

NORTH DAKOTA LEGISLATIVE COUNCIL

Minutes of the

ENERGY DEVELOPMENT AND TRANSMISSION COMMITTEE

Thursday, April 17, 2008
Roughrider Room, State Capitol
Bismarck, North Dakota

Senator Rich Wardner, Chairman, called the meeting to order at 9:00 a.m.

Members present: Senators Rich Wardner, John M. Andrist, Robert M. Horne, Ben Tollefson, Herbert Urlacher; Representatives Wesley R. Belter, Matthew M. Klein, Shirley Meyer, Todd Porter, Dave Weiler

Members absent: Senator Ryan M. Taylor; Representative Scot Kelsh

Others present: Bill Bowman, State Senator, Bowman

Constance Triplett, State Senator, Grand Forks

Representatives Merle Boucher, Al Carlson, and Bob Skarphol, members of the Legislative Council, were also in attendance.

See [Appendix A](#) for additional persons present.

It was moved by Representative Klein, seconded by Senator Horne, and carried on a voice vote that the minutes of the previous meeting be approved as distributed.

ENERGY STUDY

Mr. Brad Crabtree, Program Director, and Mr. Brendan Jordan, Program Manager, Great Plains Institute, gave a presentation ([Appendix B](#)) on the effect of energy policy on energy costs and carbon dioxide emissions. Mr. Crabtree said the Powering the Plains Project developed a broad-based roadmap for energy policy. He said the stakeholders agreed to the basic assumptions and put everything on the table to create a common analytical framework for the computer model. He said continuing business as usual and reducing carbon dioxide emissions by 80 percent from 1990 levels by the year 2055 have approximately the same cost. He said the Midwest Governors have created the goals of a 2 percent reduction in sales of electricity by 2015, 30 percent of electricity from renewables by 2030, 50 percent biofuels, and 100 percent advance carbon capture and sequestration by 2050.

In response to a question from Senator Andrist, Mr. Jordan said carbon dioxide has a low energy state. He said energy has to be added to carbon dioxide to change its chemical makeup. He said one use for carbon dioxide is to use it to grow algae that may be used for biofuel. Mr. Crabtree said carbon dioxide is being investigated for advanced materials. He said carbon dioxide has been placed underground for advanced oil recovery. He said carbon dioxide is

inert and nontoxic and is only dangerous in high concentrations. He said the risk curve for carbon dioxide drops because the carbon dioxide becomes part of the underground formation over time. He said the largest risk is for escape of carbon dioxide after it has initially been placed in the ground.

In response to a question from Senator Horne, Mr. Jordan said the policy of closing down coal plants in North Dakota is not realistic and clean coal technologies will be developed in the future.

In response to a question from Representative Porter, Mr. Jordan said the move to renewables will not significantly reduce carbon dioxide as much as clean coal technologies. He said a two cent per kilowatt-hour subsidy would develop clean coal technologies.

In response to a question from Senator Andrist, Mr. Crabtree said any technology will need economy of scale to be successful. He said all new coal generation will cost much more than generation from existing plants. He said there has been a reduction in cost of creating a kilowatt-hour of wind by almost 90 percent. He said he suspects the price for clean coal technologies to drop in a similar fashion. He said there has not been a commercial combination of coal gasification with carbon sequestration to date and the first time these technologies are combined will be financially risky.

In response to a question from Senator Wardner, Mr. Crabtree said carbon dioxide lasts for 100 plus years in the atmosphere. He said methane lasts for approximately 30 years and nitrous oxide lasts for approximately 300 years.

In response to a question from Representative Carlson, Mr. Crabtree said China is building 1,000 megawatts of coal-powered generation each week. He said the coal plants built in China in one year offset all wind development. He said what the United States does matters. He said the United States is wealthier than other countries and uses five times the energy per capita than the Chinese and 20 times the energy per capita than people in India. He said the United States needs to take a step to reduce carbon dioxide emissions for diplomatic purposes.

In response to a question from Senator Urlacher, Mr. Jordan said wind compares to new coal on a per megawatt basis. He said a Minnesota study concluded that 20 percent of energy from wind could be reliably entered into the grid. He said beyond

20 percent needs new innovation as to storage techniques to address the variability of wind. He said two examples of storage of energy from wind are compressed air and hydrogen.

In response to a question from Representative Belter, Mr. Jordan said there needs to be a 50 percent to 80 percent reduction in carbon dioxide emissions for the carbon dioxide in the atmosphere to stabilize.

In response to a question from Representative Belter, Mr. Jordan said there will be a cost increase for electricity regardless of any action with carbon dioxide. He said one way of keeping the cost of electricity under control is through energy efficiency. He said as the cost of electricity goes up people will use less.

In response to a question from Senator Tollefson, Mr. Jordan said policy needs to be focused on new technologies to make these technologies commercial through large scale demonstrations.

In response to a question from Representative Porter, Mr. Jordan said Minnesota requires a certain percentage of revenues collected by public utilities to be spent on energy efficiency. He said any investment in efficiency is cheaper than building a new power plant. He said the impact of biofuels on carbon dioxide is unknown because a result of the increased demand for commodities for biofuels has been a conversion of forest and prairie to farmland. He said a sound bioenergy policy will take land that is not in the food chain to produce biofuels.

In response to a question from Representative Porter, Mr. Jordan said any bioenergy project offers the benefit of energy security. He said some biofuels are better for carbon dioxide emissions than others. Mr. Crabtree said whether the source for an energy is fossil or renewable does not matter in the short term as much as greenhouse gas emissions. He said a policy of 30 percent renewables by 2030 reduces the growth of greenhouse gases. He said advanced coal technologies have a much larger impact on greenhouse gas emissions.

In response to a question from Representative Belter, Mr. Crabtree said the energy policy debate has been hijacked by the 5 percent extremists on either side.

Senator Andrist said human beings are creatures of economics and energy policy needs to take into account economics as well as science.

Mr. Bob Graveline, Utility Shareholders of North Dakota, introduced five individuals who made presentations on challenges facing the electric utility companies in the nation and in this state. These individuals were:

- Mr. Bill Brier, Vice President, Policy and Public Affairs, Edison Electric Institute, Washington, D.C.
- Mr. Paul Farrell, Managing Director, Wells Fargo, New York.
- Mr. Dave Goodin, President, Montana-Dakota Utilities Company (MDU), Great Plains Natural

Gas Company, and Cascade Natural Gas Company, Bismarck.

- Mr. Chuck MacFarlane, President, Otter Tail Power Company, Fergus Falls, Minnesota.
- Mr. Mark Nisbet, Principal Manager, Xcel Energy, Inc., Fargo.

Mr. Brier made a presentation on investing in America's electric future ([Appendix C](#)). In addition, he provided handouts from the Edison Electric Institute entitled *Key Facts About the Electric Power Industry* and *More Than 100 Ways to Improve Your Electric Bill*. He said customers are consuming more electricity and utilities are meeting that demand. He said energy efficiency and demand-side management are making a difference. He said resource diversity is the key to reliability and environmental responsibility. He said environmental standards provide a major impact on planning and costs. A copy of each handout is on file in the Legislative Council office.

In response to a question from Senator Andrist, Mr. Brier said wind turbines seldom operate at nameplate capacity. He said studies have shown that the wind blows less when it is hot and more electricity is needed.

In response to a question from Senator Andrist, Mr. MacFarlane said the Midwest Reliability Organization allows 10 percent of nameplate capacity as the reliability factor for wind turbines. He said gas turbine generation sources are needed as backup for 90 percent of nameplate capacity.

In response to a question from Senator Andrist, Mr. MacFarlane said the cost of wind energy does not include the cost of backup gas turbines.

Mr. Farrell made a presentation ([Appendix D](#)) on capital expenditures projected for the electric utility industry. He said the capital expenditures projected for the next 15 years total \$1 trillion. He said for the marketplace to invest in these capital expenditures, energy policy must be long term, consistent, nonpartisan, and create a positive business environment. He said rate regulation must provide an opportunity for a fair return in a timely and consistent manner. He said the financial markets react after evaluating the risk and return. He said the lower the risk and the higher the return the more likely investors will invest.

Mr. Nisbet made a presentation ([Appendix E](#)) on expanding electric capacity to meet customers' energy needs. He said Xcel Energy provides low cost rates and is increasing wind as an energy resource. He said Xcel Energy is investing in transmission to maintain reliability, meet customers' increasing demands for energy, and provide capacity for renewable resources. He provided handouts entitled *Sixty Simple Ways to Save Money on Your Energy Bill* and *Environmental Fact Card*. A copy of each handout is on file in the Legislative Council office.

In response to a question from Senator Wardner, Mr. Nisbet said gas turbines are used as a backup to wind power because they are quick to ramp up when

the wind changes. In addition, he said, gas turbines are easier to build than other power plants.

In response to a question from Senator Wardner, Mr. Nisbet said the CapX 2020 transmission lines will help carry energy from North Dakota to Minnesota.

In response to a question from Representative Belter, Mr. Nisbet said the growth in demand for electricity will be handled through renewables. He said wind is relatively inexpensive when the wind blows and natural gas is a dependable backup.

In response to a question from Representative Belter, Mr. Nisbet said even when considering the use of natural gas to heat homes, using natural gas as a backup for wind is not an over reliance on natural gas.

In response to a question from Senator Tollefson, Mr. Nisbet said the production tax credits for wind need to be made for a longer term.

Mr. MacFarlane presented testimony to the committee. He said the excess capacity in this area is diminishing. He said in the late 1980s there was 30 percent excess capacity and now there is 15 percent excess capacity. He said 15 percent excess capacity is at the level required for reliability standards. He said there needs to be more transmission and renewables tend to be a long way from the load. He said electric rates will increase due to emissions upgrades and new generation. He provided handouts entitled *On for North Dakota* and *On for You*. A copy of each handout is on file in the Legislative Council office.

In response to a question from Senator Wardner, Mr. MacFarlane said customers will see an increased cost for electricity no matter what the circumstances.

Mr. Goodin presented testimony to the committee. He said MDU serves 120,000 electric customers, with 74,000 in North Dakota. He said MDU's electricity generation portfolio is 70 percent from coal, 25 percent from natural gas, and 5 percent from wind. He said MDU purchases from the Midwest independent transmission system operator (MISO) market if there is not enough energy from that portfolio. He said last year, MDU paid six cents per kilowatt-hour for energy from the MISO market and received the same for energy provided to the market. He said the retail rate for electricity in North Dakota is 7.2 cents per kilowatt-hour. He said Big Stone II is needed for long-term stability. He said Big Stone II will create twice the rate base and investment of MDU. He said rates have been flat because of construction done in the 1970s and 1980s. He said MDU is entering a new phase of construction.

In response to a question from Senator Wardner, Mr. Goodin said MDU does not need transmission because generation facilities are in the area served. He said Big Stone II will need transmission and transmission needs to be matched with generation to avoid additional costs.

In response to a question from Senator Wardner, Mr. MacFarlane said the transmission system was built to move electricity from generation to the load. He said the overall system has not grown because of

reliability concerns. He said the CapX 2020 lines should meet reliability concerns. He said to build transmission will cost approximately 20 percent of generation building costs.

In response to a question from Senator Wardner, Mr. Nisbet said there are constraints east of Fargo to get wind energy out of North Dakota. He said Xcel Energy will have to wait to put in significant wind projects in North Dakota until there is adequate transmission.

In response to a question from Representative Belter, Mr. Brier said it will become more difficult for the electric industry to keep up with the expected demand because of people's reluctance to accept infrastructure developments. He said generation accounts for 70 percent of the electric utility bill.

In response to a question from Representative Belter, Mr. Goodin said he projects a 25 percent to 30 percent increase in retail rates in the next 10 years. He said the average rate is 7.2 cents per kilowatt-hour and that increase will result in a rate of approximately 9.7 cents per kilowatt-hour. He said at present, the rate in New York City is approximately 16 cents per kilowatt-hour. He said it is the obligation of MDU to meet the energy needs of its customers. He said the company will meet the needs of its customers. He said if coal is not allowed for generation, then MDU would have to use wind with gas power backup. He said this would increase natural gas prices. He said one benefit of coal is that long-term contracts can be obtained for coal.

In response to a question from Representative Belter, Mr. MacFarlane said retail rates will increase 5 percent annually to the year 2013. He said the wildcard in price increases is if new generation facilities can be built in a reasonable amount of time.

In response to a question from Representative Belter, Mr. Nisbet said his company expects to increase rates 25 percent to 30 percent in the next 10 years.

In response to a question from Senator Andrist, Mr. Goodin said MDU receives four megawatts of a 19.5 megawatt nameplate capacity for wind. He said MDU is accredited 20 percent for capacity on book. He said when the wind blows the customers receive wind energy at 4.8 cents per kilowatt-hour, which is better than paying six cents per kilowatt-hour on the market.

In response to a question from Representative Carlson, Mr. MacFarlane said North Dakota is stability-limited, not capacity-limited.

In response to a question from Representative Carlson, Mr. MacFarlane said there needs to be a cost allocation system to build transmission lines so that those that benefit from the transmission pay for it. He said the interconnection rules for MISO allocate half of the cost to the generator and half of the cost to the transmission entity.

Representative Carlson said North Dakota needs to send power out of the state and needs transmission lines to do this.

Representative Boucher said North Dakota has to be a net exporter of energy. He said there needs to be a nationwide infrastructure to move energy from North Dakota to market.

In response to a question from Representative Boucher, Mr. Brier said the federal government created the North American Electric Reliability Corporation to increase transmission.

In response to a question from Representative Boucher, Mr. Goodin said MDU does not have an appetite for an unregulated asset, e.g., building transmission to out-of-state population centers to the east. He said if an entity builds transmission, that entity will want assurances for use. He said if a long-term need can be matched with an asset, there will be an investor to build the transmission.

In response to a question from Representative Boucher, Mr. MacFarlane said his concern is for the fair treatment of his customers. He said Otter Tail Power Company recovers from its customers and there would be no benefit to provide transmission for energy to go to areas outside the Otter Tail Power Company service area. He said there may need to be a charge on every electric bill in the United States for large transmission projects.

In response to a question from Senator Horne, Mr. Brier said there will never be a total single grid due to engineering concerns.

In response to a question from Senator Wardner, Mr. Brier said there have been some substantial studies on the Lieberman-Warner bill and the bill will be very damaging. He said the industry needs time to develop and commercialize carbon capture and storage. He said the bill would require carbon capture and storage, even from gas plants, before it is commercially feasible.

In response to a question from Senator Wardner, Mr. Nisbet said technology should match energy policy goals.

In response to a question from Senator Wardner, Mr. MacFarlane said there is a gap between policy and what can be technologically done at a reasonable cost.

In response to a question from Senator Wardner, Mr. Goodin said Big Stone II will produce 20 percent less carbon dioxide than a similar coal plant. He said the building of Big Stone II may allow for the displacement of higher carbon dioxide-emitting power plants. He said the gap between policy and technology is more like a canyon than a gap.

Mr. Farrell said he has seen legislation like the Lieberman-Warner bill before, for example, other clean air legislation. He said Wall Street will evaluate the legislation by determining how much it will cost and if it increases risk.

In response to a question from Representative Belter, Mr. MacFarlane said transmission for wind cannot be justified on a reliability basis.

In response to a question from Senator Urlacher, Mr. Goodin said the Glascoyne project was scrapped

because there was no economy of scale and prohibitive transmission costs.

Ms. Sandi Tabor, General Counsel, Lignite Energy Council, made a presentation ([Appendix F](#)) on Minnesota externality proceedings and cap and trade legislation.

In response to a question from Senator Horne, Ms. Tabor said there is some cost attributed to natural gas through the externality proceeding, but the impact is far less than it is on coal.

In response to a question from Senator Wardner, Ms. Tabor said the externality proceeding is for resource planning for Minnesota utilities. She said Minnesota utilities must look at certain factors in determining which resources to use and one of those factors is cost. She said the externality proceeding adds the cost of carbon dioxide to the cost of fuel, \$4 to \$30 per ton, which makes coal less desirable.

In response to a question from Senator Andrist, Ms. Tabor said there is a constitutional question whether Minnesota can make a determination that substantially affects an industry in North Dakota. She said Minnesota will put the price of carbon dioxide into the cost of power now, not knowing the cost in the future.

In response to a question from Senator Urlacher, Ms. Tabor said the North Dakota Attorney General did not appeal the determination of the Minnesota Public Utilities Commission. She said he did not appeal because he did not want to make a piecemeal attack on the Minnesota law and is engaged in dialogue with Minnesota.

In response to a question from Representative Klein, Ms. Tabor said the externality proceeding has an indirect effect on cooperatives. She said the Minnesota Public Utilities Commission has direct control over investor-owned utilities, not rural electric cooperatives.

She said a cap and trade program determines the quantity of emission wanted which becomes the cap. She said allowances are then used to meet the emissions reduction goals. She said to meet annual emission reduction goals, a covered facility must reduce emissions, remit allowances sufficient to cover emissions, borrow from future allowances, or purchase from a trading exchange. She said the number of allowances is decreased over time. She said there needs to be adequate revenues to fund an aggressive research, development, and demonstration programs to avoid rate shock to consumers as a result of a cap and trade program.

In response to a question from Senator Tollefson, Ms. Tabor said Minnesota receives power from Canada, but that power is hydroelectric power which does not create carbon dioxide.

In response to a question from Senator Tollefson, Ms. Tabor said a study has shown that there is a basic belief of the people of Minnesota that they want clean energy, but reliability and affordability are not in their thought process. She said people like to have

green energy, but do not understand the lack of reliability of green energy.

In response to a question from Representative Meyer, Ms. Tabor said the federal Environmental Protection Agency is looking at regulations for the storing of carbon dioxide and is considering regulating carbon dioxide as a hazardous waste.

OIL AND GAS UPDATE

Mr. Mark Makelky, Director, North Dakota Pipeline Authority, provided written materials ([Appendix G](#)) as the basis of his testimony on current activity regarding pipelines.

In response to a question from Senator Horne, Mr. Makelky said the upgrade of the Enbridge pipeline will help move oil to the east, but will take a few years to implement. He said discounts for oil have leveled off to a reasonable amount. He said the discount is 10 percent to 11 percent, which is reasonable for transportation costs and is comparable to the discount for wheat.

Representative Skarphol said the discounts have disappeared, but there have been wells shut down because of the lack of transportation.

In response to a question from Senator Tollefson, Mr. Makelky said the Keystone pipeline is very close to construction. He said the pipeline will be constructed, but where exactly it will be constructed might change.

In response to a question from Senator Tollefson, Mr. Makelky said eminent domain proceedings have been implemented against fewer than 20 individuals for the Keystone pipeline.

In response to a question from Senator Urlacher, Mr. Makelky said there is a generally accepted edge of the Bakken Formation which may change due to exploration.

In response to a question from Representative Weiler, Mr. Makelky said the companies that use the Keystone pipeline will pay for the pipeline.

In response to a question from Representative Meyer, Mr. Makelky said there are many legal ways to get the right of way for a pipeline, including a lease or an easement. He said an easement has language that relates to future pipelines and repair work.

Mr. Ron Ness, North Dakota Petroleum Council, answered questions for the committee. In response to a question from Senator Wardner, Mr. Ness said the discounts for Bowman County oil are because it is a different type of oil than Bakken oil and the Bowman County oil competes with Canadian oil. He said Bakken oil is at the NYMEX price. He said the big Bakken producers do not think there will be enough pipeline capacity. He said one factor limiting the need for capacity is that Bakken wells are short term. He said the Enbridge pipeline has some extra capacity at times. He said this state has a major freeway for natural gas production through the Northern Border pipeline.

In response to a question from Representative Meyer, Mr. Ness said this state needs a new refinery

and there is more discussion about a new refinery in North Dakota than a new refinery anywhere else in the world.

Representative Skarphol said the Canadian tar sands oil formation affects oil transportation in this state because 2.5 million barrels per day from the tar sands will be transported to the Gulf of Mexico.

In response to a question from Representative Skarphol, Mr. Ness said once the Keystone pipeline is built, it will move Canadian oil and will free up capacity for North Dakota oil. He said the Keystone pipeline will move Canadian crude to the southern United States and it will compete with Venezuelan crude.

In response to a question from Senator Wardner, Mr. Ness said the ultralow sulfur mandate makes the once cheapest part of the barrel the most expensive part of the barrel to refine. He said the economic impact of the increased price for diesel was not discussed when the ultralow sulfur mandate was enacted.

In response to a question from Senator Horne, Mr. Makelky said construction on the Keystone pipeline will begin in North Dakota in 2008 and pumping stations will be completed in 2009. He said the pipeline is expected to be completed by early 2011.

In response to a question from Senator Horne, Mr. Ness said North Dakota has done a good job in energy policy by promoting all forms of energy. He said policy changes in Colorado are chasing oil companies to North Dakota.

UPDATE BY PUBLIC SERVICE COMMISSION

Ms. Susan Wefald, Commissioner, Public Service Commission, provided written information ([Appendix H](#)) as the basis of her testimony on recent activities of the Public Service Commission. She provided a status report of recent siting projects before the Public Service Commission and a letter opinion of the Attorney General that states the Public Service Commission has authority to adopt rules governing the decommissioning of all commercial wind energy conversion facilities, whatever the generating capacity. She said there have been 49 changes or alterations that have been received for the Keystone pipeline and all are within the existing corridor.

In response to a question from Senator Tollefson, Ms. Wefald said reclamation is within the authority of the Public Service Commission for making rules for the decommissioning of wind farms.

In response to a question from Representative Belter, Ms. Wefald said the consensus is that the Lieberman-Warner bill will not pass this year.

BILL DRAFTS

Public Buildings Energy Efficiency Standards

At the request of Chairman Wardner, committee counsel presented a bill draft [[90123.0100](#)] to require

the Division of Community Services to adopt rules for construction standards that are consistent with or exceed the silver building rating of the leadership in energy and environmental design's rating system for new commercial construction and major renovation projects. He said the bill draft provides for an exemption from the construction standards if the cost of compliance significantly outweighs the benefits. He provided handouts entitled *Frequently Asked Questions* and *Toolkit: State and Local Government* which are on file in the Legislative Council office and were obtained from the U.S. Green Building Council website at www.usgbc.org.

Representative Klein said he requested the bill draft and said it was based on laws adopted in Washington and Connecticut. He said because construction projects are less expensive in North Dakota, the threshold levels should be reduced from \$5 million for new building construction to \$2 million and from \$2 million for a modification of an existing structure to \$.5 million.

Timeline for the Designation of a Route for a Transmission Facility

Representative Klein presented a bill draft [[90014.0100](#)] reducing the time allowed for the Public

Service Commission to designate the route for a transmission facility from six to three months after receiving the application. He said the longer the process takes, the higher the cost of the project. He said three months is a long enough time to make a decision.

MISCELLANEOUS

Senator Bowman requested the committee to draft a letter to the federal government requesting that, when possible, Forest Service land should be used for transmission lines instead of private lands. He said public lands should be used for public utilities that serve the public.

No further business appearing, Chairman Wardner adjourned the meeting at 3:40 p.m.

Timothy J. Dawson
Committee Counsel

ATTACH:8