



Standing Committee on
Resources and Environment

Report respecting presentations by

Alberta Federation of Rural Electrification Associations
Canadian Wind Energy Association
Capital Power Corporation
Enmax Corporation
Independent Power Producers Society of Alberta

November 2010



COMMITTEES
OF THE LEGISLATIVE ASSEMBLY

Standing Committee on Resources and Environment

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November 2010

To the Honourable Ken Kowalski
Speaker of the Legislative Assembly of Alberta

The Standing Committee on Resources and Environment has the honour to submit its Report to the Legislative Assembly of Alberta, on presentations received on October 6, 2010, respecting the electricity industry.

[Original Signed by Chair]

Ray Prins, MLA
Lacombe-Ponoka
Chair
Standing Committee on
Resources and Environment

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27th Legislature, Third Session

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Substitutions Pursuant to Standing Order 56 (2.1-2.4)

Fred Lindsay, MLA^{*}
Stony Plain (PC)

^{*} Substitution for Diana McQueen, MLA, on October 6, 2010.

1.0 Introduction

The Standing Committee on Resources and Environment (the Committee) held a public meeting on October 6, 2010, with the Alberta Federation of Rural Electrification Associations, the Independent Power Producers Society of Alberta, the Canadian Wind Energy Association, Enmax Corporation and Capital Power Corporation pursuant to Standing Order 52.08(1). This Standing Order provides that

A Policy Field Committee may hold public meetings on any matter within its mandate.

At the conclusion of the October 6, 2010, public meeting the Standing Committee on Resources and Environment resolved to prepare a report summarizing the presentations heard by the Committee for distribution to the relevant Government of Alberta ministries.

The resolution was pursuant to the following Standing Order:

52.08(3) A Policy Field Committee may report to a Minister or responsible public official on issues arising from a public meeting.

2.0 Summary of Public Meeting Presentations *

2.1 Alberta Federation of Rural Electrification Associations (AFREA)

The Alberta Federation of Rural Electrification Associations (AFREA) serves all rural electrification association (REA) members, offering services that reflect the diversity and growth of REAs, providing leadership and representation on their behalf, creating strategic alliances to attain goals, and communicating effectively with member REAs and the wider electricity industry.

At the Committee meeting of October 6, 2010, the representatives from AFREA commented on the smart grid and how AFREA sees its application in the province. AFREA supports a smart grid and a smart metering process; however, its position depends upon “some financial support” from other sources.

The representative from AFREA stated that some REAs have successfully implemented AMR, or automatic meter reading, which allows a utility company to read electricity meters remotely, as opposed to having to undertake in-person meter readings. The representative stated that AMR has increased the efficiency of meter reading because with AMR meters can be read more frequently and therefore can measure energy usage more accurately.

The AFREA representative indicated that there are some concerns with automated metering infrastructure (AMI). AMI, also known as smart grid, involves two-way communication from a meter to a home or office that allows a customer to access his or her meter reading on an hourly basis and can allow a customer to save energy and reduce electricity costs. One concern is the cost associated with running and maintaining the system. Another concern is related to potential increased costs for certain consumer groups such as farmers, who because of the nature of their usage are required to use electricity during peak hours,[†] when premium rates are charged, and who therefore would be subject to higher prices than they currently pay. The representative pointed out that there might be a consumer backlash if electricity prices increase for consumers due to hourly billing and to paying for the smart grid and improvements to the transmission system.

The presenter from AFREA also discussed how technology and education could be used to provide consumers savings on electricity bills. AFREA stated that educating consumers on how to save energy

* Quoted passages in the text below are taken from the official transcript of the October 6, 2010, public meeting. For a full account of the Committee's public meeting see Alberta, Legislative Assembly, Standing Committee on Resources and Environment [Public Meeting], October 6, 2010, *Hansard* Transcript, pp. RE-307-RE-328.

[†]According to AFREA, peak hours are from 5 p.m. to 7 p.m.

could reduce the cost of electricity for consumers and allow for more energy efficiency. AFREA suggested that rather than introducing the new smart grid technology everywhere, pilot projects could be introduced to target certain consumer groups such as rural or residential, et cetera, to determine what the needs of the market are. The AFREA representative also noted that some rural areas do not have high-speed Internet, and thus implementing the smart grid may be more difficult in these places than in urban areas.

2.2 Independent Power Producers Society of Alberta (IPPSA)

The Independent Power Producers Society of Alberta (IPPSA), which was founded in 1993, provides a forum for dialogue among Alberta's power producers and is a proponent of competition in Alberta's electricity market.

At the Committee meeting the IPPSA representative presented an overview of Alberta's power market and described how deregulation has increased the efficiency of the market. The representative noted that Alberta's deregulated electricity market has been able to meet the fastest-growing demand for electricity in Canada. Generators in Alberta have added 5,600 megawatts of new supply since 1993. The province has gone from three to over 200 utility market participants and has added new natural gas, wind and supercritical coal generation.

The IPPSA representative discussed some of the economic factors that determine the market price for wholesale electricity. The representative stated that the wholesale, or spot, market functions in real time and that the price of electricity is determined by the spot price; i.e., the price of the last unit of electricity sold. The representative noted that since electricity cannot be stored, the price of electricity is determined by supply and demand on a minute-by-minute basis, and therefore short-term price increases or decreases can occur. Another observation made by the representative is that Alberta's electricity prices are strongly correlated with natural gas prices because many power producers use natural gas to generate electricity.

The IPPSA presenter also discussed how the value of the competitive wholesale electricity market translates to residential customers. Residential customers either have a long-term contract or purchase electricity based on the regulated rate option (RRO). RRO prices are set on a "month-ahead basis and are procured from wholesale suppliers." Long-term contracts are "based on ... pure monthly flow through wholesale prices or can be based on forward wholesale price estimates." Therefore, the residential customer's rate is based on an estimated future wholesale price "plus a markup and a profit." The representative from IPPSA remarked that contracts based on estimated future prices can play a key role in the wholesale market because if retailers have secured a sufficient number of contracts with customers, then the demand for power is known, which can influence suppliers to either increase or decrease supply accordingly.

The IPPSA presenter also discussed the benefits of a deregulated electricity market. With electricity generation there are typically many fixed costs. In a regulated market during a recession demand may shrink while the cost of production remains fixed, causing a potential increase in electricity costs for consumers. This occurs because electricity generators are guaranteed to cover their fixed costs and variable costs and receive a rate of return no matter what the underlying economy is. In a deregulated market the risk of falling prices is taken on by investors in power generation, not by the ratepayers. If the price of electricity decreases, then the consumer can benefit from declining prices.

2.3 Canadian Wind Energy Association

The Canadian Wind Energy Association (CanWEA) is a not-for-profit trade association that advocates on behalf of its members for "sustainable and responsible wind generation."

At the Committee meeting the presenter from CanWEA provided an update on the wind energy industry in Alberta. The representative pointed out that Alberta will have installed capacity to produce 700 megawatts of wind energy by the end of October 2010, putting Alberta second only to Ontario in terms of wind power generation in Canada. The representative also indicated that EcoEnergy, the federal

incentive program for renewable energy projects, has been fully allocated ahead of schedule. Therefore, the wind energy industry can no longer draw upon federal incentives to subsidize new wind generation projects. The CanWEA presenter also noted that the low cost of carbon (i.e., natural gas) has contributed to the reduced number of new wind energy projects.

The representative from CanWEA stated that access to “reliable and cost-effective transmission” is one of the most critical issues for the electricity industry. CanWEA closely monitors how wind energy is distributed, relative to other forms of electricity, once it is put onto the grid. The representative also remarked that the regulatory approval and permit process “are starting to have negative impacts” on the industry.

The presenter referenced some of the opportunities in Alberta for wind energy. CanWEA supports the province’s commitment to the investment in infrastructure, which is needed for wind energy production, particularly in the southeast corner of the province. It is interested in expanding and therefore diversifying wind power generation, which is currently concentrated in the province’s southwest, into south-eastern Alberta. The representative also pointed out that CanWEA is working to collaborate with various stakeholders on issues related to short- and long-term wind integration studies and intertie capacity for the province.

In addition, the presenter discussed CanWEA’s communication strategy in terms of raising general awareness of electricity usage. CanWEA has been focused on ensuring that the “right information is given to the right people to make informed decisions” about electricity usage at the national level while relying on peer-reviewed and science-based information regarding electricity consumption.

The presenter also commented that CanWEA is actively involved in the Government of Alberta’s land-use framework. CanWEA is pleased with the South Saskatchewan regional plan, which incorporates a number of wind energy projects.

2.4 Enmax Corporation

Enmax Corporation is an energy distribution, supply and service company which is a wholly owned subsidiary of the City of Calgary. Enmax’s core operations include electricity generation, transmission and distribution and the sale of electricity, natural gas and renewable energy products to residential and commercial customers in Alberta.

At the Committee meeting the representative from Enmax provided an overview of Enmax’s business plan. He stated that Enmax’s mandate is “to build a legacy of sustainable energy in Alberta,” represent its stakeholders and participate in the deregulated market. Enmax’s business has been growing, and its market share has increased since 2005. Enmax has been able to expand its business outside of Calgary by increasing participation in the retail market, which has allowed it to provide lower-cost power to its customers. The presenter also cited other reasons that would allow Enmax to keep prices low in the future, such as shifting to gas-based power and changing the manner in which it provides contracts. Moreover, the presenter from Enmax noted that a benefit of gas-based electricity plants is that they have “the ability to run or not run, depending on how much wind is blowing.” Therefore, such facilities enable wind power to be added to the electricity grid.

The presenter pointed out that in the last year Enmax was able to commission its first district energy distribution centre, which “will collect waste heat from a gas-fired power plant and distribute it to buildings.” In addition, Enmax launched a home generation program whereby residents could “buy a contract from an energy provider or put a solar panel or micro wind generator or a combination of the two on their home.”

The Enmax representative also discussed a number of programs designed to facilitate alternative energy generation. For instance, Enmax employees can subscribe to a wind generation energy program that assists them with the cost of installation. Over the next two years Enmax expects to install similar wind

generation for a thousand sites in Alberta through a program that uses money available in a Climate Change and Emissions Management Corporation (CCEMC) technology fund. Enmax also supports a similar program for employees to install solar panels and will extend this program to 9,000 sites in Alberta in the first two years of the program. In addition, Enmax is considering a new type of contract for consumers who have solar power installed in their homes. The contract would allow for consumers to obtain a discount on their electricity bill because they can sell their excess power to Enmax. Enmax also anticipates increased use of electric cars. Therefore, it is adapting its grid to be ready to accommodate the needs of electric transportation. Enmax will also offer discounted power for electric car users who charge their cars at night. Lastly, Enmax will offer a contract that allows a consumer who is willing to save electricity during peak hours to sell electricity back to Enmax at a premium price.

The presenter ended by stating that Enmax's business plan is "to align with customers in all ways" such as allowing consumers to choose power generation that will keep prices low and locating power generators in places that will minimize the cost of transmission. Enmax hopes to "build a legacy for the company that is one of long-term sustainability."

2.5 Capital Power Corporation

Capital Power Corporation is an Alberta-based electricity generation corporation that operates 31 power plants with approximately 3,300 megawatts of power-generation capacity in three provinces and eight American states. It generates electricity using a variety of energy sources, with about 20 per cent of its source energy coming from renewable or recycled sources.

At the Committee meeting of October 6, 2010, the representative from Capital Power Corporation discussed Capital Power's role in the electricity market. The presenter commented that Capital Power invested more than \$1.8 billion in new generation facilities in the province, which are intended to provide electricity to the market for the next 30 to 40 years.

The presenter also discussed some measures of success for Alberta's electricity market. First is the availability of supply and whether it arrives at the marketplace in time to meet consumer demand, and second is the number and types of suppliers from whom the consumer can choose to buy. According to the representative, Alberta has been successful in both respects. Since 2000, in the early days of deregulation, more than 3,000 megawatts of new generation has been added to the system, and another 1,000 megawatts will be added over the next year. In addition, 1,500 megawatts are approved for construction, and more than 10,000 megawatts of power generation projects (which may or may not be built) are in the queue. The presenter added that there is a range of suppliers, from large industrial to mid-size commercial to residential electricity providers, from which consumers can choose.

The presenter also commented on electricity transmission in the province. He stated that power generation plants have typically been built in "economic locations" in the past; however, no new transmission capacity has been added in the last 20 years except for a line to Fort McMurray and a line to the northwest part of the province. The presenter stated that "from a system reliability perspective" the shortage of new transmission is "of some concern." The representative also noted that there have been three emergency alerts in 2010 to date, demonstrating that there is congestion in the system which could expose customers to "some danger."

The representative from Capital Power went on to discuss the impact of federal government rules concerning electricity generation and greenhouse gas emissions. He noted that a federal plan addressing capital stock turnover (CST) states that existing coal plants are limited to a life of 45 years in order to reduce greenhouse gas emissions. Moreover, any new coal plant that is built must meet natural gas emission standards. The presenter pointed out that the retirement of the coal generation fleet will occur in "a measured way probably over the next 15 to 20 years," which will allow the system to adapt to the availability of new energy sources. Over the next 10 years approximately 2,000 megawatts of coal power will be retired. He noted that Capital Power believes that the 45-year limit on existing coal plants will over

time reduce greenhouse gas emissions and other emissions and, moreover, that the tax on carbon levied in Alberta has been effective in managing the use of carbon. The presenter ended by stating that Capital Power continues to be involved in research related to the reduction of carbon emissions in the process of coal combustion as it relates to electricity production. He believes that there will be opportunities over the long term to continue to use coal to meet the province's electricity requirements.

Appendix: List of Presenters

The Standing Committee on Resources and Environment invited the Alberta Federation of Rural Electrification Associations (AFREA), Independent Power Producers Society of Alberta (IPPSA), Canadian Wind Energy Association (CanWEA), Enmax Corporation and Capital Power Corporation to present to the Committee at its October 6, 2010, meeting in response to the organizations' requests to appear before the Committee.

The following individuals participated in the public meeting:

| Name | Title |
|---|--|
| Alberta Federation of Rural Electrification Associations (AFREA) | |
| Merv Rockel | President, Board of Directors |
| Al Nagel | CEO |
| Dan Astner | Vice-president, Board of Directors |
| Glenn Hennig | Board Member |
| Independent Power Producers Society of Alberta (IPPSA) | |
| Evan Bahry | Executive Director |
| Canadian Wind Energy Association (CanWEA) | |
| David Huggill | Western Canada Policy Manager |
| Enmax Corporation | |
| Gary Holden | President and CEO |
| Ian Todd | Vice-president, Government and Media Relations |
| Capital Power Corporation | |
| Jim Oosterbaan | Senior Vice-president, Commercial Services |
| Dwain May | Senior Manager, Government Relations |

