnify and hold harmless Owner, its members, directors, officers, employees and agents from and against any liability and all loss, damages, claims, fines, costs and expenses incurred or suffered by Owner (including but not limited to claims or losses resulting from any violation of applicable environmental laws) as a result of EUI, its agents, independent contractors or representatives entering upon the Property as herein provided. EUI as a condition to such entry shall provide Owner with evidence of adequate commercial general liability insurance (in amounts not less than \$1,000,000 per occurrence) with insurance carriers reasonably acceptable to Owner.

12. EUI hereby agrees that Owner shall not be liable for injury to EUI's goods, wares, machinery, equipment, or other personal property of EUI, upon the Property nor shall Owner be liable for injury to EUI's employees, agents, or contractors from any cause whatsoever upon the Property other than by Owner's gross negligence or wrongful intent.

13. EUI shall in the exercise of its sole discretion, and at its sole cost and expense, obtain all necessary permits, approvals or consents required for the construction and operation of the Project

on the Property. The parties shall each bear their own respective costs and expenses relating to this Agreement and the subject matter hereof.

14. This Agreement is solely for the benefit of Owner and EUI. The provisions of this Agreement shall be governed by, and shall be interpreted under, the laws of the State of North Dakota. The provisions of this Agreement shall be binding upon and inure to the benefit of the parties to this Agreement and their respective successors and assigns.

15. Each of the parties represents and warrants to the other that the individual executing this Agreement and the Lease on its behalf is duly authorized to do so. Upon request, each party shall provide the other with evidence of such authority.

16. All notices required or permitted to be given to the other party shall be in writing and either (i) hand delivered; or (ii) delivered by a nationally recognized overnight carrier at the address for each party as set forth below, or as modified by subsequent notice.

For EUI:

Mr. Harry R. Halloran, Jr.
Energy Unlimited Inc.
100 Four Falls Corporate Center, Suite 215,
West Conshohocken, PA 19428
Tel: (610) 940 1994
Fax: (610) 940 4422

For Owner:

17. Time shall be of the essence under this Agreement.

18. Signatures set forth below will serve as evidence that both parties are in agreement with the terms and conditions of this Agreement and will further serve to instruct EUI to commence the P&IP as set forth herein.

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date set forth above.

Energy Unlimited, Inc.
100 Four Falls Corporate Center, Suite 215
West Conshohocken, PA 19428

Owner
Address:

By: _____
Mr. Harry R. Halloran, Jr. Chairman

By: _____

EXHIBIT B TO SITE AGREEMENT**WINDPARK LEASE**

The parties to this Windpark Lease ("Lease") entered into on the date set forth on the signature page hereof ("Effective Date") are: Energy Unlimited, Inc., a Pennsylvania corporation (hereinafter "Lessee"), and

(hereinafter "Lessor").

RECITALS

A. Lessor owns the parcel of real property described in Exhibit A attached hereto, hereinafter referred to as the "Property".

B. Pursuant to the terms of a Site Agreement by and between the parties dated as of _____, 2000, ("Site Agreement") Lessee is entering into this Lease to commence construction of a Windpark on the Property.

C. The layout of a typical Windpark, all or a portion of which will be installed on the Property is attached hereto as Exhibit B and hereafter referred to as the ("Sample Turbine Layout").

D. The parties desire that wind turbine generators ("WTGs") and other related improvements described in this Lease with physical dimensions similar to those indicated on the Sample Turbine Layout shall be installed on the Property.

This instrument sets forth the terms and conditions pursuant to which Lessor shall lease the Property to Lessee to construct, operate and maintain a Windpark on the Property.

NOW THEREFORE, INTENDING TO BE LEGALLY BOUND, THE PARTIES HERETO AGREE AS FOLLOWS:

1. **Definitions of Terms.** As used in this Lease, the following terms shall have the following meanings:

a. "Wind Turbine Generator" shall mean all equipment and improvements necessary or useful for the conversion of wind energy into electricity including WTGs, steel towers, foundations, concrete pads, footings, guy wires, anchors, and other power producing and conditioning equipment.

b. "Utility Interconnect Point" shall mean the point at which the Transmission Equipment is connected to the power grid for sale of power to third party purchasers.

c. "Transmission Equipment" shall mean all of the electrical transmission lines, poles, anchors, support structures, underground cables, substations, transformers, meters and protection

equipment required to measure and transmit electrical energy from Lessee's WTGs to the Utility Interconnect Point and to other utility owned facilities which may be located on the Property.

d. "Ancillary Facilities" shall mean the roadways, fencing, common areas, anemometers and other wind and weather monitoring equipment, and other structures and facilities constructed and installed by Lessee and required for the efficient and effective operation of the Windpark.

e. "Site" shall mean the location on the Property where one WTG is installed. Each Site shall comprise an area of approximately 75 feet x 50 feet.

f. "Windpark" shall mean the entire wind energy generation facility including the WTG's, Transmission Equipment, Sites and Ancillary Facilities which are located on the Property.

g. "Sample Turbine Layout" refers to the WTG location, spacing and road specifications attached hereto as Exhibit B herein. All of the dimensions presented on Exhibit B are reasonable estimates which Lessee will use in connection with the construction of the Windpark. The Sample Turbine Layout does not guarantee to Lessor that more than one WTG will be installed on the Property, that the WTG will conform to any particular size, or that any WTG or road will be installed upon any particular location at the Property.

2. **Grant of Lease.** Lessor hereby leases the Property to Lessee, and Lessee hereby leases the Property from Lessor, on and subject to the terms and conditions set forth herein, to design, construct, operate and maintain a Windpark. It is understood and agreed that Lessee will construct the Windpark (excluding utility owned facilities); and that it will be necessary for Lessee and others to come upon and pass over the Property to grade, construct, install, service and maintain the Windpark. Accordingly, Lessor hereby consents to all reasonable access to the Property by Lessee, all affiliates of Lessee, and others to come upon and pass over the Property for the foregoing purposes without notice to or consent by Lessor. The foregoing leasehold interest specifically includes the nonexclusive right to use all access routes to and from the Property or otherwise appurtenant to the Property for the purposes of ingress, egress, and access, and for the installation, operation, maintenance, and removal of all Windpark equipment and facilities.

3. **Permitted Uses.** The leasehold interest described above shall permit Lessee to conduct the following activities on the Property:

a. Lessee may erect, relocate, maintain, and operate WTGs of any type and in such quantity as Lessee determines in its sole discretion. The exact location of such WTG Site shall be determined by Lessee in its sole discretion. All WTGs shall remain the property of Lessee.

b. Lessee shall have the right to install a water well on the Property and to take such water as may be reasonably necessary or convenient for on-site use during construction and operation of the WTGs.

c. Lessee may create, erect, operate and maintain Transmission Facilities in its sole discretion which it deems to be necessary or appropriate to carry out the purposes of this Lease. All transmission facilities on Lessee's side of the Utility Interconnection Point which are located on the

Property shall be buried underground to a depth of no less than four feet beneath each Site and access roads as indicated on the Sample Turbine Layout. Lessor shall obtain Lessor's consent prior to constructing overhead transmission lines on the Property, which consent shall not be unreasonably withheld.

d. Lessee may create, erect, operate and maintain Ancillary Facilities as Lessee in its sole discretion deems to be necessary or appropriate to carry out the purposes of this Lease.

e. Lessee shall have the right use existing roads to and from and across the Property or create new roads to and from and across the Property for access, installation, maintenance, and removal of Windpark equipment and facilities. Lessee shall attempt to utilize all access roads existing on the Property prior to the Effective Date and shall limit the width of any new access roads to 10 feet or less (as indicated on the Sample Turbine Layout) after the completion of Windpark construction.

f. Lessor consents to Lessee's location of WTGs at any location upon the Property and to Lessor's location of WTGs at any location on adjacent properties, including at or near the property lines, providing that the blades of WTGs installed on adjacent properties shall not extend into the airspace of Lessor's Property by a distance in excess of 50 meters. Furthermore, in the event that any private agreements, restrictions, rules or ordinances of any governmental agency impose setback requirement or otherwise restrict the location of any element of any WTG to be placed upon the Property, or any adjacent properties along or near property lines, Lessor shall cooperate with Lessee in obtaining waivers or variances from such requirements and shall execute all further documents evidencing Lessor's agreement to modify or eliminate such setbacks. This Section 3(f) shall survive termination of this Lease.

g. Lessee shall obtain Lessor's written consent, which consent shall not be unreasonably withheld, in the event it is necessary to create easements, conveyances or other landowner agreements in favor of third parties to this Lease which are required for Lessee to perform its permitted uses of the Property hereunder.

4. Term.

a. The term hereof shall commence on the Effective Date and shall continue for a term of thirty (30) years ("Thirty Year Term"). Lessee shall retain the unilateral right to terminate this Lease upon giving Lessor six months prior written notice of termination. Upon expiration of the Thirty Year Term, either party shall have the right to terminate this Lease.

b. If neither party acts to terminate this Lease at the end of the Thirty Year Term, then this Lease shall automatically renew for an additional twenty (20) year term at the then market rent providing Lessee first gives written notice to Lessor specifying the date of termination and Lessee's good faith estimate of said market value at least 30 days prior to expiration of the Thirty Year Term.

5. **Rent.** Lessee shall pay to Lessor as rent for the Property an amount equal to Two Percent (2%) of the "Gross Revenues" (as defined in this Section 5) produced by the sale of electricity

generated by WTCs located on the Property. The rent shall be paid semi-annually. One semi-annual payment shall be due on April 1st for Gross Revenues generated during the proceeding months of September through February. The other semi-annual payment shall be due on October 1 for Gross Revenues generated during the proceeding months of March through August. For purposes of this Section 5, the term "Gross Revenues" shall mean the full amount paid under any power purchase agreement for electricity produced by WTCs, which have their foundations installed on the Property. Upon Lessor's request, Lessee shall provide Lessor with all revenue statements from utility companies and other purchasers as is reasonably necessary to confirm the actual amount of Gross Revenues received by Lessor during any year.

6. **Reimbursement for Crop Losses.** In the event the actions by Lessee performed under this Lease result in the damage to or loss of greater than one-half acre of crops on the Property, then Lessee shall pay for such losses solely and specifically as provided in this Section 6 of the Lease.

a. For "Crop Damage" caused by Lessee which occurs during the first year of the term of this Lease or upon completion of construction activities, whichever occurs last, Lessee shall pay Lessor the amount calculated as follows:

i. "Price" x "Yield" x "Acreage" x "Percentage of Damage", where --

A. "Price" for damaged or destroyed crops shall mean the higher of either the Edgeley Elevator Price or the County Loan Rate for the applicable damaged or destroyed crop;

B. "Yield" shall mean the average of the previous three years' yield's according the Owner's records for the smallest parcel of land that includes the damaged area;

C. "Acreage" shall mean the parties good faith estimate of the total number of acres damaged or destroyed reduced by one-half of one acre (1/2 acre) for every WTC installed on the Property; and

D. "Percentage of Damage" shall be the parties good faith estimate of the percentage of Acreage which is damaged or destroyed.

b. Aside for the payment specified in Section 6(a) above, Lessee shall owe no other payments to Lessor for crop damage or loss of usable acreage which results from the operation of this Lease except for crop damage which occurs during major repairs requiring a crane and downlay areas, and for damage which occurs upon removal of the facilities at the termination of the Lease. All payments owed under this Section 6(b) shall be calculated by using the formula specified in Section 6(a)(i) but with reference solely to the crop damage or loss caused by said major repair or removal of facilities.

c. The parties shall try in good faith to agree to the Percentage of Damage and amount of Acreage damaged or destroyed. If they can not agree, they shall hire an impartial third party to this Agreement, who is mutually acceptable to the parties, to determine the extent of the damage.

d. Payment shall be made within 30 days after determining the extent of the damage.

e. Under no circumstances shall Lessee be required to pay more than a single total crop loss in one crop year for any given area within the Property and/or for Crop Damages previously paid to Lessor as per the Site Agreement.

7. Condition, Use and Alteration of Property.

a. Condition: Lessee hereby accepts the Property subject to all applicable governmental laws and regulations regulating the use thereof, and any covenants, conditions, restrictions and encumbrances of record.

b. Use: Lessee agrees that the Property shall be used exclusively for the operation of wind-driven, electrical-generating turbine systems and related activities and for no other purpose without the prior written consent of Lessor.

8. **Taxes.** Lessee shall pay prior to delinquency all taxes, assessments and other charges assessed by taxing authorities against the WIGs and Transmission Equipment owned by Lessee, and Ancillary Facilities as personal property, and shall also pay any increases in Lessor's real property taxes or assessments which are reasonably attributable to the Windpark located on the Property, accrued during any part of the term hereof; provided, however, that Lessee shall, at its sole cost and expense, have the right at any time to contest any such fees that are to be paid by Lessee. If Lessee contests such fees, the failure on Lessee's part to pay such fees shall not constitute a default. Lessor shall not be required to join in any proceeding or contest brought by Lessee unless the provisions of any law require that the proceeding or contest be brought by or in the name of Lessor. Lessor shall not be required to bear any cost of such proceeding or contest. Lessee, on final determination of the proceeding or contest, shall immediately pay or discharge any decision or judgment rendered, together with all costs, charges, interest, and penalties incidental to the decision or judgment.

9. **Windpark Equipment as Personal Property.** The parties intend and agree that the WIGs, Transmission Equipment owned by Lessee and tangible property included within the definition of Ancillary Facilities located and installed on the Property shall be and shall at all times remain, the personal property of Lessee and that such WIGs and equipment shall not be considered a fixture, or otherwise appurtenant to the underlying real property.

10. **Maintenance.** At all times during the term hereof, Lessee shall keep the Windpark in good condition and repair.

11. **Insurance.** Lessee has obtained a policy of commercial general liability and property damage insurance for the Windpark in amounts not less than \$2,000,000 per occurrence with insurance carriers reasonably acceptable to Owner. Lessee shall maintain such insurance current throughout the term of this Lease and shall supply Lessor with such certificates and other evidence of this insurance as Lessor may reasonably request.

12. **Indemnification.** Each party (the "Indemnifying Party") agrees to indemnify, defend and hold harmless the other party and such other party's mortgagees, officers, employees and agents (the "Indemnified Party") against any and all losses, damages (including consequential damages), claims, expenses and other liabilities, including, without limitation, reasonable attorneys' fees, resulting from or arising out of (i) any operations of the Indemnifying Party on the Property, (ii) any negligent act or negligent failure to act on the part of the Indemnifying Party or anyone else engaged in doing work for the Indemnifying Party, or (iii) any breach of this Lease by the Indemnifying Party. This indemnification shall survive the termination of this Lease. This indemnification shall not apply to losses, damages, claims, expenses and other liabilities caused by any negligent or deliberate act or omission on the part of the Indemnified Party.

13. **Damage or Destruction.** In the event the Windpark is damaged or destroyed, in whole or in substantial part, Lessee shall then have the right to either terminate this Lease or repair, restore or replace all or a portion of the Windpark to its condition existing immediately prior to such damage or destruction, in which case this Lease shall remain in full force and effect. Lessee, however, must make such an election within a reasonable time, not to exceed one hundred and eighty (180) days from the occurrence causing such damage or destruction or Lessor shall thereafter have the right and sole discretion to terminate this Lease.

14. **Default.**

a. The occurrence of any one or more of the following events shall constitute a material default and breach of this Lease by Lessee:

i. The failure by Lessee to make any payment of rent or any other payment required to be made by Lessee hereunder, as and when due, where such failure shall continue for a period of ten (10) days after written notice thereof from Lessor to Lessee;

ii. The failure by Lessee to observe or perform any of the covenants, conditions or provisions of this Lease to be observed or performed by Lessee, other than described in Section 14 (a)(i) above, where such failure shall continue for a period of thirty (30) days after written notice thereof from Lessor to Lessee; provided, however, that if the nature of Lessee's default is such that more than thirty (30) days are reasonably required for its cure, then Lessee shall not be deemed to be in default if Lessee commences such cure within said 30-day period and thereafter diligently prosecutes such cure to completion; or,

iii. The making by Lessee of any general arrangement or assignment for the benefit of creditors; Lessee becoming a "debtor" as defined in Section 101 of the Bankruptcy Code or any successor statute thereto (unless, in the case of a petition filed against Lessee, the same is dismissed within sixty (60) days); the appointment of a trustee or receiver to take possession of substantially all of Lessee's assets located at the Windpark or of Lessee's interest in the Lease, where possession is not restored to Lessee within thirty (30) days; or the attachment, execution, or judicial seizure of substantially all of Lessee's assets located at the Windpark or of Lessee's interest in this Lease, where such seizure is not discharged within thirty (30) days, provided, however, in the event that any provision of this subparagraph is contrary to any applicable law, such provision shall be of no force or effect.

b. Lessor shall be in default hereunder if Lessor fails to perform obligations required of Lessor within a reasonable period of time following the date on which Lessor first had notice of the existence of the default but in no event later than thirty (30) days after written notice by Lessee to Lessor specifying the default; provided, however, that if the nature of Lessor's obligation is such that more than thirty (30) days are required for performance, then Lessor shall not be in default if Lessor commences performance within such 30-day period and thereafter diligently prosecutes the same to completion; and provided further that if the nature of Lessor's default is such that there is an interruption in the flow of power from the WTGs to the Utility Interconnect Point, Lessor shall be in default if the breach is not cured promptly, i.e. not later than 24 hours after Lessor or any of its affiliates first acquires knowledge of such breach.

15. **Surrender of the Property.** On the last day of the term hereto, any extension thereof, or on any sooner termination, Lessee agrees to peaceably and quietly leave, surrender and return the Property to Lessor. Lessor shall have one hundred and eighty (180) days from the date of termination to remove all footings and concrete pads to four feet below grade level and remove towers, anchors, guy wires, fences, fixtures, materials, improvements, and personal property installed on the Property by Lessee. All cable which is located four feet or deeper beneath the surface shall remain in ground. In addition, Lessee shall replace all top soil removed and restore the land to good, clean and original condition. If the parties decide by mutual written agreement to extend this Lease beyond its current term ("Lease Extension"), surrender of the Property shall occur on the date and subject to the terms specified in the Lease Extension.

16. **Condemnation.** If the Property or any portion thereof is taken under the power of eminent domain, or sold under the threat of the exercise of said power (all of which are herein called "Condemnation"), this Lease shall terminate as to the part so taken as of the date the condemning authority takes title or possession, whichever shall first occur. If the land underlying the entire Windpark located on the Property is taken by Condemnation, this Lease shall automatically be deemed terminated in its entirety as of the date the condemning authority takes such possession. No condemnation nor reduction of rent shall occur if the only land taken is that which does not have WTGs, Transmission Facilities or Ancillary Facilities located thereon or therein. Lessee shall be entitled to any award made for the reasonable removal and relocation costs of removable property that Lessee has a right to remove, and for the loss of use of the Property by Lessee.

17. **Assignment.**

a. Lessee shall at all times have the right to sell, assign, encumber, transfer, or sublease any or all of its rights and interests under this Lease or any portion of its leasehold without Lessor's consent; provided, however, that the term of any such transfer shall not extend beyond the term of this Lease and that any and all such transfers shall be expressly made subject to all of the terms, covenants and conditions of this Lease. No such sale, assignment, transfer, or easement shall relieve Lessee of its obligations under this Lease unless Lessee assigns its entire interest hereunder, in which event Lessee shall have no continuing liability, except that Energy Unlimited, Inc. guarantees that such assignee will perform the clean-up and surrender obligations required by Section 15 at the termination of the Lease.

b. Lessor may sell, assign, or transfer this Lease, in whole only, and only to a subsequent purchaser of the entire Property, without the consent of Lessee, and shall be relieved of its obligations under this Lease upon the assumption of the Lease obligations by such purchaser, assignee or transferee. If consent by Lessee is required in accordance with this Section 17(b), such consent shall not be unreasonably withheld by Lessee. Any purported transfer or assignment which is made without complying with this Section 17(b) shall be null and void.

c. The terms of this Lease shall be binding upon and against Lessor and Lessee and their respective successors, assigns, permittees, licensees, lessees, employees, and agents.

18. Encumbrance of Lease; Required Notices to Lenders.

a. Right to Encumber. Lessee may at any time mortgage to any entity all or any part of Lessee's interest created under this Lease and by the rights created by this Lease without the consent of Lessor; provided, however that Lessee shall notify Lessor of the identity and address of such lending entity. All such lending entities who receive mortgages, deeds of trust, or similar security interest in Lessee's interest hereunder and of which Lessee notifies Lessor, are herein each referred to as a "Lender".

b. Covenants for Lenders' Benefit. Should Lessee mortgage any of its interest as provided in Section 18(a) above, Lessee and Lessor expressly agree between themselves and for the benefit of any Lenders as follows:

i They will not modify or cancel this Lease without the prior written consent of the Lender, which consent shall not be unreasonably withheld or delayed.

ii The Lender shall have the right to do any act or thing required to be performed by Lessee under this Lease, and any such act or thing performed by the Lender shall be as effective to prevent a default under this Lease and/or a forfeiture of any of Lessee's rights under this Lease as if done by Lessee itself.

iii No default which requires the giving of notice to Lessee shall be effective unless a like notice is given to all Lenders. If Lessor shall become entitled to terminate this Lease due to an uncured default by Lessee, Lessor will not terminate this Lease unless it has first given written notice of such uncured default and of its intent to terminate this Lease to each Lender and has given each Lender at least thirty (30) days to cure the default to prevent such termination of this Lease. Furthermore, if within such thirty (30) day period a Lender notifies Lessor that it must foreclose on Lessee's interest or otherwise take possession of Lessee's interest under this Lease in order to cure the default, Lessor shall not terminate this Lease and shall permit such Lender a sufficient period of time as may be necessary for such Lender, with the exercise of due diligence, to foreclose or acquire Lessee's interest under this Lease and to perform or cause to be performed all of the covenants and agreements to be performed and observed by Lessee.

iv In case of the termination of this Lease as a result of any default or the bankruptcy, insolvency or appointment of a receiver in bankruptcy for Lessee, Lessor shall give

prompt notice to the Lenders. Lessor shall, upon written request of the first priority Lender, made within forty (40) days after notice to such Lender, enter into a new lease agreement with such Lender, or its designee, within twenty (20) days after the receipt of such request. Such new lease agreement shall be effective as of the date of the termination of this Lease by reason of default by Lessee, upon the same terms, covenants, conditions and agreements as contained in this Lease. For purposes of the foregoing sentence, the "first priority Lender" shall be the Lender from which Lessor first received notice pursuant to Section 18(a), above, unless Lessor is informed to the contrary by Lessee. Upon the execution of any such new lease agreement, the Lender shall (i) pay Lessor any amounts which are due Lessor from Lessee, (ii) pay Lessor any and all amounts which would have been due under this Lease (had this Lease not been terminated) from the date of the termination of this Lease to the date of the new lease agreement, and (iii) agree in writing to perform or cause to be performed all of the other covenants and agreements set forth in this Lease to be performed by Lessee to the extent that Lessee failed to perform the same prior to the execution and delivery of the new lease agreement.

19. **Subordination.** This Lease shall be subject and subordinate to the lien of any and all mortgages or deeds of trust on the Property, but only if such mortgages or deeds of trust shall provide:

a. That the holder thereof shall not be entitled to terminate this Lease by foreclosure or other means, provided that the Lessee or its successors or assigns shall not be in default hereunder beyond any period herein given the Lessee to cure such default; and,

b. That the lien of such mortgages or trust deeds shall not cover any of Lessee's fixtures, alterations or improvements which, by law or the terms of this Lease, Lessee is permitted to remove from the Property.

20. **Further Assurances.** Each of the parties to this Lease agrees to perform all such acts (including but not limited to, executing and delivering such instruments and documents) as reasonably may be necessary to fully effectuate each and all of the purposes and intent of this Lease, including consents to any assignments, pledges or transfers permitted hereunder (all of which shall be prepared by Lender or Lessee at no cost to Lessor). Lessor expressly agrees that it will from time to time enter into reasonable nondisturbance agreements with any Lender which requires such an agreement providing that Lessor shall recognize the rights of the Lender and not disturb its possession of the Property so long as it is not in default of any of the provisions of this Lease. Lessor and Lessee further agree that they shall, at any time during the term of this Lease within twenty (20) days after a written request by the other party, execute, acknowledge and deliver to the requesting party a statement in writing certifying that this Lease is unmodified and in full force and effect (or modified and stating the modifications). The statements shall also state the dates on which the payments and any other charges have been paid and that there are no defaults existing or that defaults exist and the nature of such defaults. Lessor agrees that within twenty (20) days after receipt of a written request by Lessee and subject to Lessor's consent, which shall not be unreasonably withheld or delayed, it shall: (a) join in all grants for rights-of-way and easements for electric and other public utilities as Lessee shall deem necessary or desirable for its development and use of the Property; and

(b) join with Lessee in requesting any and all zoning changes or other land use permits and/or approvals necessary for Lessee's development and use of the Property as contemplated by this Lease.

21. Quiet Enjoyment; Leasehold Financing. Lessor covenants and agrees with Lessee as follows:

a. That Lessee, upon performing the covenants herein on Lessee's part to be performed, shall and may peaceably and quietly have, hold and enjoy the Property during the term hereof, without any suit, trouble or interference of any kind by Lessor or any party claiming through Lessor, and Lessor warrants that Lessor has the full right to lease the Property for the term and in the manner herein provided, and agrees to indemnify Lessee for and against any and all loss and damage, of whatsoever kind, that may result to Lessee on account of any failure of or defect in Lessor's title or right to make and execute this Lease, and that there are no restrictions applicable to the Property which affect or limit the right of Lessee to operate a Windpark therein, or to exercise any of the rights granted to Lessee by this Lease. Lessor agrees to put Lessee in possession of the Property on the Effective Date;

b. That Lessor upon request at any time, or from time to time (but without expense to Lessor), will deliver properly executed, all such assents and other papers as may be necessary to enable the Lessee to obtain licenses and permits in connection with; the Windpark and,

c. That Lessee may pledge the WIGs, the Transmission Equipment, Ancillary Facilities and Lessee's interest in this Lease as security for loans made to finance the acquisition of the WIGs and Lessee's development of the Windpark, and Lessor shall cooperate (but without expense to Lessor) with Lessee in connection with such financing and upon request will deliver to Lessee and/or its lender, properly executed, all such assents and other papers as may be reasonably necessary to enable Lessee to obtain such financing.

d. Lessor may use the Property for crops, ranching, grazing and other agricultural purposes but will not otherwise use the Property or any other adjacent property owned or controlled by Lessor for any use which interferes with or is incompatible, or take any action which interferes with or is incompatible, with Lessee's use of the Property or which interferes with the wind flow across the Property. Lessor will not grant any license, easement or other right with respect to the Property which could interfere with Lessee's operations. Lessee agrees that Lessor may use the Property for grazing, crops, ranching, or other noncompetitive uses so long as such uses do not interfere with or are not incompatible with Lessee's use of the Property for a Windpark. Lessee shall have the right to remedy any such interference by any appropriate means and the cost therefor shall be immediately reimbursed to Lessee by Lessor, with interest at a rate equal to the lesser of 5 points over the Prime Rate set forth in the "money rates" section of New York edition of the Wall Street Journal, and may be offset by Lessee against amounts owed to Lessor under this Lease.

22. Hazardous Substances.

a. Lessee shall not use, store, dispose of or release on the Property or cause or permit to exist or be used, stored, disposed of or released on the Property as a result of Lessee's operations, any substance which is defined as a "hazardous substance", "hazardous material", "toxic substance" or "solid waste" in any federal, state or local law, statute or ordinance, except that gear oil, paints, solvents and pesticides or herbicides may be used on the Property in such quantities as may be required in Lessee's normal business operations and only if such use is not harmful to Lessor or its employees and is in full compliance with all applicable laws.

b. Lessor shall not use, store dispose of or release on the Property or cause or permit to exist or be used, stored, disposed of or released on the Property any substance which is defined as a "hazardous substance", "hazardous material", "toxic substance" or "solid waste" in any federal, state or local law, statute or ordinance (such substance or substances to be ("Environmental Hazards")), except in such quantities as may be required in its agricultural use of the Property and only if such use is not harmful to Lessee or its employees and is in full compliance with all applicable laws. Lessee shall promptly notify Lessor if it becomes aware of any Environmental Hazards on the Property.

23. **Notices.** All notices required or permitted to be given to the other party shall be in writing and either (i) hand delivered; or (ii) delivered by a nationally recognized overnight carrier at the address for each party as set forth below, or as modified by subsequent notice.

For Lessee:

Mr. Harry R. Halloran, Jr.
Energy Unlimited Inc.
100 Four Falls Corporate Center, Suite 215,
West Conshohocken, PA 19428
Tel: (610) 940 1994
Fax: (610) 940 4422

For Lessor:

24. **Severability.** The determination by a court of competent jurisdiction that any provision of this Lease is invalid shall in no way affect the validity of any other provision hereof.

25. **Waivers.** No waiver of any right under this Lease shall be effective for any purpose, unless it is in writing and signed by the party purporting to waive any such right, nor shall any such waiver be construed as a waiver of any subsequent right, term or condition of this Lease.

26. **Entire Agreement.** This Lease and the Exhibits hereto, which are hereby incorporated herein, constitute the entire understanding and agreement between the parties regarding the Lease of the Property, and supersedes inconsistent or conflicting provisions of the Site Agreement. No

alteration, amendment or extension shall be effective unless in writing and signed by the parties hereto. The parties acknowledge and agree that no representation or warranty has been made to them regarding this Lease which is not expressly set forth herein.

27. **Lessor and Lessee Not Joint Venturers.** It is agreed that Lessor shall in no event be construed or held to be the partner, joint venturer, or affiliate of Lessee in, or have any management, control or supervision over, any business that Lessee may operate on the Property, nor shall Lessor be liable for any debts incurred by Lessee in the operation of said business, and except as otherwise expressly provided hereunder, it is agreed that Lessee shall have the exclusive right to determine all questions of business policy and to operate, conduct, manage, control and supervise its business operations on the Property in any lawful manner that Lessee, in its sole discretion, may determine; and no party hereto, or its agents or employees, shall be deemed to be the agent of any other; nor shall any party have the right to bind any other, transact any business in another's name, or on its behalf in any manner or form, make any promise or representation, or incur any liability, direct or indirect, contingent or fixed, for or on behalf of any other.

28. **Hunting.** Lessee shall post warning signs on the Property which clearly state "NO TRESPASSING" and "NO HUNTING". Lessor shall be prohibited from hunting on the Property unless Lessor first receives the express written permission of Lessor, which written permission shall set forth the date, time, and reasonable regulations which are intended to protect the safety of the Lessee's employees, other occupants and the Windpark.

29. **Excuse for Failure or Delay in Performance.** Neither party hereto shall be liable or responsible in any manner to the other for failure or delay in performance, when such failure or delay is due to or the result of (in whole or in part) strikes or other labor troubles, fires, floods, material or labor shortages, embargoes, stoppages in transit, direct or indirect acts, regulations or orders of Government, war, sabotage, acts of God or the public enemy, utility shortages or curtailments or any causes beyond the reasonable control of such party other than financial inability, and the time for performance will be extended for a period equivalent to the period of delay, and such performance during the period of delay will be excused.

30. **Attorneys' Fees.** If any party brings an action or proceeding for the enforcement, protection, or establishment of any right or remedy under this Lease, the prevailing party shall be entitled to an award of its reasonable attorneys' fees as well as costs as determined by the court.

31. **Binding Effect.** This Lease is binding upon the heirs, executors, administrators, successors and assigns of the respective parties hereto.

32. **Applicable Law.** This Lease shall be construed in accordance with the laws of North Dakota.

33. **Time of the Essence.** Time is of the essence for each and every term, covenant and condition of this Lease.

34. **Interpretation.** The parties agree that the terms and provisions of this Lease embody their mutual intent and that such terms and conditions are not to be construed more liberally in favor, nor more strictly against either party.

35. **Parties.** The parties to this Lease are Lessor and Lessee and except as otherwise expressly set forth herein, this Lease is not intended to confer any right or benefit on any other person.

36. **Effective Date.** This Lease shall become effective on the ____ day of ____, 20____, on which day this Lease is executed by Lessee.

IN WITNESS WHEREOF, this Lease has been executed as of the dates set forth below.

Date of Lease:

"LESSEE"

ENERGY UNLIMITED, INC., a Pennsylvania corporation

By: _____

Harry R. Halloran, Chairman
100 Four Falls Corporate Center, Suite 215
West Conshohocken, PA 19428-2960

"LESSOR"

By: _____

Address:

Benefits of Wind Development In North Dakota

**By Jay Haley
EAPC Architects Engineers
Grand Forks, ND
3-14-01**

Introduction

The wind industry has been looking closely at North Dakota for years. The reason is simple; North Dakota has the greatest wind potential in the United States. Until now, there's been no utility-scale wind development with the exception of a few single-turbine installations scattered around the state. Things are about to change. Over the last year, every major wind developer in the world has visited North Dakota in preparation for expansion into the Midwest.

The cost of wind energy has dropped dramatically in the last ten years to the point where wind power is competitive with any form of new generation. The demand for clean renewable energy is growing at an ever-increasing rate. Today, wind is the fastest growing energy technology in the world.

What Does Wind Development Mean for North Dakota?

Rural Economic Development

First and foremost, wind energy means rural economic development. Wind development has the ability to revitalize rural communities. For example, the Griggs-Steele Wind Development Group is planning the development of a 80 MW wind farm to be located in Griggs and Steele counties in North Dakota. The project will consist of 57 wind turbines with a capital cost of approximately \$80 million dollars. It will create around 200 construction-related jobs, and once complete will create 10 to 15 full-time jobs. Local landowners will receive land-lease payments ranging from \$2,000 to \$3,500 per year for each wind turbine placed on their land. This is a new cash crop for the farmer. Land-lease payments to local landowners will total more than \$200,000 annually. All this at no cost to the landowner. In addition, the annual property tax revenue will be approximately \$450,000 (assuming current legislation passes). This scenario can be repeated all over the state.

Wind development also results in increased tourism. People will travel a long way to see a wind farm. Communities in southern Minnesota and northern Iowa have experienced a distinct increase in business volume for hotels, motels, restaurants, gas stations, convenience stores, hardware stores, lumber yards, and cement plants.

Manufacturing

A number of local businesses already benefit from wind development. Tubular towers are being manufactured by Dakota Machine in West Fargo, and LM Glasfiber in Grand Forks manufactures turbine blades. Additional wind development in the Midwest will increase business volume for these industries as well as create opportunities to add turbine assembly plants.

Wind and Coal – Different Markets

There are many counties engaged in North Dakota's coal industry that could enjoy the economic benefits from wind development without negatively impacting the current coal industry. Wind energy is not meant to replace coal or other forms of generation, but rather to complement them. The market for wind energy is growing at an increasing rate. This market is not necessarily in North Dakota. For example, Xcel Energy in Minnesota has a requirement to purchase a total of 825 MW of wind energy by the year 2012 (about 300 MW have been installed so far). Major cities such as Chicago, Denver, and Kansas City have increasing demand for wind energy. Green power marketing projects are starting up all over the country. The Federal government is also required to purchase renewable energy. All of these markets can be served by wind energy from North Dakota. Coal-fired generation cannot supply the green power demand of this new market.

Transmission Issues

Preliminary studies performed by Western Area Power Administration (WAPA) indicate that the grid can absorb new generation at various locations in increments of 25 MW to 150 MW. However, the export of thousands of megawatts of new generation will require building new transmission lines. Coal and wind interests will both benefit by working together to develop new transmission access to the marketplace. In the short term, North Dakota should develop those 25 MW to 150 MW parcels. Wind energy means rural economic development and it's good for all of North Dakota.

COMMISSIONER OF AGRICULTURE
ROGER JOHNSON



PHONE (701) 328-2231
(800) 242-7535
FAX (701) 328-4567

DEPARTMENT OF AGRICULTURE
State of North Dakota
600 E. Boulevard Ave. Dept. 602
Bismarck, ND 58505-0020

**Testimony of Roger Johnson
Agriculture Commissioner
House Bill 1221, House Bill 1222, and House Bill 1223
Senate Finance and Taxation Committee
Brynhild Haugland Room
March 14, 2001**

Chairman Urlacher and members of the Senate Finance and Taxation Committee, I am Commissioner of Agriculture Roger Johnson. I am here today in support of HB 1221, HB 1222, and HB 1223, which relate to wind energy development and taxation in North Dakota.

HB 1221 provides a sales and use tax exemption for wind energy equipment, HB 1222 seeks to equalize the taxation value of wind farms with that of coal-fired plants of similar size, and HB 1223 deals with state income tax credits for wind energy turbines on leased land.

There is great potential for wind energy development in North Dakota. Wind energy experts estimate that North Dakota has the potential to generate 138,400 megawatts of power per year, which is more than any other state in the country. Wind Powering America estimates that the average annual income for a farmer is \$2000 per wind turbine.

Landowner and public interest in wind energy and other renewable energies is growing in North

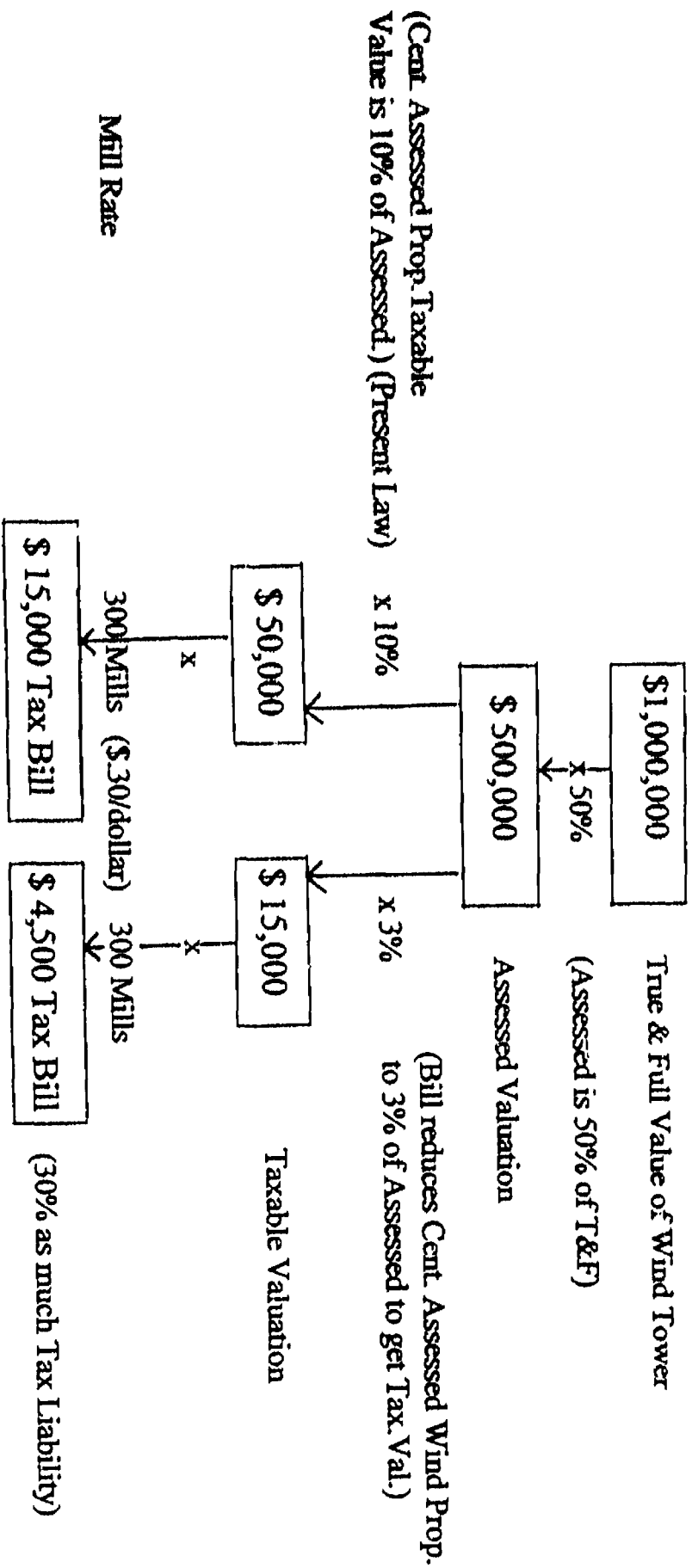
Dakota and throughout the United States. Wind energy is environmentally friendly and allows us to capitalize on an abundant natural resource.

I believe that wind energy development offers a unique opportunity for our state to complement our existing coal and hydropower energy industries, and to offer a new, supplemental source of income for landowners.

While developing new sources of energy is a good idea, one of the biggest hurdles is going to be transmission of power. Therefore, the best way to overcome the hurdle is to make sure the energy partners work together so we can export energy to bigger markets.

Chairman Urlacher and committee members, I ask for your favorable consideration of HB 1221, HB 1222 and HB 1223. I would be happy to answer any questions you may have.

WIND TOWER PROJECTIONS



300 mills was used because it's a round number and close to 1999 statewide average consolidated mill rate of 285.00. "Consolidated" means a combination of county, school, township, park, etc. Levies that apply to property.

Possibilities of Wind Towers

0 Wind Towers x 15,000 = 0	10 Wind Towers x 4500 = 45,000
	100 Wind Towers x 4500 = 450,000
	1,000 Wind Towers x 4500 = 4,500,000

Senate Finance and Taxation Committee
March 14, 2001
Testimony of Harlan Fuglesten,
Communications and Government Relations Director
North Dakota Association of Rural Electric Cooperatives
on HB 1221, HB 1222, and HB 1223

Mr. Chairman and Members of the Senate Finance and Taxation Committee. My name is Harlan Fuglesten, Communications and Government Relations Director for the North Dakota Association of Rural Electric Cooperatives. Our Association represents 17 distribution cooperatives and five generation and transmission cooperatives based or doing business here in North Dakota. Together, our members are responsible for nearly 90 percent of the investment in coal-based electric generation in North Dakota, and our members sell more than 40 percent of the retail electricity in the state.

In addition to our strong support of our state's coal-based electric generation industry, our electric cooperatives also recognize that wind is another important regional energy resource. Our Association and its members support research and development of renewable energy resources such as wind, water, solar, and geothermal. Great River Energy was one of the pioneers of wind energy development in Minnesota. Basin Electric is actively involved in making renewable wind energy available to its member cooperatives through its PrairieWinds Project, and Minnkota Power's Infinity Wind Energy program will provide wind energy to its member systems. Tentative plans call for both these programs to be operational as early as this fall. While these are small scale wind energy projects, they may pave the way for larger projects in the future.

On behalf of the North Dakota Association of Rural Electric Cooperatives and its member systems, we urge a DO PASS on HB 1221, HB 1222, and HB 1223.

Testimony on HB 1221, HB 1222, and HB 1223

Senate Finance and Taxation Committee

March 14, 2001

Mr. Chairman, for the record my name is Dale Niezwaag and I am representing Basin Electric Power Cooperative. Basin Electric Power Cooperative supports HB 1221, 1222, and 1223.

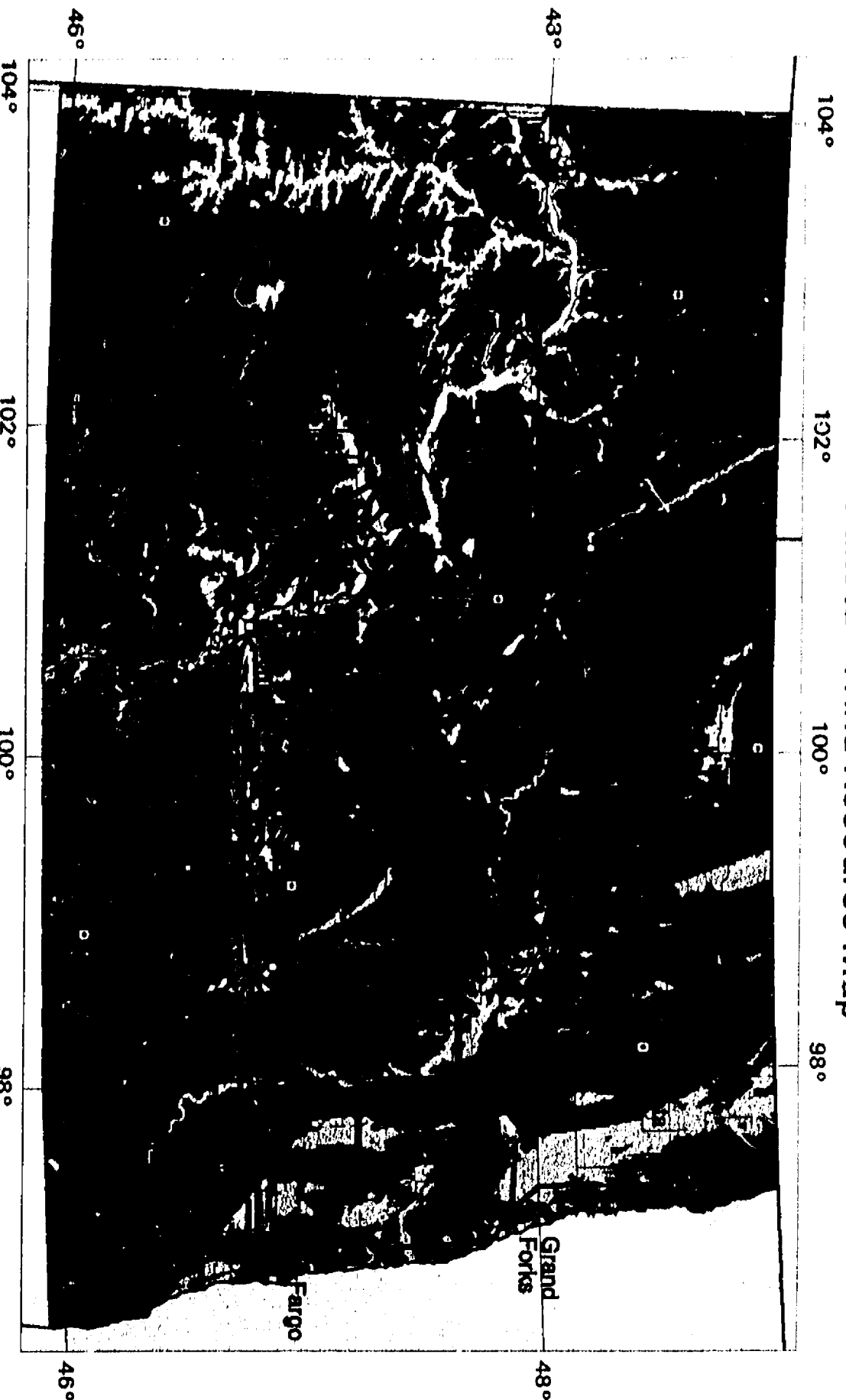
New technologies need governmental support through research and incentives to give them momentum to grow. In the energy industry, much progress must be credited to good public policy and government incentive. Many of our members want access to renewable energy. The Basin Electric board of Directors, in recognition of growing interest in renewable energy recently approved a wind power development program. Our program will give our members access to wind power either through outside sources or by helping install equipment for groups of cooperatives.

In January Basin Electric was awarded the first-ever loan guarantee for wind energy from the Rural Utilities Service. That loan-guarantee will be used to finance the construction of up to three turbines. The electricity generated from those turbines will be distributed throughout the Basin Electric service area. Several of member cooperatives in North Dakota have already initiated plans to provide their consumers with an option to purchase wind energy.

Where will wind energy go? We don't know for sure, but we do feel it is important to evaluate it, and the incentives proposed for the state along with the efforts of Basin Electric and its members is a good place to start. Similar legislation has also been passed in South Dakota.

Basin Electric and its members have always been advocates of sound environmental stewardship and progressive alternate energy research. The development of wind energy and is in keeping with that heritage.

North Dakota - Wind Resource Map



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

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

WAPA Study Site
City or Town

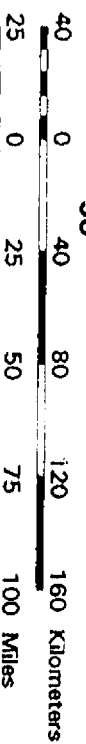
Empowerment Zone

Transmission Line Voltage

- 69 Kilovolts
- 115 Kilovolts
- 230 Kilovolts
- 345 Kilovolts
- Under Construction

Indian Reservations

- Turtle Mountain
- Devil's Lake Sioux
- Lake Traverse
- Standing Rock
- Fort Berthold



U.S. Department of Energy
National Renewable Energy Laboratory

