MICROFILM DIVIDER

OMB/RECORDS MANAGEMENT DIVISION
SFN 2053 (2/85) 5M

ROLL NUMBER

DESCRIPTION

1419

2003 HOUSE GOVERNMENT AND VETERANS AFFAIRS

HB 1412

2003 HOUSE STANDING COMMITTEE MINUTES

BILL/RESOLUTION NO. HB 1412

House Government and Veterans Affairs Committee

☐ Conference Committee

Hearing Date 2-07-03

Tape Number	Side A	Side B	Meter #
1	x		0-27.5
Committee Clerk Signature Jodey Reinke			

Minutes: Chairman Klein: opened the hearing on HB 1412. All committee members were present.

Representative Mary Ekstrom: appeared in favor of HB 1412 and presented testimony.**(SEE ATTACHED TESTIMONY).**

John Dwyer, President, Lignite Energy Council: appeared in opposition of HB 1412. I'm not opposed to wind energy, but I think our country needs all forms of energy. Our members are also not opposed to wind energy. About 90% of the electricity market is coal based. And basically is what your suggesting with this bill is there should be another market. Whether it is or is not a mandate, I guess its not an appropiate objective for the state of North Dakota.

Representative Potter: You say you don't think its the right objective, could you explain that?

John Dwyer: This bill says the objective is a certain percent in 2010, I guess we think an appropriate objective for the state is they would support all forms of energy. The one that is the most cost effective and the one that is the most reliable.

Darren Scherr, Energy Program, Department of Commerce: appeared neutral on HB 1412.

If you would do totally wind for energy even though the bill doesn't state that, 10% by 2010 would mean over 13 million kilowatt hours per year. I just wanted to let you know what that would be, state facilities was 60 % of the load, 40% the university systems.

Representative Winrich: the state buying its power from the grid, as I read the goals listed here doesn't limit the state in any way how it will accomplish that. This is not something that we will say, we will only buy power under these conditions, this may well be a situation where all of the economic bills relating to wind energy that are going thru the legislature also help accomplish this goal. Is that not correct?

Darren Scherr: Yes that is, I would agree with that.

Representative Klein: as time goes on and things come into play we are looking to the future and we don't know what is coming down.

Representative Ekstrom: I would say it is an achievable goal, we are well on our way with that alternative source.

No further testimony provided.

2003 HOUSE STANDING COMMITTEE MINUTES

BILL/RESOLUTION NO. HB 1412

House Government and Veterans Affairs Committee

☐ Conference Committee

Hearing Date 2-13-03

Tape Number	Side A	Side B	Meter #
2	x		20-28.6
Committee Clerk Signature			

Minutes: Chairman Klein: called the hearing to order on HB 1412. All committee members were present.

Representative Klein: presented an amendment to the committee. How do we know when we are getting wind energy or some other type? Electricity flows the path of least resistance. I find it a real hard bill to try and figure out what is going to happen.

Representative Grande: moved to **AMEND** HB 1412.

Representative Devlin: **SECOND** the motion to amend HB 1412

VOTE on amendment to HB 1412. 9-YES 5-NO 0 ABSENT.

Representative Sitte: I don't really see much purpose in passing the amendment. The Legislative Assembly finds and declares there is an essential governmental function and public purpose to encourage wise and orderly development, why not just let it die a natural death.

Representative Klein: the only problem with this is the coal people don't want to be left out. This addresses all of the energy possibilities that could happen instead of renewable energy. It makes a statement, saying we think you should look at all possibilities.

Representative Kasper: don't forget the horse that brought you here, don't forget the lignite energy industry that has been here for 50 or 60 years that helped develop our state and provide services that we need through there resources, while we are looking at wind, lets not forget lignite.

Representative Grande: having grown up in the center of the oil and gas basin, we don't want to throw that out either, the Williston Basin is huge and its a vital part of our state and we need to utilize all sources and see this as a whole not as a one piece.

Oil and gas is extremely important to the western part of the state.

Representative Winrich: I will resist this amendment, it really doesn't do much, I don't believe the orginal legislation constitutes a mandate, it talks about setting goals.

Representative Devlin: made a **DO PASS** motion as amended to HB 1412.

Representative Grande: **SECOND** the motion to do pass as amended to HB 1412.

VOTE: 10-YES 4-NO 0-ABSENT.

Motion carried.

RepresentativeKlein: will carry the bill to the floor.

FISCAL NOTE

Requested by Legislative Council
01/21/2003

Bill/Resolution No.: HB 1412

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.*

	2001-2003 Biennium		2003-2005 Biennium		2005-2007 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.*

2001-2003 Biennium			2003-2005 Biennium			2005-2007 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.*

We are unable to determine the fiscal impact of this bill.

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.*

   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:	Pam Sharp	**Agency:**	OMB
Phone Number:	328-4606	**Date Prepared:**	01/23/2003

VR

30463.0201
Title.0300

Prepared by the Legislative Council staff for
Representative M. Klein
February 11, 2003

VR 2/13/03

HOUSE AMENDMENTS TO HOUSE BILL NO. 1412 GVA 2-13-03

Page 1, line 1, after "A BILL" replace the remainder of the bill with "for an Act establishing the state's energy policy.

BE IT ENACTED BY THE LEGISLATIVE ASSEMBLY OF NORTH DAKOTA:

SECTION 1. Governmental public purpose - Development of state's natural and renewable energy resources. The legislative assembly finds and declares it is an essential governmental function and public purpose to encourage the wise and orderly development of the state's natural and renewable energy resources. Increased development of the state's abundant lignite coal and oil and gas resources and development of the state's renewable resources, including biomass, hydro, geothermal, solar, and wind, are important components in achieving energy independence for the nation. State energy policies adopted by the state must consider the reliability, cost-effectiveness, enhanced environmental applications, and economic stability and tax revenue benefits to the state from each natural and renewable energy resource. It is a further public purpose not to mandate any state agency, department, or institution to use a particular energy resource."

Renumber accordingly

Date: 2-13-03

Roll Call Vote #: 1412

2003 HOUSE STANDING COMMITTEE ROLL CALL VOTES
BILL/RESOLUTION NO.

House GOVERNMENT AND VETERANS AFFAIRS Committee

☐ Check here for Conference Committee

Legislative Council Amendment Number

Action Taken Move to amend HB 1412

Motion Made By Rep. Grande Seconded By Rep. Devlin

Representatives	Yes	No	Representatives	Yes	No
Chairman M.M. Klein	X		B. Amerman		X
Vice Chairman B.B. Grande	X		L. Potter		X
W.R. Devlin	X		C. Williams		X
C.B. Haas	X		L. Winrich		X
J. Kasper	X				
L.R. Klemin	X				
L. Meier	X				
M. Sitte		X			
W.W. Tieman	X				
R.H. Wikenheiser	X				

Total (Yes) 9 No 5

Absent 0

Floor Assignment

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

Date: 2-13-03
Roll Call Vote #: 1412

2003 HOUSE STANDING COMMITTEE ROLL CALL VOTES
BILL/RESOLUTION NO.

House GOVERNMENT AND VETERANS AFFAIRS Committee

☐ Check here for Conference Committee

Legislative Council Amendment Number

Action Taken Do Pass as amended

Motion Made By Rep. Devlin Seconded By Rep. Grande

Representatives	Yes	No	Representatives	Yes	No
Chairman M.M. Klein	X		B. Amerman		X
Vice Chairman B.B. Grande	X		L. Potter		X
W.R. Devlin	X		C. Williams	X	
C.B. Haas	X		L. Winrich		X
J. Kasper	X				
L.R. Klemin	X				
L. Meier	X				
M. Sitte		X			
W.W. Tieman	X				
R.H. Wikenheiser	X				

Total (Yes) 10 No 4

Absent 0

Floor Assignment Rep. Klein

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

REPORT OF STANDING COMMITTEE (410)
February 14, 2003 8:37 a.m.

Module No: HR-29-2700
Carrier: M. Klein
Insert LC: 30463.0201 Title: .0300

REPORT OF STANDING COMMITTEE

HB 1412: Government and Veterans Affairs Committee (Rep. M. Klein, Chairman) recommends **AMENDMENTS AS FOLLOWS** and when so amended, recommends **DO PASS** (10 YEAS, 4 NAYS, 0 ABSENT AND NOT VOTING). HB 1412 was placed on the Sixth order on the calendar.

Page 1, line 1, after "A BILL" replace the remainder of the bill with "for an Act establishing the state's energy policy.

BE IT ENACTED BY THE LEGISLATIVE ASSEMBLY OF NORTH DAKOTA:

SECTION 1. Governmental public purpose - Development of state's natural and renewable energy resources. The legislative assembly finds and declares it is an essential governmental function and public purpose to encourage the wise and orderly development of the state's natural and renewable energy resources. Increased development of the state's abundant lignite coal and oil and gas resources and development of the state's renewable resources, including biomass, hydro, geothermal, solar, and wind, are important components in achieving energy independence for the nation. State energy policies adopted by the state must consider the reliability, cost-effectiveness, enhanced environmental applications, and economic stability and tax revenue benefits to the state from each natural and renewable energy resource. It is a further public purpose not to mandate any state agency, department, or institution to use a particular energy resource."

Renumber accordingly

2003 TESTIMONY

HB 1412

Representative Mary Ekstrom
District 11
1450 River Road South
Fargo, ND 58103-4325

NORTH DAKOTA HOUSE OF REPRESENTATIVES

STATE CAPITOL
600 EAST BOULEVARD
BISMARCK, ND 58505-0360

COMMITTEES:
Industry, Business and Labor
Political Subdivisions

House Government & Veterans Affairs Committee
Chairman Matt Klein
February 7, 2003 / Fort Union Room
HB 1412 / Renewable Energy Goals

Good morning Mr. Chairman and members of the Government and Veterans Affairs Committee.

My name is Representative Mary Ekstrom. I serve District 11 in Fargo.

I am here to ask for your support for HB 1412 which sets a **goal** not a mandate for the use of alternative source power (like wind and ethanol) by the State. I have not included any of our higher education facilities in this bill.

I want to tell you a story about the possible future of North Dakota. Imagine the year is 2030. I will be a fine older woman approaching her 80th year - recently retired from the North Dakota House of Representatives.

Seriously, consider that by 2030 North Dakota and the upper Midwest could be the foremost energy producers in North America. The state of North Dakota will providing a full 1/3 of the Nation's electrical energy supply and when combined with South Dakota's potential we will be producing 2.28% of the world's energy needs.

Hydrogen fuel will run our automobiles and electrical generating plants. This source of fuel is non-polluting. To remind you of your chemistry class - when hydrogen is converted to electricity - the exhaust is water vapor.

We will be an attractive place for varieties of businesses. Our agricultural sector, needing clean fuel will see a renaissance as we produce food, pharmaceuticals and products for the biotechnology industry.

It all sounds like a fantasy, doesn't it? Every single aspect of my testimony is borne out by scientific data. Does all the technology work economically right now? No, but all of it is within our sight - within our lifetimes.

Why, then do I want to set a goal for the state that says that 10% of state government's energy needs will come from alternative sources by 2010 and 20% by 2020?

Two words: commitment and vision.

The states around us are moving much more rapidly than we are in developing this sector. The State by make a commitment can provide one of the early markets for these new fuel sources. We have already made a serious commitment to ethanol use in our state vehicles.

Gathering developers, gathering venture capital, creating the critical mass necessary will help drive the market to solving our transmission problems and develop this industry to its full potential.

I spoke of the future potential for wind power to produce hydrogen as a storable fuel. The future is already here. This is the current issue of the Atlantic Monthly magazine. The ad on the back cover introduces Honda's FCX - a car that run on hydrogen. It is being purchased by the City of Los Angeles as a fleet car.

Please consider an investment in the long term future of North Dakota and give a DO PASS to HB 1412. I have included background data for the committee with my testimony.

Mr. Chairman I will answer any questions you may have.

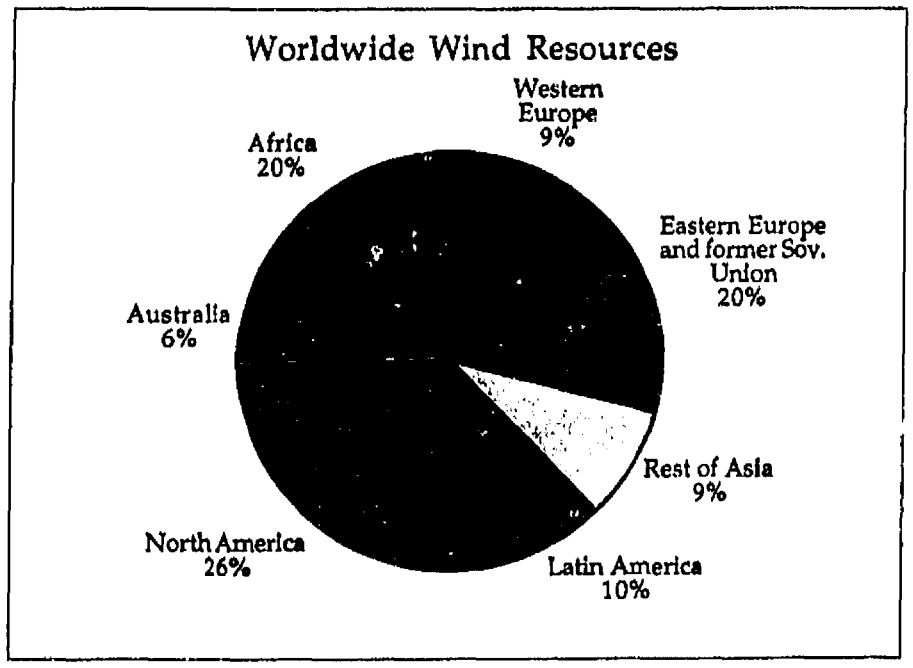
Wind
North Dakota Briefing

Joe Richardson, Harnessing Dakota Wind, "wind@ndfb.org"

9/24/02, updated 2/1/03

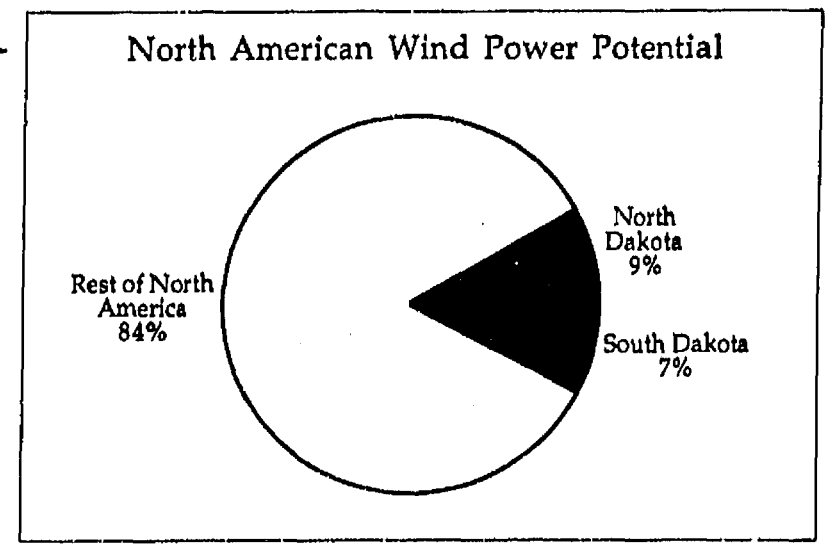
Currently many in North Dakota still consider Lignite Vision 21, the increasing coal-fired generation as the leading energy sector opportunity. In the past building coal-fired generation did provide net new wealth for the state; however, wind is the greatest energy resource and if developed holds more economic development promise.

- North Dakota has 2.28% of the world's and 9% of the North American wind resource. Together with South Dakota we have 4.23% of the known world's wind resource and 16% of North Americas.



Total: 53,000 billion kWh annually

Total: 14,000 billion kWh annually



Source: Wind Resources from Michael Grubb and Niels Meyer, 1994. North and South Dakota data from Pacific Northwest Laboratory, 1991.

Note: Includes all land with wind speed above 5.1 m/s measured at 10m height except Greenland and Antarctic.

- North Dakota has the highest wind power generation potential of any state in the country.

Top Twenty States for Wind Energy Potential
in billions of kilowatt hours

	kWhs	%		kWhs	%
[illegible]	[illegible]	[illegible]	11 Colorado	481	4.59%
2 Texas	1190	11.37%	12 New Mexico	435	4.15%
3 Kansas	1070	10.22%	13 Idaho	73	0.70%
4 South Dakota	1030	9.84%	14 Michigan	65	0.62%
5 Montana	1020	9.74%	15 New York	62	0.59%
6 Nebraska	868	8.29%	16 Illinois	61	0.58%
7 Wyoming	747	7.13%	17 California	59	0.56%
8 Oklahoma	725	6.92%	18 Wisconsin	58	0.55%
9 Minnesota	657	6.28%	19 Maine	56	0.53%
10 Iowa	551	5.26%	20 Missouri	52	0.50%

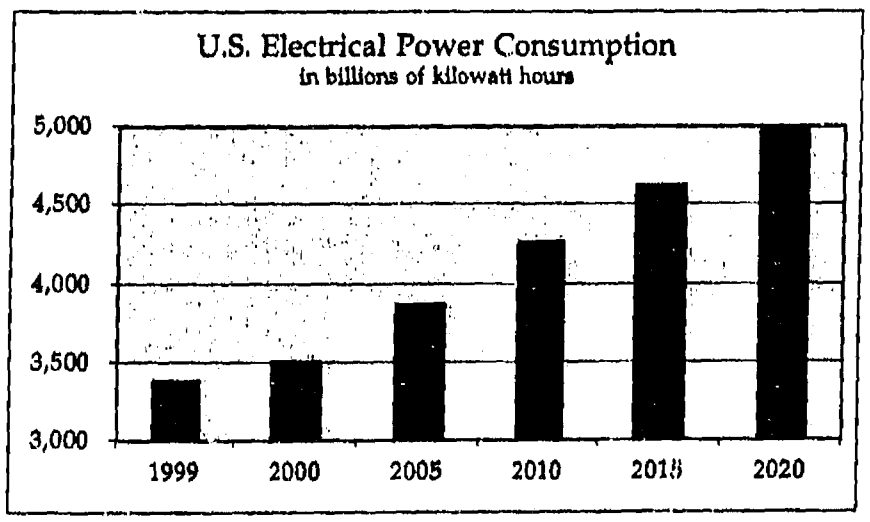
% is of Top 20 Resource, below which only marginal development can occur.
Source: Pacific Northwest Laboratory, 1991

- North Dakota has the theoretical capacity potential to produce over 34% of the total U.S. electrical generation in year 2000 from wind. More power can be generated from our wind for a longer period of time than any other ND power source.

AEO 2002 Generation by Fuel Type For Electric Generators	in Billions of kWhs 1999	2000	2005	2010	2015	2020
Coal	1,837	1,922	2,086	2,215	2,292	2,423
Petroleum	110	93	39	28	33	38
Natural Gas	363	417	607	893	1,202	1,414
Nuclear Power	728	752	759	737	707	702
Pumped Storage	(2)	(1)	(1)	(1)	(1)	(1)
Renewables	356	321	375	391	401	407
Total	3,392	3,504	3,865	4,263	4,634	4,983

note: Omits the non-utility Generation for Own Use

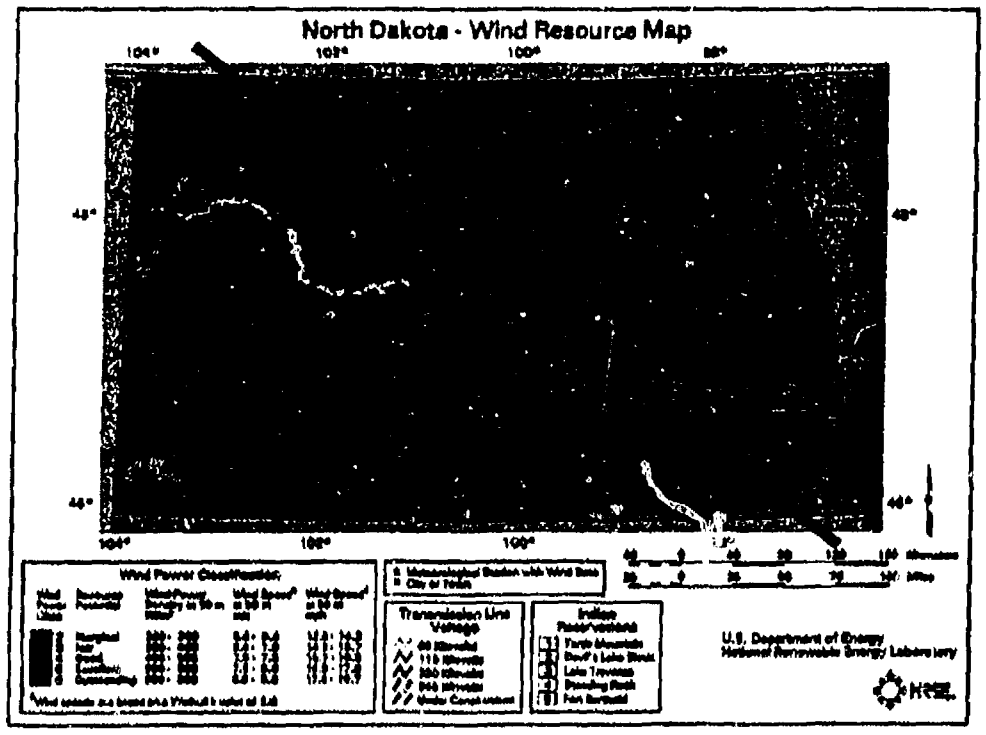
Source: Annual Energy Outlook 2002, Energy Information Administration



- North Dakota has a wind resource strength capable of supplying wind at prices equal to or below any other form of new generation.

- -- Most recent long-term power-purchase agreement was for wind at under 2.2¢ kWh.

- Wind development potential in North Dakota tends to be strongest where our economic strength is weakest; however, over 90% of the state has utility-scale development potential.
  - -- Draw a diagonal line from approximately 30 miles northeast of the northwest corner of the state to approximately 20 miles west of the northeastern corner of the state and, in general our resource is strongest near, on or to the South of that line.
  - -- More communities across the state have an opportunity to directly benefit from wind development than development of any other energy related natural resource.



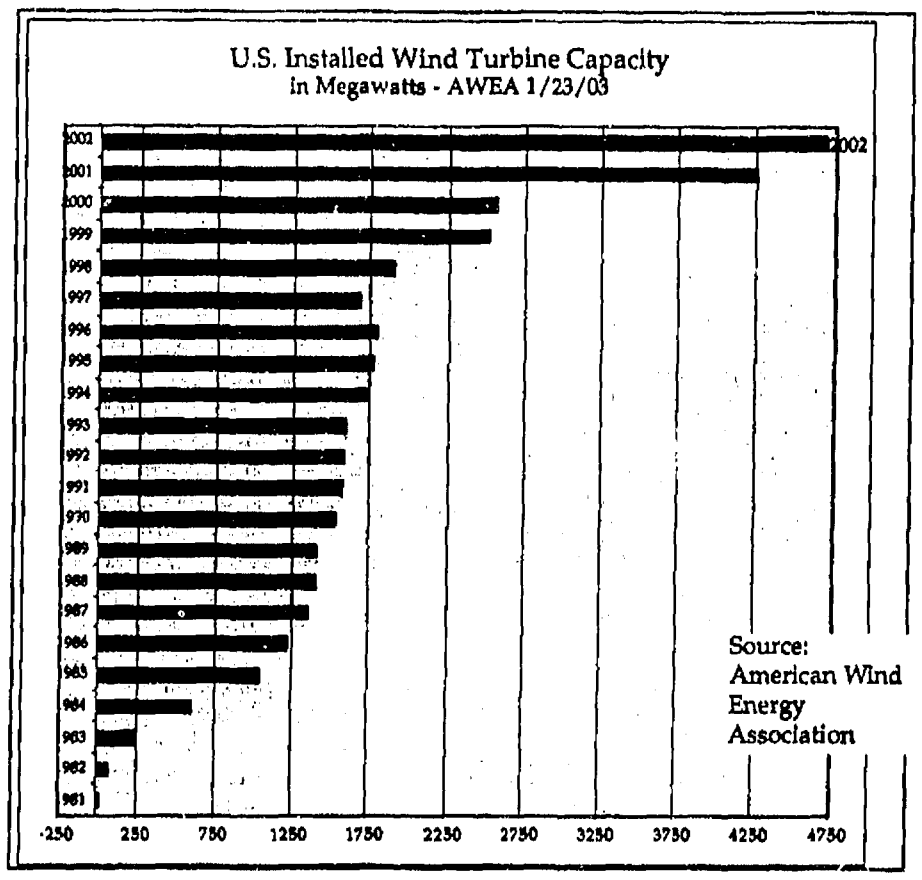
- Wind power is growing in other states where the resource strength is lower.

Top Twenty States with Installed Utility Scale Wind Power
Installed is in turbine rated megawattage
AWEA - 1/23/03

	Installed	%		Installed	%
1 California	1822.3	38.93%	11 Wisconsin	53.0	1.26%
2 Texas	1095.5	25.96%	12 New York	48.5	1.15%
3 Iowa	422.7	10.02%	13 Pennsylvania	34.5	0.82%
4 Minnesota	335.9	7.96%	14 Nebraska	14.0	0.33%
5 Washington	228.2	5.41%	15 Hawaii	8.6	0.20%
6 Oregon	218.4	5.17%	16 Vermont	6.0	0.14%
7 Wyoming	140.6	3.33%	17 North Dakota	4.8	0.11%
8 Kansas	113.7	2.69%	18 South Dakota	3.0	0.07%
9 W. Virginia	66.0	1.56%	19 Michigan	2.4	0.06%
10 Colorado	61.2	1.45%	20 Tennessee	2.0	0.05%
			Total	4,681.3	MW
			Keeping Pace North Dakota Should Have:	541.0	MW
			Keeping Pace South Dakota Should Have:	460.5	MW

Source:
American Wind Energy Association

If North Dakota had kept pace with national development proportionate to its resource share, it would have over 487 megawatts of installed capacity at the end of 2001.



- In the near future, a federal Renewable Portfolio Standard is likely to be enacted that will include as the enforcement mechanism, the trading of "renewable energy credits" or "RECs." Those power retailers not selling the required incremental amount of renewable energy will have to acquire credits to offset their lack of renewable energy sales. These credits will be purchased from utilities that sold more than the required incremental amount of their electricity from renewable sources. The REC exchange markets will provide an entirely new revenue stream to utilities in high growth consumption areas capable of accessing credits for sale. This will push higher demand from renewable generators capable of high volume production. North Dakota wind is abundant and adjacent to high consumption states to the east. It is also the lowest cost of any renewable generation other than old hydroelectric production. Thus, demand for North Dakota wind production will accelerate with a national renewable credit trading exchange.

- In the near to mid-term future, it is likely that the United States will join most of the developed world in carbon dioxide emission credit trading. Like RECs, a cap on overall carbon emissions would be placed and use tradable credits as an enforcement mechanism. Either the generator or the retailer of carbon emitting power will have to purchase carbon offsetting credits from either the generators or retailers of low or no-emission power. Those states with strong wind development will benefit from either increased demand for their product or enhanced revenue from the direct sale of credits. Again, North Dakota's wind resource places us in the

best position to benefit from such trades.

- Wind power development is very compatible with our agricultural sector. A rule of thumb is that 1.5 megawatt turbines must be spaced one to a quarter section in order that they stay out of the wind shadow of each other. However, each turbine takes less than two acres out of production.

- By 2005 every major automobile manufacturer will have a hydrogen fuel cell vehicle in the showroom. The City of Los Angeles is taking delivery on Honda's fifth generation hydrogen fuel cell vehicle in early 2003. Honda's hydrogen fuel cell vehicle has a top speed of approximately 100 miles per hour, accelerates 0 - 60 in just over 9 seconds and has a range of 220 miles. Hydrogen is efficiently produced by shooting electricity through an electrolyzer separating water into its two components, hydrogen and oxygen. Hydrogen production is very compatible with wind in that we can build a wind system (geographically dispersed array of windfarms connected to a central long-haul transmission line) that allows peaking winds to produce hydrogen in such a way as to firm the electricity flowing to the transmission grid. The hydrogen is piped to the Minneapolis metro area for use as a vehicular fuel while electricity is transmitted to Minneapolis and Chicago markets. In essence, an 8,000 MW transmission line can be paired with 12,000 MW of wind turbine capacity and a hydrogen pipeline. When the wind system is overproducing, the electricity is diverted to hydrogen production/storage and as the wind system production tapers a greater number of turbines are available to fill the transmission line. Generally greater demand for hydrogen could increase demand for the electricity to produce hydrogen.

Impediments:

- No development goal and a lack of commitment to develop as aggressively as other states.
  - -- lack of focus with regard to policy development planning.
  - -- fragmented stakeholder community.
  - -- no coordinated vision or effort in overcoming impediments.
  - -- discourages developers.

- Lack of export transmission capacity.

- Fragmented transmission planning without broad stakeholder involvement.
  - -- no common definition of capacity objectives.
  - -- conflicting interests not addressed.
  - -- suspicion among various stakeholders as to what is being planned.
  - -- lack of "what is possible" vision.
  - -- no clear message for federal regulatory or legislative direction in meeting our transmission requirements.

Other impediments are secondary and more easily resolved. It is leadership and the will to focus on where North Dakota should be in wind development 20 years from now.

At Stake:

We have one of the world's finest wind resources and if we developed our resource proportionate to its value and the Department of Energy initiative of having 5% of U.S. electricity derived from wind by 2020, here is some of what we gain based on a study by Dr. Leistritz, Economist, North Dakota State University:

10,000MW Windfarms Construction & Operations
Scaled From Leistritz - 1,000MW
Direct & Secondary (000s)

Economic Sector	Construction One-Time	Operation Annual
Construction	$4,800,920	$8,150
Manufacturing	$2,845,240	$4,000
Retail Trade	$2,803,270	$75,620
Finance, Insurance & Real Estate	$583,990	$15,190
Services	$473,730	$22,670
Communications & Public Utilities	$391,690	$10,030
Households	$3,970,280	$136,820
Other (1)	$2,113,060	$20,510
Total Gross Business Volume	$17,982,180	$292,990
Total Employment (FTE Jobs)	time conditioned	3,860

(1) Other, includes: agriculture, mining transportation, and government

The effect of each 100 megawatt windfarm:

100MW Windfarm Construction Phase
Direct & Secondary
(000s)

Sector	Local Area	Non-Local In-State	State Total
Construction	$28,655	$21,233	$49,888
Manufacturing	$304	$29,304	$29,608
Retail Trade	$6,010	$23,134	$29,144
Finance, insurance & real estate	$1,228	$4,843	$6,071
Services	$1,010	$3,915	$4,925
Communications & Public Utilities	$885	$3,186	$4,071
Households	$8,926	$32,348	$41,274
Other(1)	$1,902	$20,079	$21,981
Total Gross Business Volume	$48,920	$138,042	$186,962
Total Employment (FTE Jobs)	626	1,644	2,270

(1) Other, includes: agriculture, mining transportation, and government

Tax Receipts
100MW Windfarm
(000s)

	Project Phase Construction one-time	Op & Mtc annual
State Taxes:		
Sales & Use Taxes	$1,349	$53
Personal Income	$536	$26
Corporate Income	$390	$6
Total Taxes	$2,275	$85
Local Property Taxes		$555

100MW Windfarm Operations Phase
Direct & Secondary
(000s)

Sector	Local Area	Non-Local In-State	State Total
Construction	$61	$60	$121
Retail Trade	$582	$547	$1,129
Finance, insurance & real estate	$114	$111	$225
Services	$245	$97	$342
Communications & Public Utilities	$74	$75	$149
Households	$1,609	$419	$2,028
Other(1)	$145	$220	$365
Total Gross Business Volume	$2,830	$1,529	$4,359
Total Employment (FTE jobs)	26	18	44

(1) Other, includes: agriculture, mining transportation, and government

Is there a greater rural economic development plan on the horizon? Can we afford to allow this huge opportunity to blow by?

The chart below shows the state shares of the national wind resource as compared to share of national development each state has experienced. As can be seen, Texas, Minnesota, Iowa, New York, California and Wisconsin are all overdeveloping relative to their resource share. North Dakota and South Dakota have the lowest level of development relative to resource shares. It is not a question of if wind will become a major power source but one of where. The leadership we enjoy in resource is lacking in development. What we don't develop, others clearly will. If lost opportunities are costs....this one is expensive.