

## **APPENDIX H    PARTICIPANT INVOLVEMENT PROGRAM (PIP)**

## Participant Involvement Program (PIP)

The AESO conducted a Participant Involvement Program (PIP) throughout the development of its Needs Identification Document to address the need for major transmission reinforcement in the Hanna region (east central Alberta).

The AESO PIP ran from October 2008 through July 2009, and was designed to notify, consult and engage a variety of stakeholders with interests in transmission development in the Hanna region (east central Alberta). These stakeholders were identified as:

- Residents, occupants, landowners and businesses in the Hanna region (east central Alberta);
- Elected and administrative government officials at local, municipal and provincial levels;
- Industry;
- First Nations and Métis with interests in east central Alberta; and
- Advocacy groups

The AESO used a variety of methods to notify, consult and engage members of these groups about:

- 1) The need for transmission development in the Hanna region (east central Alberta); and
- 2) Alternatives for meeting this need.

Table H-1 presents a complete account of the methods used by the AESO to notify, consult and engage stakeholders for this application.

**Table H-1: Communications methods used by the AESO**

<b>Communications Vehicle</b>	<b>Notification</b>	<b>Consultation and engagement</b>
Mailout	X	X
Newspaper ads	X	X
Media	X	
Press release	X	
Web postings	X	
Meetings (presentations)	X	X
Open Houses (information sessions)	X	X
Correspondence (email, mail)	X	X
Telephone	X	X
Industry Sessions	X	X

The AESO used these communications methods to carry out a variety of PIP activities aimed at sharing information with stakeholders and gathering their feedback. Table H-2 below describes in greater detail the PIP activities that the AESO executed in support of this application.

**Table H-2: PIP activities described**

<b>PIP activity</b>	<b>Description</b>	<b>Target Audience</b>	<b>Number</b>	<b>Date (or range)</b>
Industry information session	Presentations to industry wind integration stakeholders	Wind developers, generators, TFOs, DFOs, load customers, advocacy groups, and consultants	2 sessions	October 30, 2008 June 19, 2009
Newspaper ads placed in east central Alberta newspapers	Open House advertisement	Residents, occupants, landowners and businesses	12 local papers	February-March, 2009
	Open house advertisement	Residents, occupants, landowners and businesses	2 local papers	June, 2009
Media	Articles on AESO need and consultation efforts	Residents, occupants, landowners and businesses	8	October, 2008 to March, 2009
Mailout by postal code	Need overview and Open House schedules	Residents, occupants, landowners and businesses	57,589 (pieces)	February 5, 2009

<b>PIP activity</b>	<b>Description</b>	<b>Target Audience</b>	<b>Number</b>	<b>Date (or range)</b>
Media Release	Notice advising on potential transmission reinforcement in the Hanna area	East Central Alberta Media	1	February 20, 2009
Web postings	Various information documents	All stakeholders (with internet access)	11	November , 2008 to present
Meetings	Presentations on need	Elected and administrative government officials	9 Meetings	October 28, 2008 – March 17, 2009
Open Houses (Round 1)	Sharing information on need and alternatives	All stakeholders (near event locations)	10 (188 stakeholders self-registered)	April 28 – May 15, 2009
Mailout by postal code for Open Houses (Round 2)	Need overview and Open House schedules	Residents, occupants, landowners and businesses	17,794 (pieces)	June 8, 2009
Open Houses (Round 2)	Sharing information on need and alternatives in two new areas	All stakeholders (near event locations)	2 (18 stakeholders self-registered)	June, 2009
Mail out (unaddressed mail, addressed mail) and email	Stakeholder mail out advising on need	MLAs; CAOs; Town, County and MD Councils; First Nations and Métis; advocacy groups and stakeholders in study area	approximately 57,700	July, 2009



## 1.1 Description of Participant Involvement Program Products and Activities

### AESO Need Overview on Area Reinforcement

The AESO developed a 'need overview,' a background document that describes the need for transmission reinforcement in east central Alberta. The need overview explains that the primary drivers for transmission development in east central Alberta are the need to integrate wind interest as well as meet the demand for electricity caused by pipeline development. A copy of this document was posted to the AESO web site (<http://www.aeso.ca/transmission/17875.html>) on February 12, 2009. This need overview was noted in the AESO weekly Stakeholder newsletter on February 12, 2009. A copy of the need overview has been included in this appendix.

The need overview was updated in June, 2009, with additional potential transmission reinforcement near the Brooks and Drumheller areas of east central Alberta. A copy of this document was posted to the AESO web site (<http://www.aeso.ca/transmission/17875.html>) on June 24, 2009. A copy of the need overview has been included in this appendix under 'Exhibit A'.

### Advertising

Between February and March 2009, and in June 2009, the AESO advertised in local east central Alberta newspapers to notify readers of:

- The need for transmission development in east central Alberta; and
- Open House dates, locations and times

Table H-3 shows the dates and publications in which the AESO advertised the need for transmission development in east central Alberta and notice of the Open Houses.

**Table H-3: Newspaper Advertising Schedule (2009)**

Publication	Description of advertisement	
	Round One Open House	Round Two Open House
Wainwright Edge	February 13, 2009	
Wainwright Review	February 18, 2009	
Wainwright Star	February 16, 2009	

Publication	Description of advertisement	
	Round One Open House	Round Two Open House
Sedgewick Community Press	February 17, 2009	
Consort Enterprise	February 18, 2009	
Provost News	February 18, 2009	
Oyen Echo	February 24, 2009	
Hanna Herald	February 24, 2009	
Drumheller Mail	February 25, 2009	June 10, 2009
Drumheller Valley Times	February 24, 2009	
Three Hills Capital	March 4, 2009	
Stettler Independent	March 4, 2009	
Brooks Bulletin		June 9, 2009

The advertisements for Open Houses provided a general overview of the need, a map of the existing facilities, areas potentially affected and contact information for the AESO. The advertisements also notified readers of the dates and times of the Open Houses. Copies of these newspaper advertisements were posted to the AESO web site (<http://www.aeso.ca/transmission/17874.html>). Copies of the advertisements has been included in this appendix under 'Exhibit B'.

The AESO employed its Stakeholder Engagement Process to develop its PIP for the transmission reinforcement in the Hanna Region (East Central Alberta) project. Summary of the feedback the AESO heard and collected through the PIP is the subject of the following sections.

### Open Houses

#### *Round One*

The AESO held 10 Open Houses throughout east central Alberta between February 23, 2009 and March 10, 2009. 188 people attended, as measured by those who chose to sign-in and register. Some stakeholders attended more than one session while other stakeholders arrived in pairs or groups with only one person signing the registration and others opted not to sign-in. AESO employees participated in these events. Additionally,

representatives from the TFO (ATCO Electric) also participated. Table H-4 lists the Open House locations and the registered attendance at each location.

### *Round Two*

The AESO held 2 more Open Houses in Brooks and Drumheller in east central Alberta on June 22 and June 23, 2009, to discuss additional potential transmission reinforcement near those areas. 18 people attended, as measured by those who chose to sign-in and register. Some stakeholders attended more than one session while other stakeholders arrived in pairs or groups with only one person signing the registration and others opted not to sign-in. AESO employees participated in these events. Additionally, representatives from the TFO (ATCO Electric) also participated. Table H-4 lists the Open House locations and the registered attendance at each location.

Please find copies of the poster boards displayed during each round of open houses in this appendix under 'Exhibit C'.

Stakeholders attending each event were asked to register and complete surveys before leaving. These surveys allowed the AESO to gather stakeholders' feedback on the need and the alternatives to meet this need.

**Table H-4: Open House Locations and Attendance by Stakeholders**

<b>Open House Attendance</b> (measured by signed registrations)	
<b>Location</b>	<b>Attendance</b>
Wainwright	16
Hardisty	26
Provost	8
Consort	10
Oyen	20
Hanna	41
Drumheller	32
Hussar	9
Three Hills	4
Stettler	29
Brooks	11
<b>Total Attendees</b>	<b>206</b>
<b>Average Attendees</b>	<b>17.1</b>
<b>Median Attendees</b>	<b>13.5</b>

Stakeholders were generally escorted through the Hanna project poster boards by AESO staff members who also recorded stakeholder comments, suggestions and questions. ATCO's representatives were available to answer questions as well. All stakeholders were asked to complete Participant Surveys at the end of their visit. If a stakeholder made the same comment on their Participant Survey as recorded separately by AESO staff notes, the issue was captured in the above table only once.

### Stakeholder Meetings

Throughout the development of this application, the AESO met with elected and administrative officials from Towns, Municipal Districts and Counties. A copy of the presentation delivered during these meetings is inserted in this appendix under 'Exhibit D'.

The AESO met with Counties and Municipal Districts across east central Alberta, including:

- . County of Paintearth
- . Cypress County
- . Flagstaff County
- . MD of Provost
- . Stettler County
- . Town of Oyen
- . Town of Wainwright
- . MD of Wainwright
- . Village of Empress
- . Special Areas Board

The AESO also conducted an information session for stakeholders on potential reinforcement in the Hanna region (east central Alberta). A copy of the questions and answers from the session was also posted to the AESO web site at <http://www.aeso.ca/transmission/17874.html> on July 8, 2009. A copy of this document is inserted in this appendix under 'Exhibit E'.

In addition to meetings, the AESO sent information to MLAs across east central Alberta, including:

- . Battle River-Wainwright, Doug Griffiths, PC
- . Cypress-Medicine Hat, Len Mitzel, PC
- . Drumheller-Stettler, Hon. Jack Hayden, PC

Further, the AESO sent information directly to specific stakeholder groups, such as towns, municipal districts and counties, First Nations and Métis, and advocacy groups.

#### Postal Code Mail Out (unaddressed mail)

In February, 2009, the AESO developed a letter providing AESO application and contact information for mail out by postal code (unaddressed mail). This letter, along with the AESO need overview explaining the need for transmission in east central Alberta, was mailed to approximately 57,589 addresses (includes residences, businesses, schools, farms and hospitals) throughout east central Alberta. This letter was also posted to the AESO web site at <http://www.aeso.ca/transmission/17874.html> on February 12, 2009. The letter was noted in the AESO weekly Stakeholder newsletter on February 12, 2009.

In June, 2009, the AESO developed a second letter providing AESO application and contact information, as well as information about the additional two open houses, for mail out by postal code (unaddressed mail). This letter, along with the updated AESO need overview explaining the need for additional potential transmission in east central Alberta, was mailed to approximately 17,794 addresses (includes residences, businesses, schools, farms and hospitals) in the Brooks and Drumheller areas of east central Alberta. A copy of this document was posted to the AESO web site (<http://www.aeso.ca/transmission/17875.html>) on June 24, 2009. A copy of the letters has been included in this appendix under 'Exhibit F'.

#### Technical Document

The AESO also posted a 'Need Assessment' technical document on its website. This document described the AESO's assessment of the need.

#### Public responses to AESO PIP efforts

The AESO also received a variety of comments and inquires from stakeholders on the need to reinforce the east central Alberta transmission system and the alternatives the AESO developed to meet this need. This feedback was included in letters, emails and phone calls received by the AESO from stakeholders.

The largest source of stakeholder feedback, however, came from stakeholders' surveys and informal interviews with stakeholders at Open Houses held by the AESO in the winter and spring of 2009. The AESO received completed visitor surveys from the Open Houses. These surveys provided the AESO with qualitative and quantitative feedback on both stakeholders' Open House experience and their opinions about the need for transmission in east central Alberta and the alternatives proposed by the AESO for addressing this need. Meetings with stakeholders also afforded the AESO insights into stakeholders' preferences for transmission development in east central Alberta.

All forms of feedback provided opportunity for the AESO to learn the preferences of stakeholders

preference for discussing the project when the AESO was further along in its planning process and could provide alternatives related to geographic areas.

Feedback from meetings the AESO held with stakeholders in local governments, First Nations and those belonging to industry and advocacy groups ranged widely. Below is a general high-level synopsis:

- Municipalities were interested in mainly in tax revenue generated from industry (including power generation) locating to areas with adequate transmission capacity to support operations within the jurisdictions of Counties, Municipal Districts and Towns;
- First Nations requested TFO's keep them informed of routing discussions and some expressed interest in wind power generation;
- Wind developers suggested adequate transmission must be built in a timely way.

The AESO's review of stakeholder feedback reveals the need for transmission development in central eastern Alberta is recognized and accepted.

Table 5 lists a synopsis of issues raised by category as recorded through Participant Surveys and AESO staff notes.

**Table H-5: Issues Raised by Stakeholders**

<b>Issue</b>	<b>Times Mentioned</b>
<b>Transmission Technology</b>	23
<b>Environmental</b>	18
<b>Routing</b>	12
<b>EMF</b>	14
<b>Consultation Process</b>	13
<b>Project Cost</b>	12
<b>Safety</b>	10
<b>Exports</b>	9
<b>Other</b>	11
<b>Siting</b>	7
<b>Compensation</b>	7
<b>Need(Unspecified for/against)</b>	7
<b>Aesthetics</b>	4
<b>Accuracy of Information</b>	4
<b>For Need</b>	3
<b>Against Need</b>	3

<b>Property/Land Value</b>	3
<b>Aeso Mandate</b>	3
<b>Farming</b>	2
<b>Aboriginal Traditional Land Use</b>	2
<b>Reliability</b>	1
<b>Distrust of AESO</b>	1

## **EXHIBIT A**



## Transmission Reinforcement in the Hanna Region (East Central Alberta)

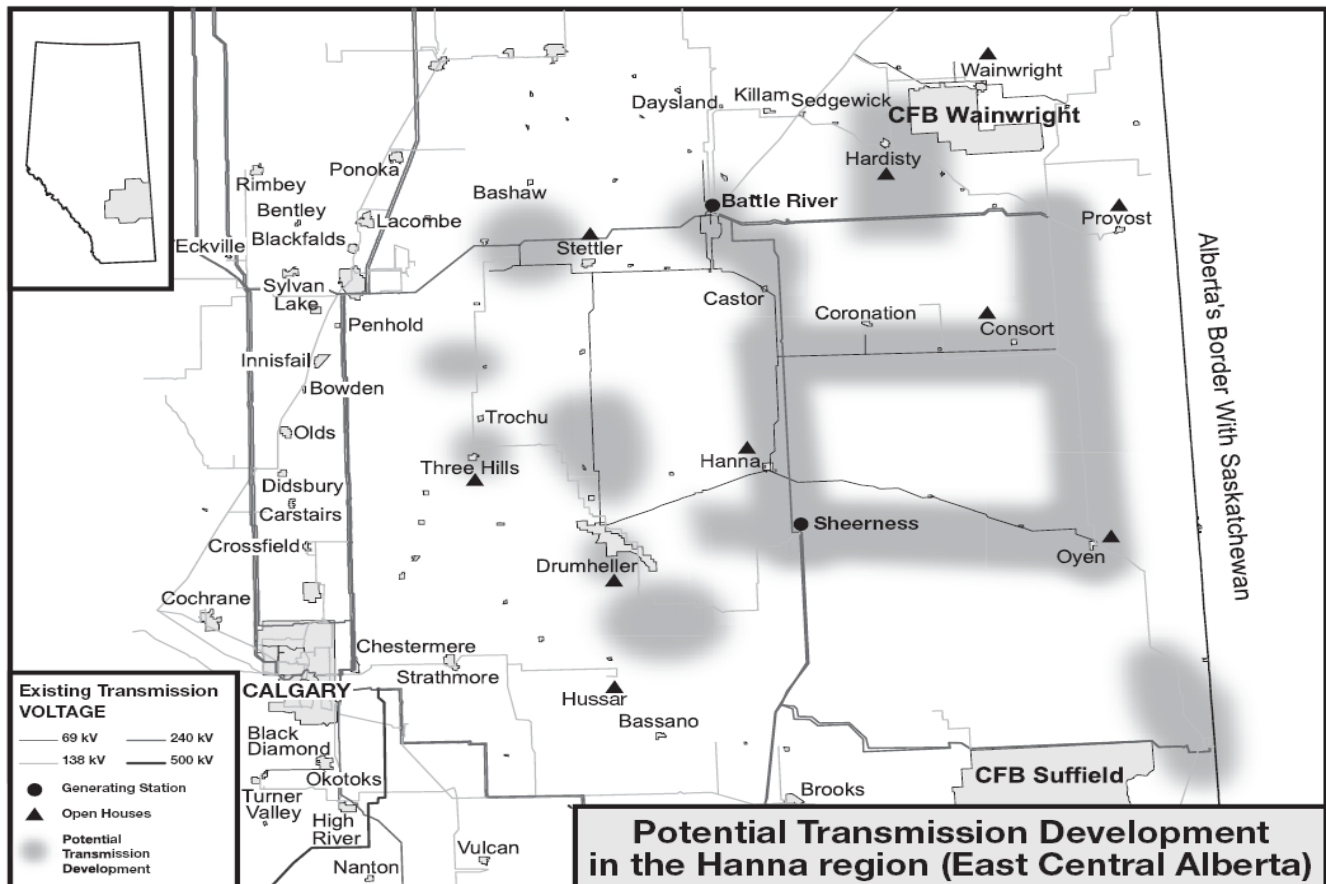
For more information please contact the AESO at 1.888.866.2959,  
[www.aeso.ca](http://www.aeso.ca) or [stakeholder.relations@aeso.ca](mailto:stakeholder.relations@aeso.ca)

### Who is the AESO?

The Alberta Interconnected Electric System (AIES), our province's transmission system or "grid," is planned and operated by the Alberta Electric System Operator (AESO). This network of higher-voltage transmission lines, towers and equipment carries ('transmits') electricity from generators to large industrial customers as well as lower-voltage systems that distribute it to cities, towns and rural areas. Our job is to maintain safe, reliable and economic operation of the provincial transmission grid.

### Why Transmission system reinforcement is needed for the Hanna region (East Central Alberta)?

System reinforcement is needed in the Hanna Region to meet growing demand for electricity and to interconnect proposed wind power developments. The AESO has received applications for wind power development of well over 11,500 megawatts (MW) in all of Alberta; over 1,400 MW of this total is distributed among wind farms proposed for the Hanna region. Over the next ten years, however, the AESO anticipates that up to 700 MW of this total may develop in the Hanna region. Additionally, demand for electricity in the Hanna region is forecast to increase. Pipeline development is the main driver for this increase. The existing transmission system in this region, however, is at capacity, and cannot carry any additional electricity. System reinforcement, therefore, is needed to meet increasing demand for electricity and to interconnect new wind farms.



The map above shows a shaded area where the AESO has identified potential areas for transmission system reinforcement.

(over)

### **Where will the new lines be proposed?**

Consultation with stakeholders will identify a preferred solution for reinforcing the system; the preferred solution will form part of our Needs Identification Document (NID) that we will submit to the Alberta Utilities Commission (AUC) later this year. We will also submit individual Needs Identification Documents to the AUC to connect wind power projects which successfully meet AESO's interconnection milestones.

The Hanna region is served by Transmission Facility Owners AltaLink and ATCO Electric. Should the AUC approve our NID, we will assign the larger system reinforcement and each new interconnection to the respective Transmission Facility Owner (AltaLink or ATCO), to build the required transmission facilities. Before AltaLink or ATCO can begin constructing these facilities, they must develop a Facilities Application which addresses, among other considerations, matters relating to routing, and submit this document to the AUC for approval. Further consultation with stakeholders will form a part of this application process.

### **What's happening right now?**

So far, our planning study has produced three main alternatives to address the challenges facing the transmission system in the Hanna region. After gathering stakeholder insights on our alternatives, our study will identify areas where transmission lines and other related facilities could be added to improve the system.

The targeted in-service date for these facilities is 2012.

*The AESO is committed to protecting your personal privacy in accordance with Alberta's Personal Information Protection Act. Any personal information collected by the AESO with regard to this project may be used to provide you with further information about the project, may be disclosed to the Alberta Utilities Commission (and as a result, may become public), and may also be disclosed to the eligible Transmission Facility Owner(s). If you have any questions about how the AESO will use and disclose your personal information collected with regard to this project, please contact us at 1-888-866-2959 or at [stakeholder.relations@aeso.ca](mailto:stakeholder.relations@aeso.ca).*

## Transmission Reinforcement in the Hanna Region (East Central Alberta)

For more information please contact the AESO at 1.888.866.2959,  
[www.aeso.ca](http://www.aeso.ca) or [stakeholder.relations@aeso.ca](mailto:stakeholder.relations@aeso.ca)

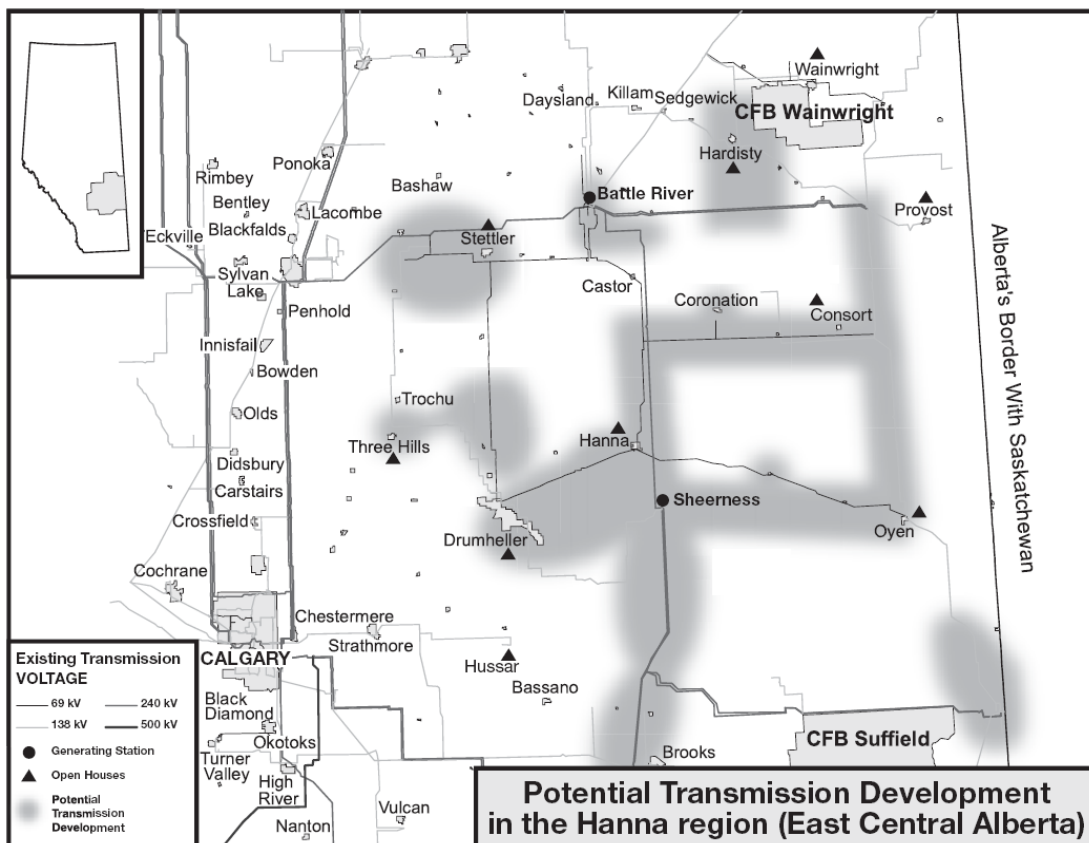
### Why Transmission system reinforcement is needed for the Hanna region (East Central Alberta)?

System reinforcement is needed in the Hanna Region to meet growing demand for electricity and to interconnect proposed wind power developments. The AESO has received applications for wind power development of well over 11,500 megawatts (MW) in all of Alberta, of which over 2,000 MW are proposed in the Hanna region. Over the next ten years, however, the AESO anticipates that up to 700 MW of this total wind capacity may be developed in the Hanna region. Additionally, demand for electricity in the Hanna region is projected to more than double over the next ten years. Pipeline development is the main driver for this increase in demand. The existing transmission system in this region, however, is at capacity, and cannot carry any additional electricity. System reinforcement, therefore, is needed to meet increasing demand for electricity and to interconnect new wind farms.

A review of detailed technical studies while forecasting plausible wind distribution in the Hanna and bulk system development in southern Alberta revealed that new lines from the Anderson substation south to the Ware Junction substation, and then again south to the West Brooks substation are required. In addition, some upgrades and new transmission facilities are found to be necessary to meet system requirements in the western part of the Hanna study area (the Drumheller, Delburne, Stettler and Rowley communities).

### Who is the AESO?

The Alberta Interconnected Electric System (AIES), our province's transmission system or "grid," is planned and operated by the Alberta Electric System Operator (AESO). This network of higher-voltage transmission lines, towers and equipment carries ("transmits") electricity from generators to large industrial customers as well as lower-voltage systems that distribute it to cities, towns and rural areas. Our job is to maintain safe, reliable and economic operation of the provincial transmission grid.



The map above shows a shaded area where the AESO has identified potential areas for transmission system reinforcement.

### **Where will the new lines be proposed?**

Consultation with stakeholders will identify a preferred solution for reinforcing the system; the preferred solution will form part of our Needs Identification Document (NID) that we will submit to the Alberta Utilities Commission (AUC) later this year. We will also submit individual Needs Identification Documents to the AUC to connect wind power projects which successfully meet AESO's interconnection milestones.

The Hanna region is served by Transmission Facility Owners AltaLink and ATCO Electric. Should the AUC approve our NID, we will assign the system reinforcement and each new interconnection to the respective Transmission Facility Owner (AltaLink or ATCO), to build the required transmission facilities. Before AltaLink or ATCO can begin constructing these facilities, they must develop a Facilities Application which addresses, among other considerations, matters relating to routing, and submit this document to the AUC for approval. Further consultation with stakeholders will form a part of this Facilities application process.

### **What's happening right now?**

So far, our planning studies produced three main alternatives to address the challenges facing the transmission system in the Hanna region. After gathering stakeholder insights on our alternatives, our study will identify areas where transmission lines and other related facilities could be added to strengthen the system.

The targeted in-service date for these facilities is 2012.

*The AESO is committed to protecting your personal privacy in accordance with Alberta's Personal Information Protection Act. Any personal information collected by the AESO with regard to this project may be used to provide you with further information about the project, may be disclosed to the Alberta Utilities Commission (and as a result, may become public), and may also be disclosed to the eligible Transmission Facility Owner(s). If you have any questions about how the AESO will use and disclose your personal information collected with regard to this project, please contact us at 1-888-866-2959 or at [stakeholder.relations@aesocanada.com](mailto:stakeholder.relations@aesocanada.com).*

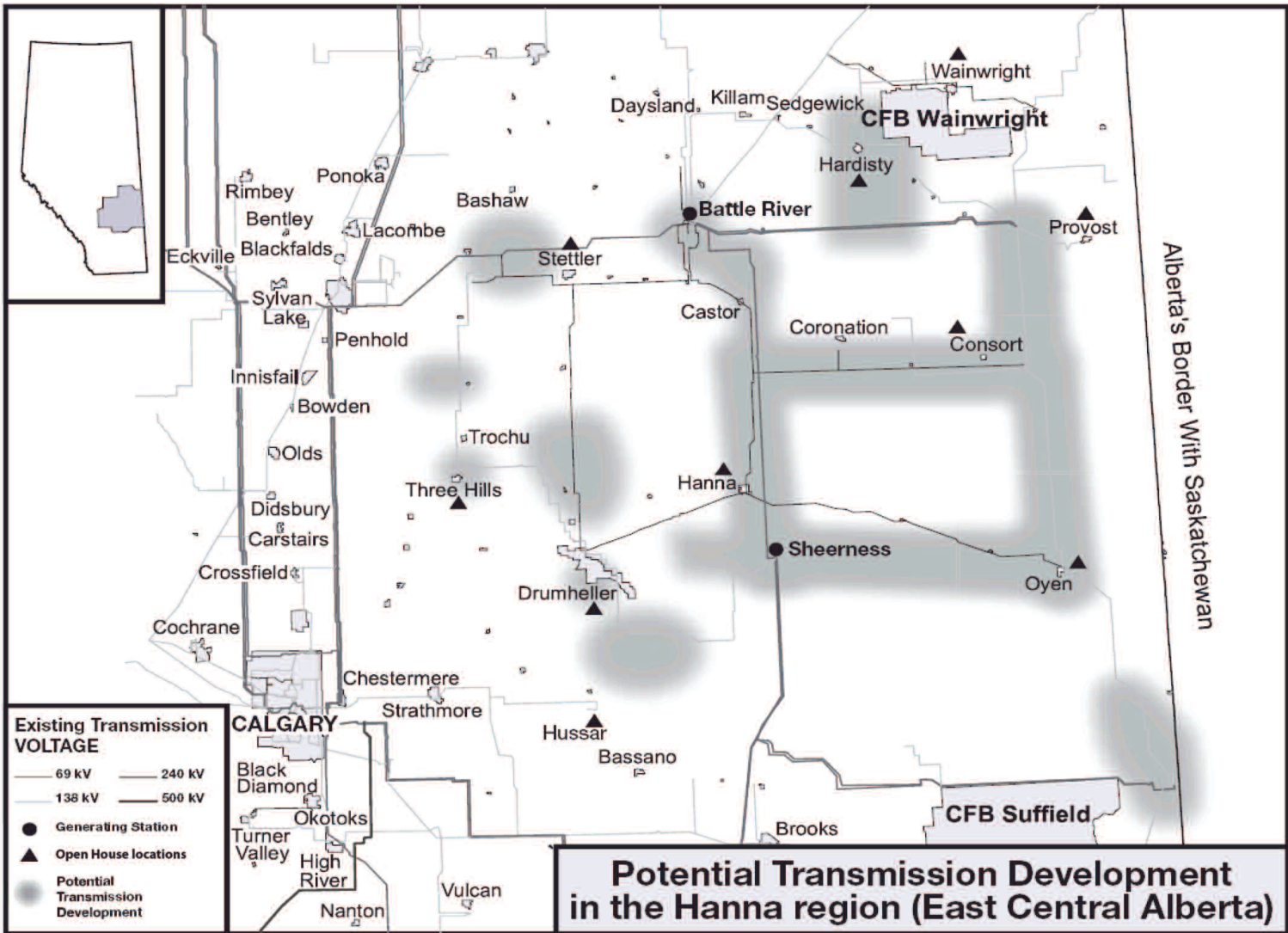
## **EXHIBIT B**



You're Invited... We're Listening

Open Houses on Transmission Development in the Hanna Region

<b>Wainwright</b> Monday, February 23 4pm – 8pm Wainwright Communiplex	<b>Hardisty</b> Tuesday, February 24 4pm – 8pm Hardisty Community Hall	<b>Provost</b> Wednesday, February 25 4pm – 8pm Provost Recreation & Culture Centre	<b>Consort</b> Thursday, February 26 4pm – 8pm Consort Community Hall	<b>Oyen</b> Monday, March 2 4pm – 8pm Seniors Recreation Centre
<b>Hanna</b> Tuesday, March 3 4pm – 8pm Hanna Legion Hall	<b>Drumheller</b> Wednesday, March 4 4pm – 8pm Meeting Room, Hotel Ramada	<b>Hussar</b> Thursday, March 5 4pm – 8pm Hussar Community Hall	<b>Three Hills</b> Monday, March 9 4pm – 8pm Meeting Room, Super 8 Motel	<b>Stettler</b> Tuesday, March 10 4pm – 8pm Recreation Centre



The shaded areas on the map above show where potential transmission development might occur. After Open Houses where the AESO will discuss improving the transmission system with residents and other stakeholders, the AESO will make an informed recommendation about how to improve the transmission system in the Hanna region.

The AESO invites you to Open Houses to discuss the need for transmission development in east central Alberta, also known as the Hanna region.

In our role as planner of the transmission system for all Albertans, the Alberta Electric System Operator (AESO) has identified the need to reinforce the electric transmission system in the Hanna region (east central Alberta). We are currently investigating the need to add transmission system capacity in the Hanna region to serve increasing demand for electricity and to connect proposed wind generation developments to the transmission system.

We are holding a series of Open Houses throughout the Hanna region to provide opportunities for residents to discuss the need to improve the transmission system in this area, and to provide a better understanding of where transmission development may take place.

AESO planners have developed three possibilities for improving the transmission system. Our Open Houses will provide visitors with information about these alternatives and help AESO planners gather visitors' comments about these alternatives. Stakeholder input will form an important part of the AESO's decision about how to address the need in this area.


We invite residents living within (or near) the shaded areas depicted on the map above, to visit us at one of our events. AESO staff will be on hand to discuss this need, answer your questions and record your comments.

Please note: The map does not identify potential line routes. Line routes will be developed by Transmission Facility Owners through public consultation later in the regulatory process governing transmission development in Alberta.

Please visit our web site, [www.aeso.ca](http://www.aeso.ca), for more information, or contact the AESO at 1-888-866-2959 or [stakeholder.relations@aesocanada.com](mailto:stakeholder.relations@aesocanada.com).

The AESO is committed to protecting your personal privacy in accordance with Alberta's Personal Information Protection Act. Any personal information collected by the AESO with regard to this project may be used to provide you with further information about the project, may be disclosed to the Alberta Utilities Commission (and as a result, may become public), and may also be disclosed to the eligible Transmission Facility Operator(s). If you have any questions about how the AESO will use and disclose your personal information collected with regard to this project, please contact us at 1-888-866-2959 or at [stakeholder.relations@aesocanada.com](mailto:stakeholder.relations@aesocanada.com)



 tmp.worldwide Integrated Marketing Communications
Artist:
Production Only
Docket: 103047
Date: Feb 9, 2009
Size: 8.37"
Proof: 6.1
1 of 3
Publication(s):
6 Column

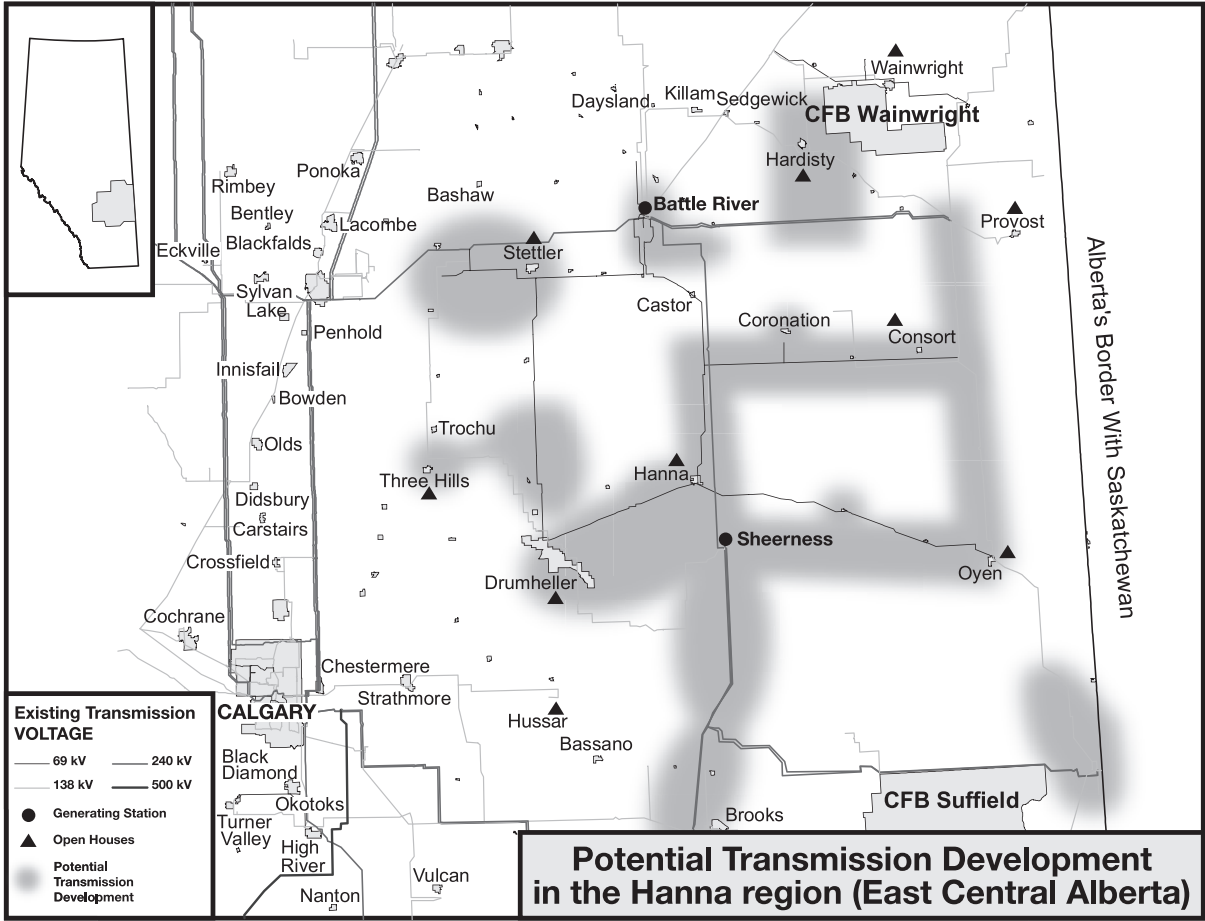
# You're invited...we're listening

## Two Open Houses for Additional Transmission Development in the Hanna region

*Please join us at either of the Open Houses listed below between 4:00pm and 8:00pm.*

**Brooks, June 22**  
**Banquet Room C, Heritage Inn**

**Drumheller, June 23**  
**Meeting Room, Drumheller Inn**



*The shaded areas on the map above show where potential transmission development might occur. After the two additional open houses where the AESO will discuss improving the transmission system with residents and other stakeholders, the AESO will make an informed recommendation about how to improve the transmission system in the Hanna region.*

**The AESO invites you to two additional Open Houses to discuss the need for transmission development in east central Alberta, also known as the Hanna region.**

In our role as planner of the transmission system for all Albertans, the Alberta Electric System Operator (AESO) has identified the need to reinforce the electric transmission system in the Hanna region (east central Alberta). We are investigating the need to add transmission system capacity in the Hanna region to serve increasing demand for electricity, and to connect proposed wind generation developments to the transmission system.

In February and March of this year we held 10 Open Houses throughout the area to explain the project and gather public feedback.

As a result of further analysis we see the need for more transmission development than previously outlined, specifically in the areas north and east of the Town of Drumheller, as well as north of the City of Brooks. We will host two more Open Houses in these areas. Two transmission facility owners, AltaLink and ATCO Electric, will also be in attendance to answer your questions.

Please join us at either of the events listed above. AESO staff will be on hand to discuss this need, answer your questions and record your comments.


**Please note: The map does not identify potential line routes. Line routes will be developed by transmission facility owners through public consultation later in the regulatory process governing transmission development in Alberta.**

After receiving community input, the AESO will make recommendations on need and preferred options in a Needs Identification Document to be filed with the Alberta Utilities Commission.

Please visit our web site, [www.aeso.ca](http://www.aeso.ca), for more information, or contact the AESO at 1-888-866-2959 or [stakeholder.relations@aeso.ca](mailto:stakeholder.relations@aeso.ca).

*The AESO is committed to protecting your personal privacy in accordance with Alberta's Personal Information Protection Act. Any personal information collected by the AESO with regard to this project may be used to provide you with further information about the project, may be disclosed to the Alberta Utilities Commission (and as a result, may become public), and may also be disclosed to the eligible Transmission Facility Operator(s). If you have any questions about how the AESO will use and disclose your personal information collected with regard to this project, please contact us at 1-888-866-2959 or at [stakeholder.relations@aeso.ca](mailto:stakeholder.relations@aeso.ca)*



 tmp.worldwide <small>Integrated Marketing Communications</small>
Artist: <b>2N</b>
<i>Production Only</i>
Docket: 103061
Date: June 5, 2009
Size: 6.75"
Proof: 1
1 of 1
Publication(s): Brooks Bulletin Drum Mail

## **EXHIBIT C**



# Welcome

The AESO welcomes you to its Open Houses on the Need to reinforce the electricity system in the Hanna Region (east central Alberta).

- Registration
- Orientation





# Our Principles for Public Involvement in Transmission System Planning

1. Every member of the public must have an opportunity to comment on the plans.
2. The public must have an opportunity to be informed in a timely manner of the direction, plans, status of issues and decisions related to a project.
3. The experience and expertise offered through public involvement is used to improve the quality and implementation of decisions.
4. The public involvement process and the rationale for decisions are transparent.

**A STAKEHOLDER is**

Anyone who has a “stake”  
in the outcome of the project





## The AESO is:

A not-for-profit statutory company, operating in the public interest.

Independent of any company or person with a material interest in the electric industry.

## AESO Key Functions:

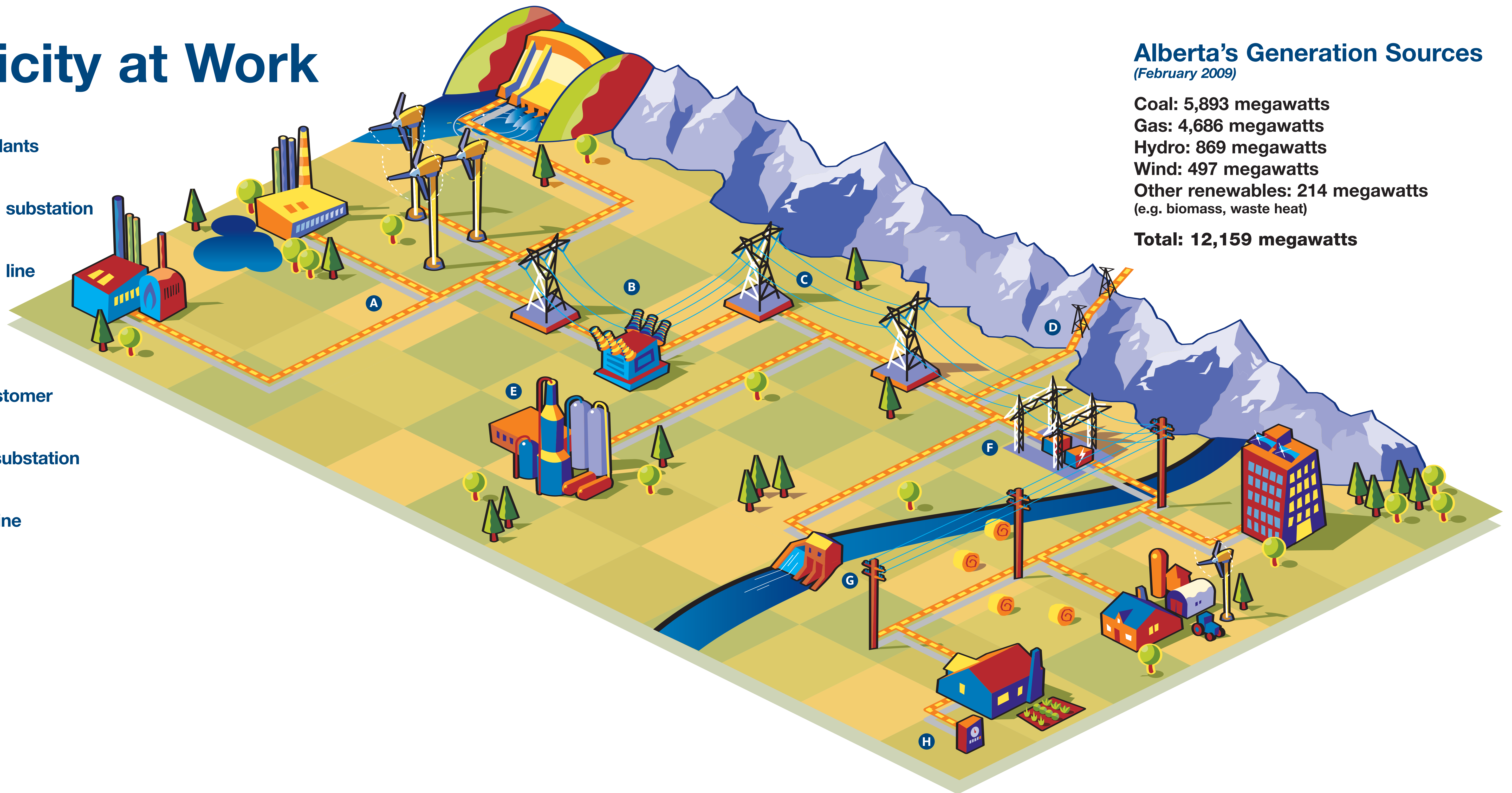
Operation and long-term planning of the Alberta Interconnected Electric System to ensure reliable service to Albertans.

Promote a fair, efficient and openly competitive market for electricity in Alberta.



# Electricity at Work

- A** Generating plants
- B** Transmission substation
- C** Transmission line
- D** Intertie
- E** Industrial customer
- F** Distribution substation
- G** Distribution line
- H** Power meter



## Alberta's Generation Sources (February 2009)

Coal: 5,893 megawatts  
 Gas: 4,686 megawatts  
 Hydro: 869 megawatts  
 Wind: 497 megawatts  
 Other renewables: 214 megawatts  
 (e.g. biomass, waste heat)

**Total: 12,159 megawatts**



# Transmission System Planning at the AESO

- 20-Year Transmission System Outlook – generation and load focused; high level conceptual transmission alternatives
- 10-Year Transmission System Plan – roadmap for transmission development and context for Need Applications
- Individual Need Applications

## The AESO's Transmission System Planning Process

Two main drivers of transmission planning:

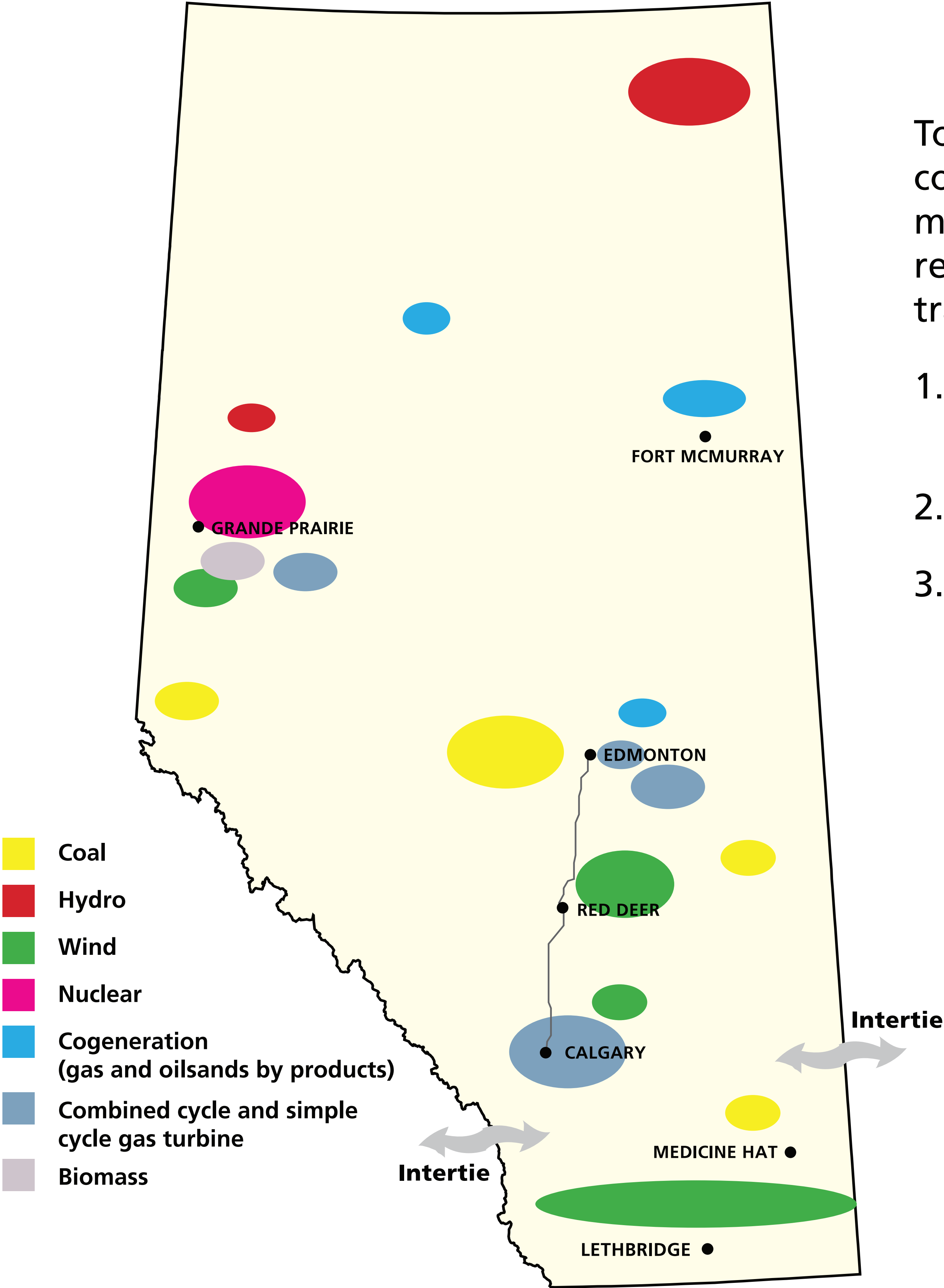
1. Load growth (demand)
2. Generation development (supply)

## Transmission System Expansion

The AESO is constantly monitoring the capacity of the transmission system to reliably meet Alberta's demand for electricity. As our population grows and our economy expands, the need for electricity increases. To maintain reliability, the transmission system must keep pace with Alberta's growth.



# Alberta's Potential Long Term Generation Development



To facilitate Alberta's competitive electricity market the AESO is required to plan transmission to:

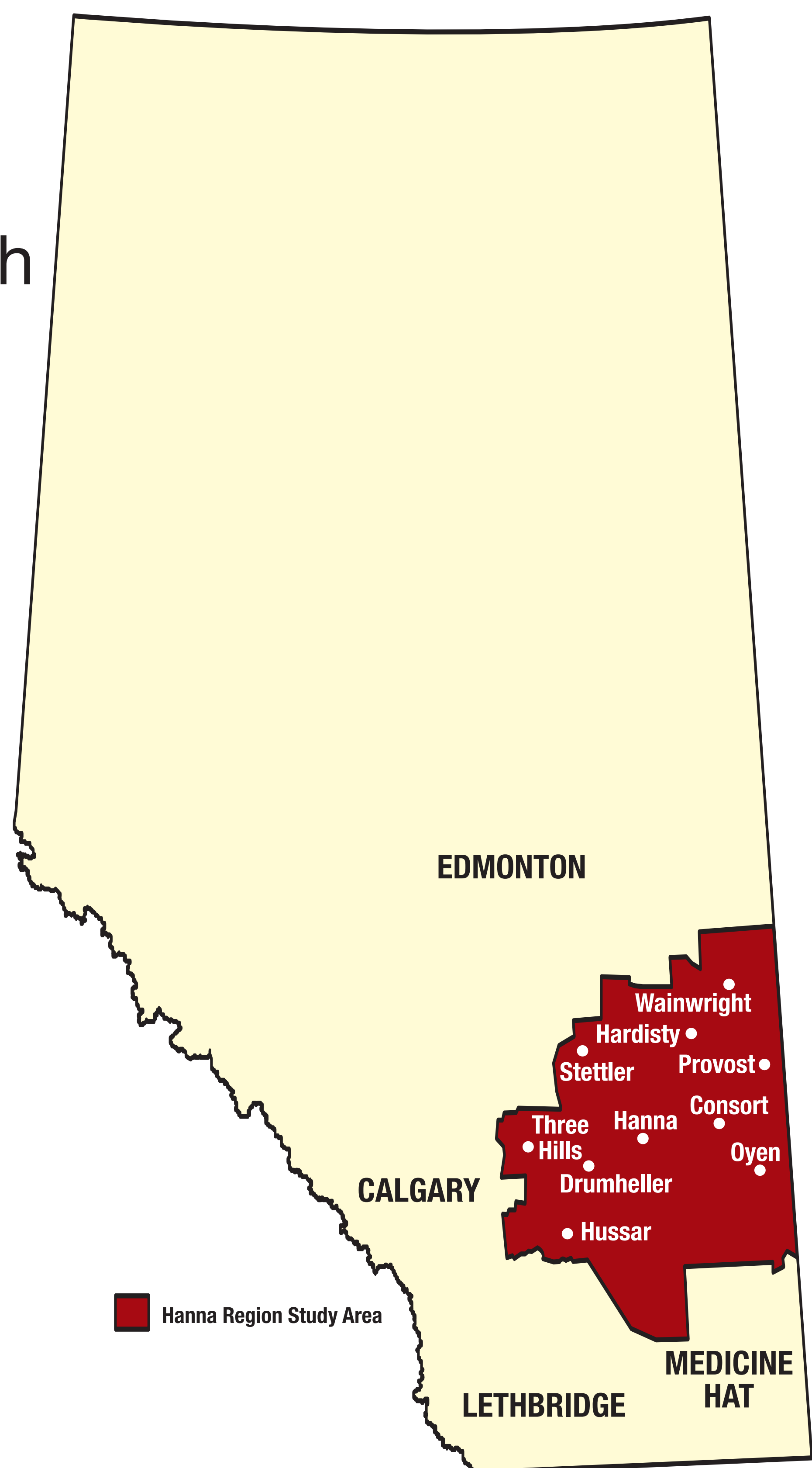
1. Accommodate new generation
2. Eliminate congestion
3. Restore existing intertie capacity



# Hanna Region Study Area

Hanna Region Study Area roughly comprised of:

- Special Areas 2, 3 and 4
- MD of Wainwright
- MD of Provost
- Flagstaff County
- County of Stettler
- County of Paintearth
- Cypress County
- CFB Suffield
- CFB Wainwright







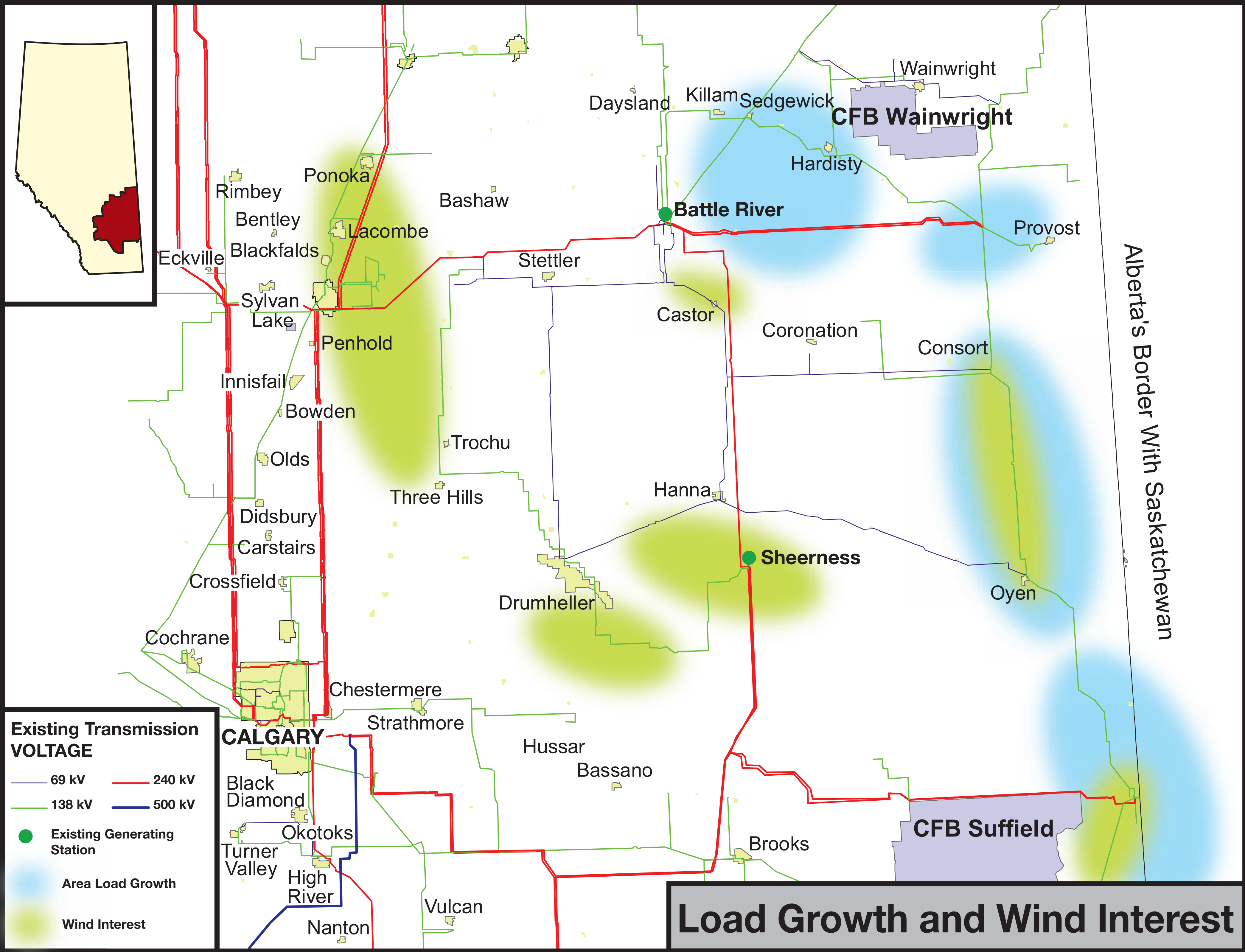
## Overview of Need – Hanna Region

The transmission in this area lacks the capacity to supply additional demand or to integrate new generation

- Demand for electricity in this region is growing rapidly
- Load (demand) growth areas:
  - Wainwright, Provost and Hanna areas
  - Load is expected to double over the next 10 years
- Wind interest in this area: Over 1,500 MW



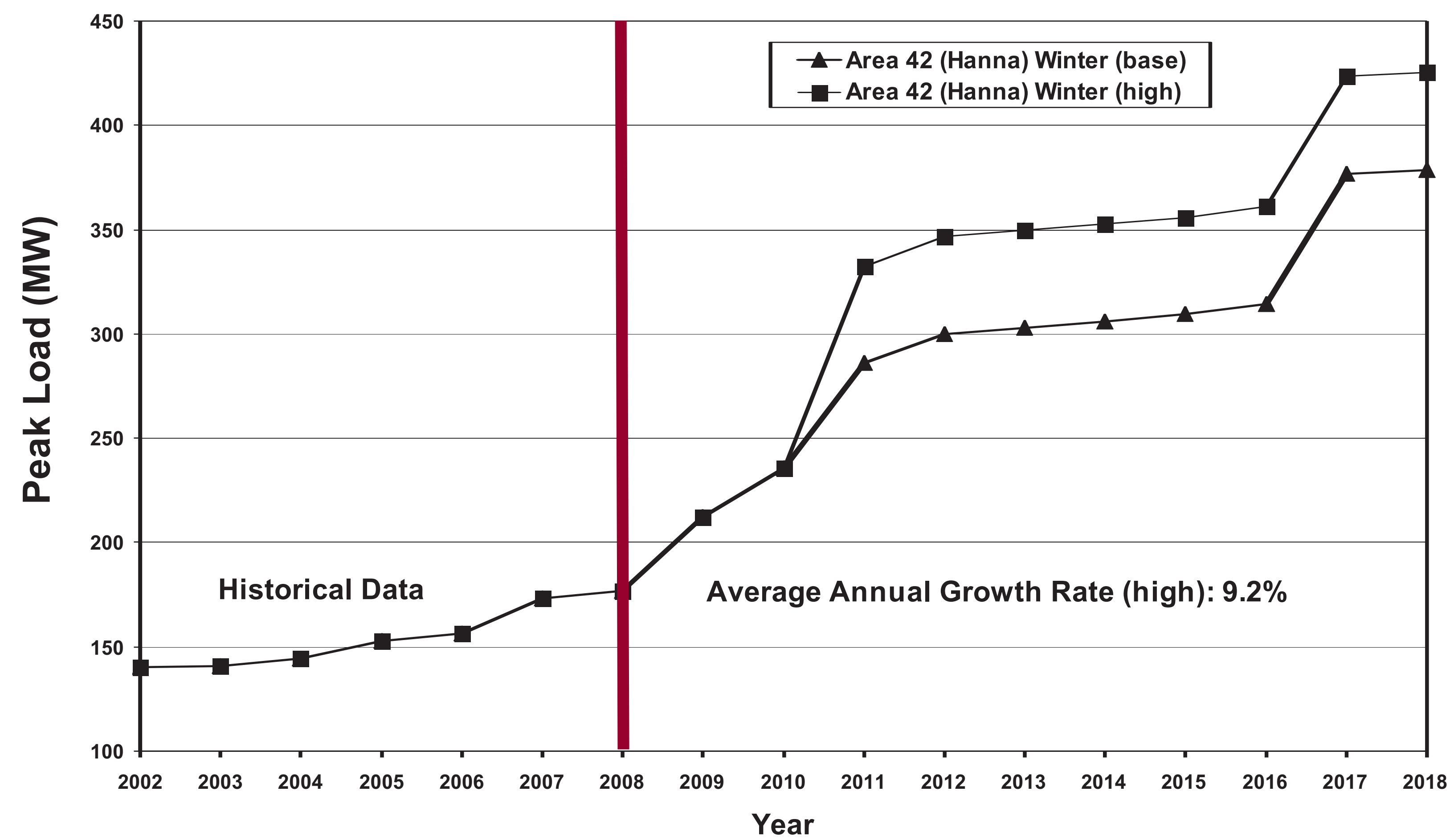
# Map of Load (demand) and Wind Interest in Hanna Region



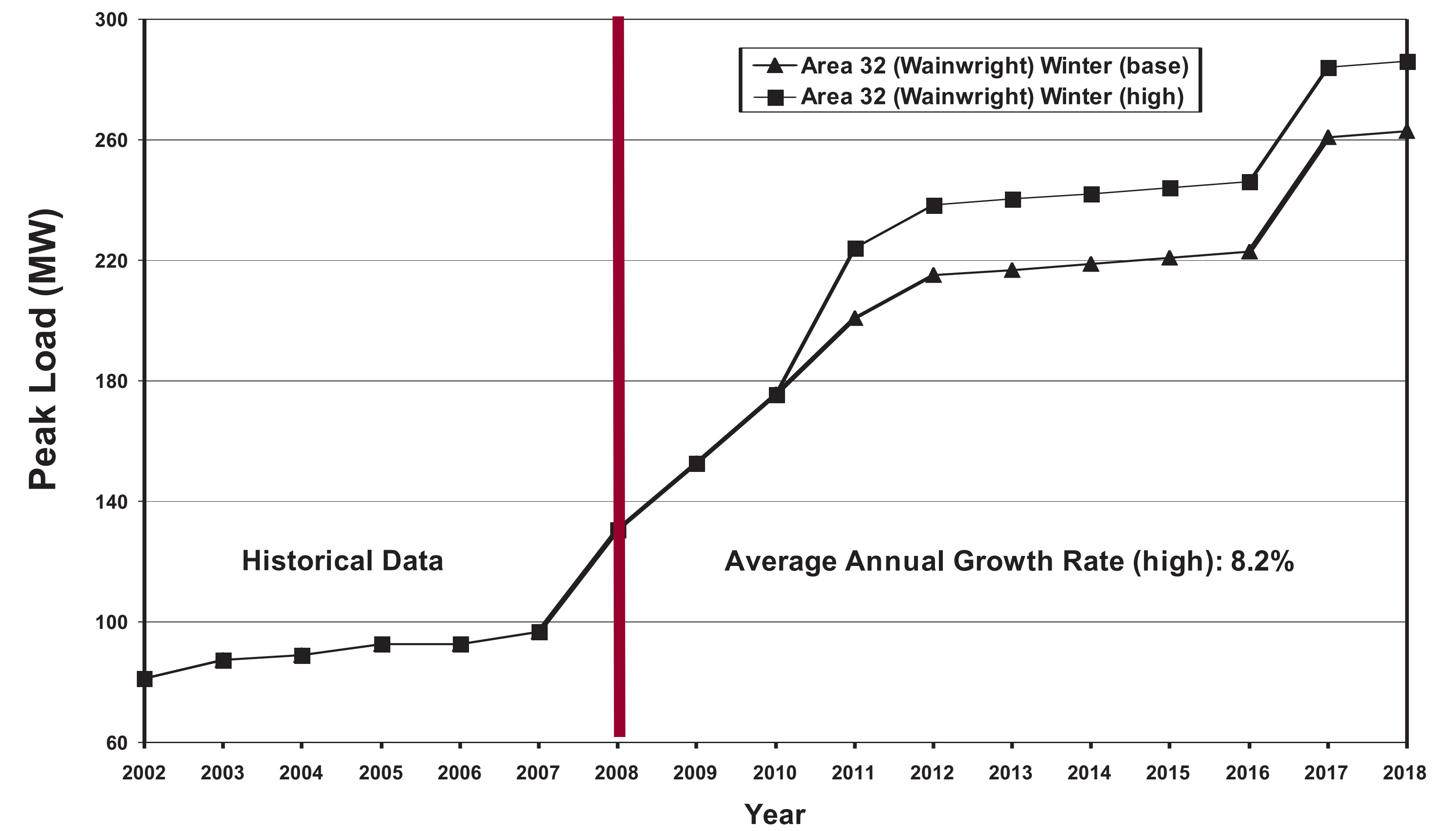


www.aeso.ca

### Hanna Area Load Forecast (with Pipeline Loads)



### Wainwright Area Load Forecast (with Pipeline Loads)







# Integrating Wind Energy

## Challenge

- Wind energy is variable and can be unpredictable

## AESO Measures to Integrate Wind

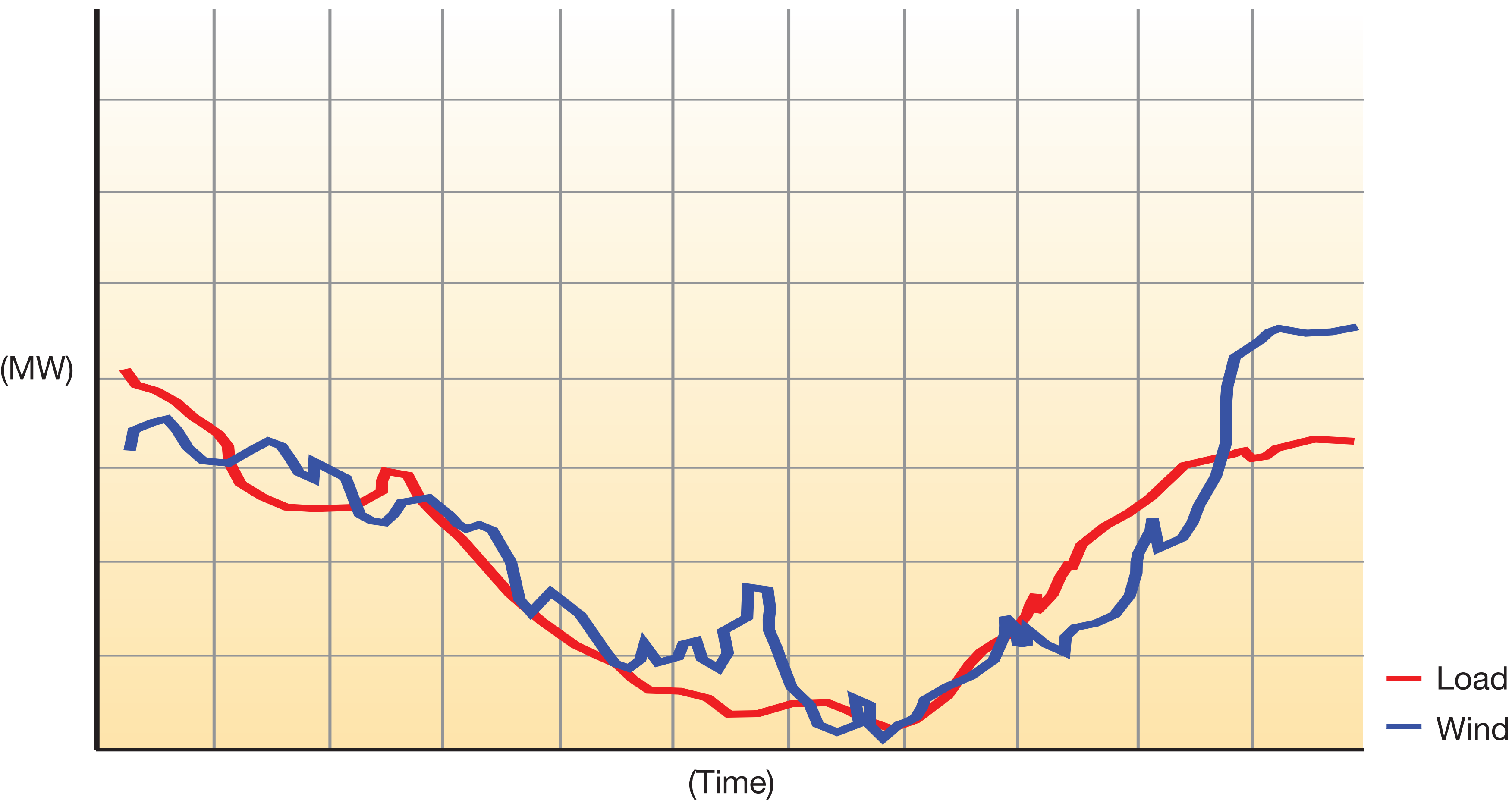
- The Market & Operational Framework
- The AESO wind power interconnection process
- Generation projects queue
- AESO need applications
  - South Alberta Transmission Reinforcement (NID submitted December 2008)
  - Hanna Region Reinforcement (NID in development)



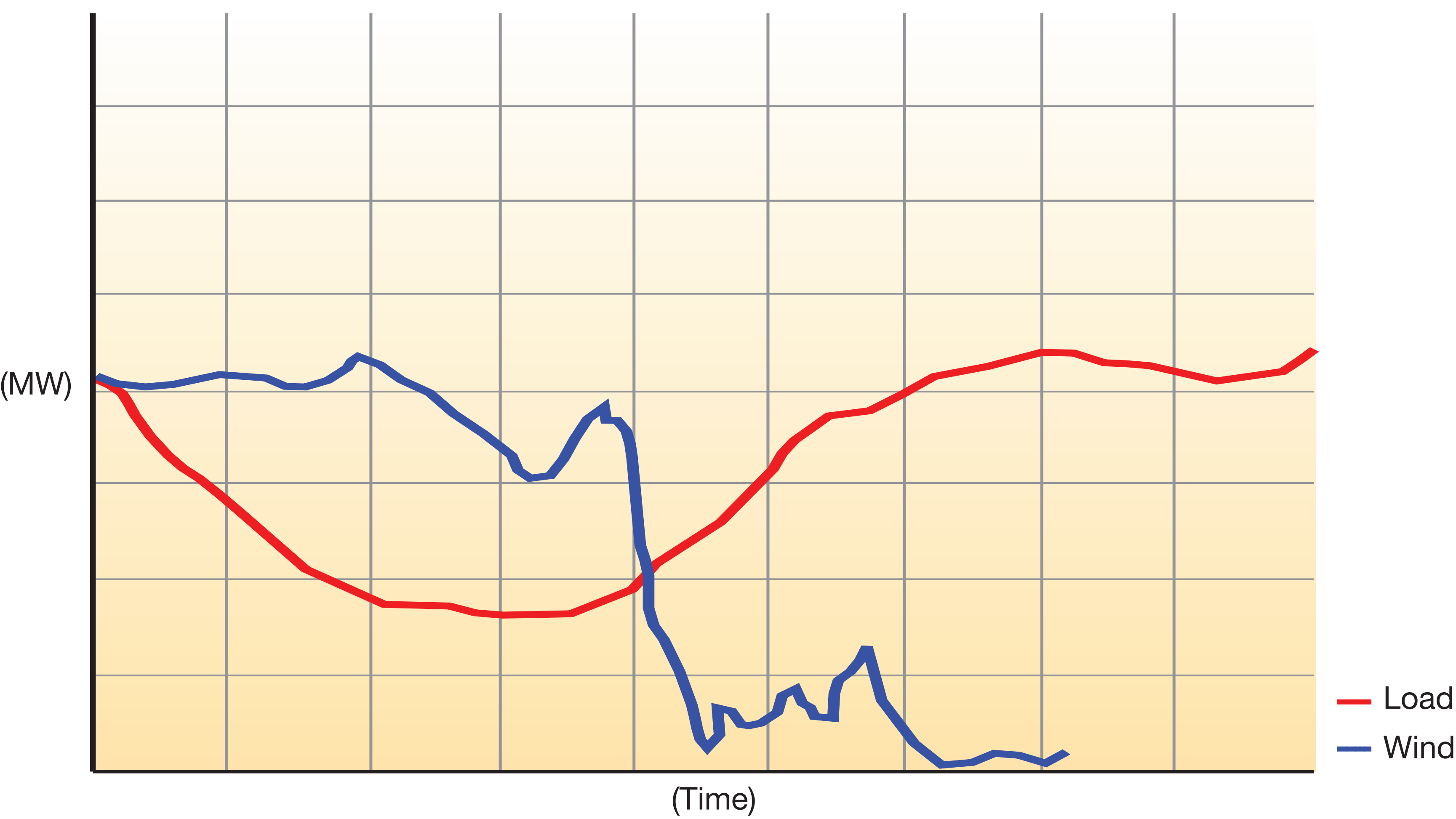


# Wind Variability

Wind and load correlating well

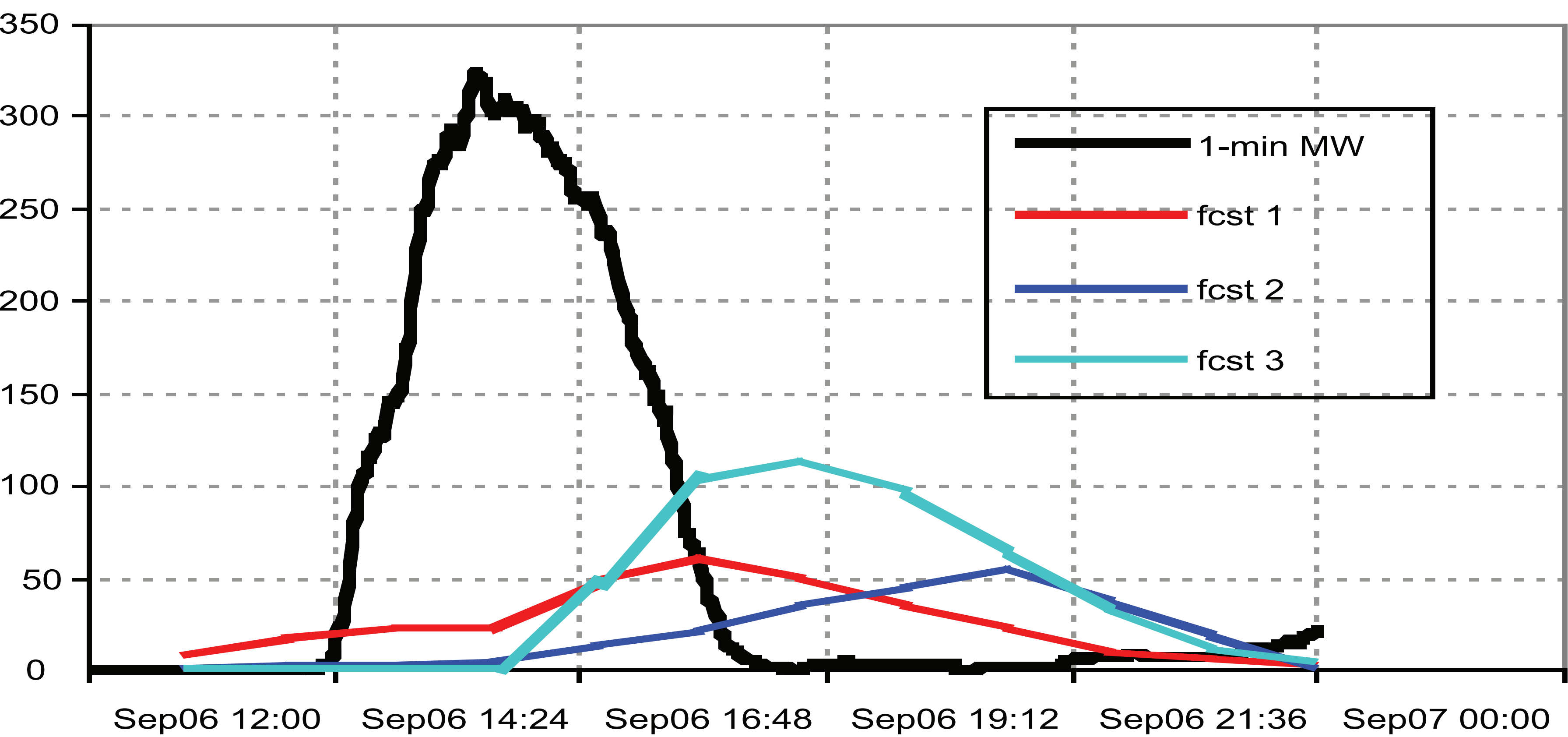


Wind power and load not correlating well

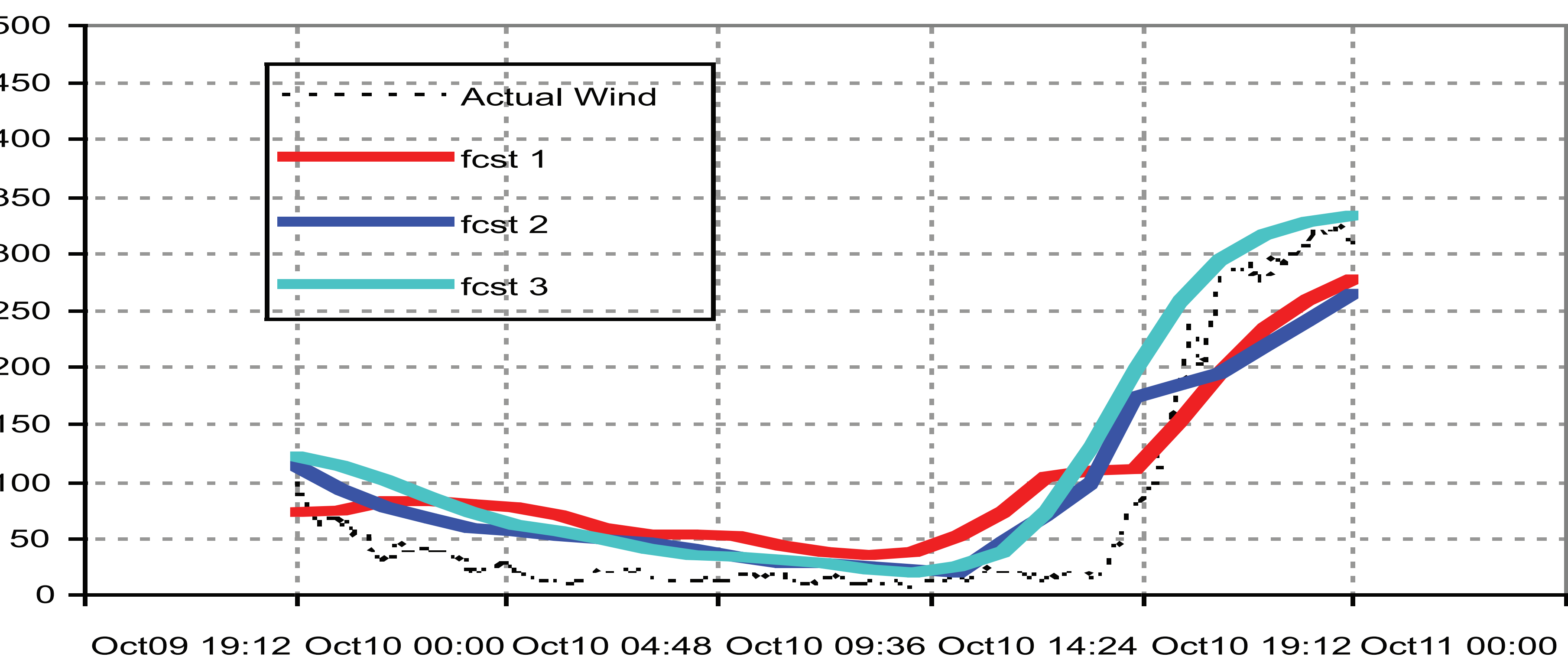


# Wind Energy and the AIES

Wind forecast 06 September 2007



Wind forecast 10 October 2007



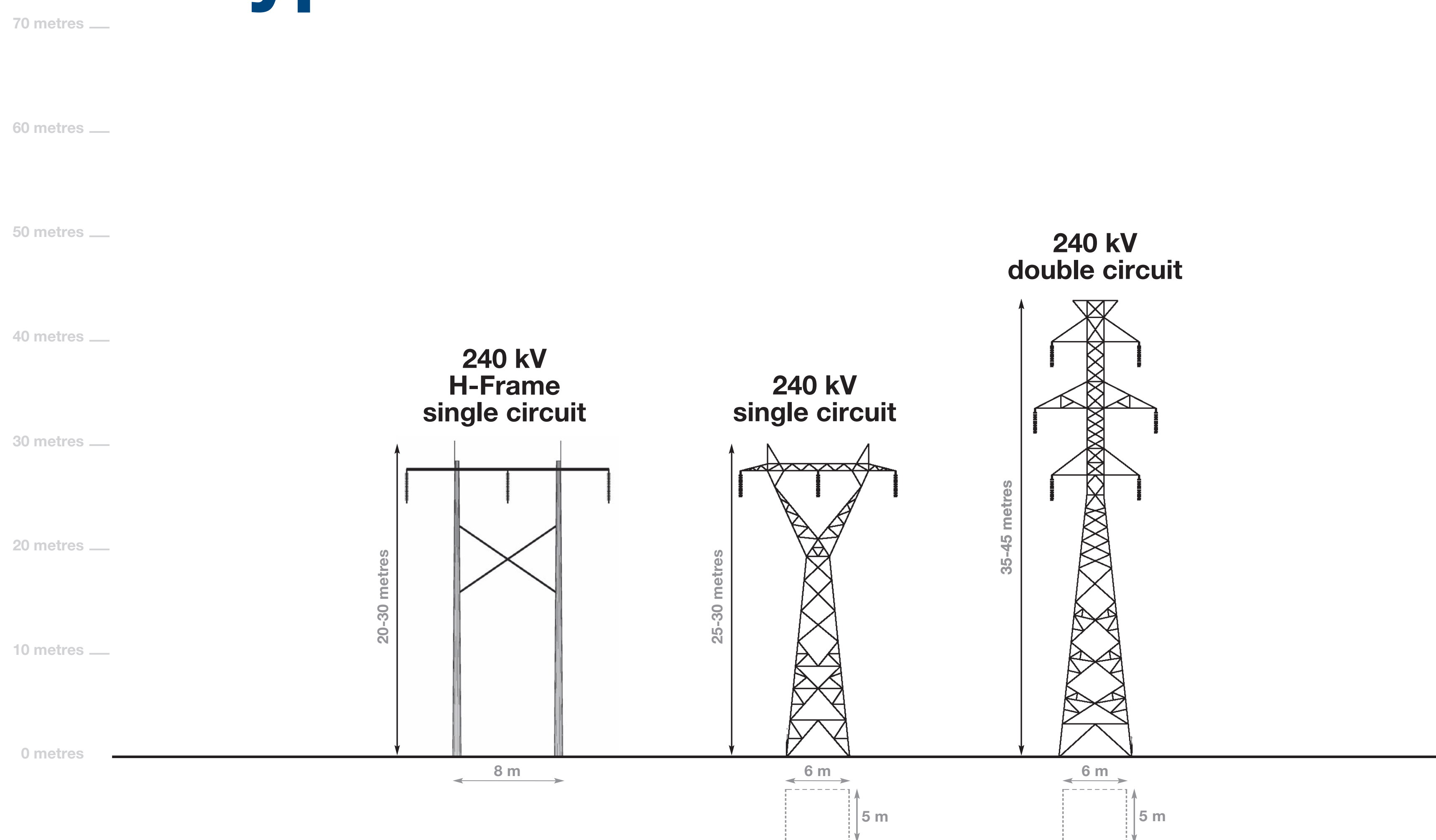


# Hanna Region Transmission System Alternatives

- Investigated 240 kV AC and 144 kV AC options
- 144 kV AC option found to be technically inadequate
- Developed three alternatives (1, 2, and 3)

AC – Alternating current

## Types of Possible Towers





# Technical Comparison of Alternatives\*

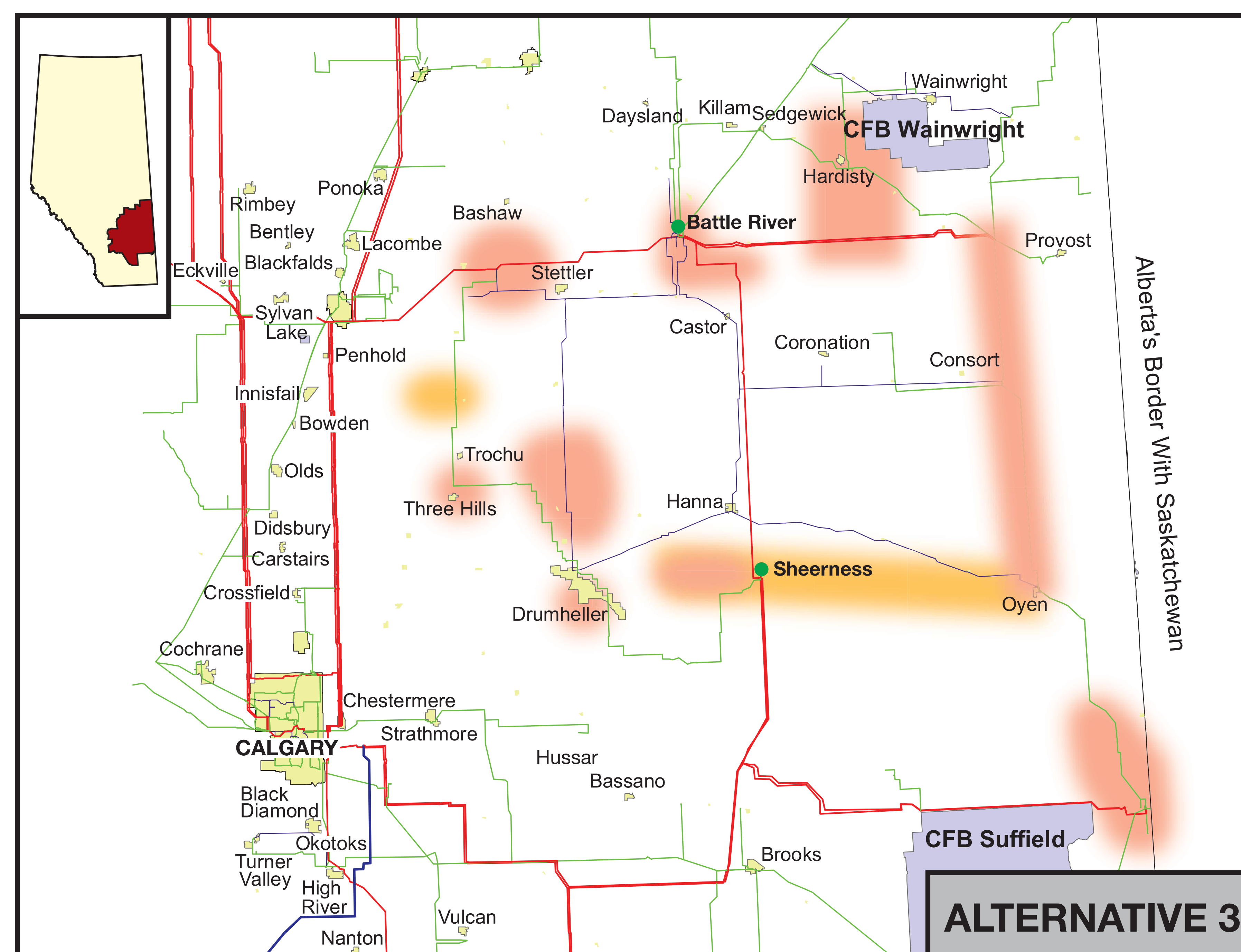
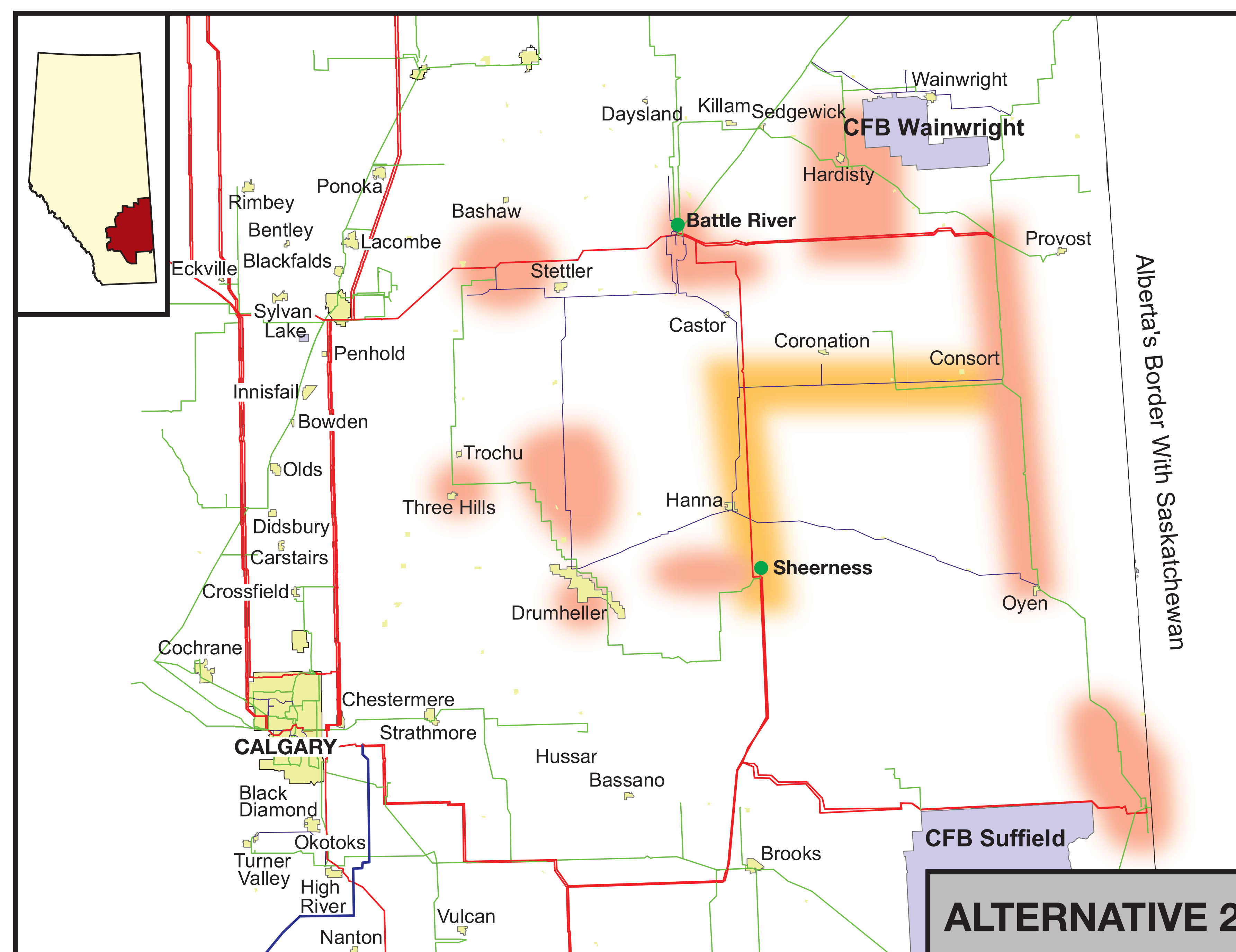
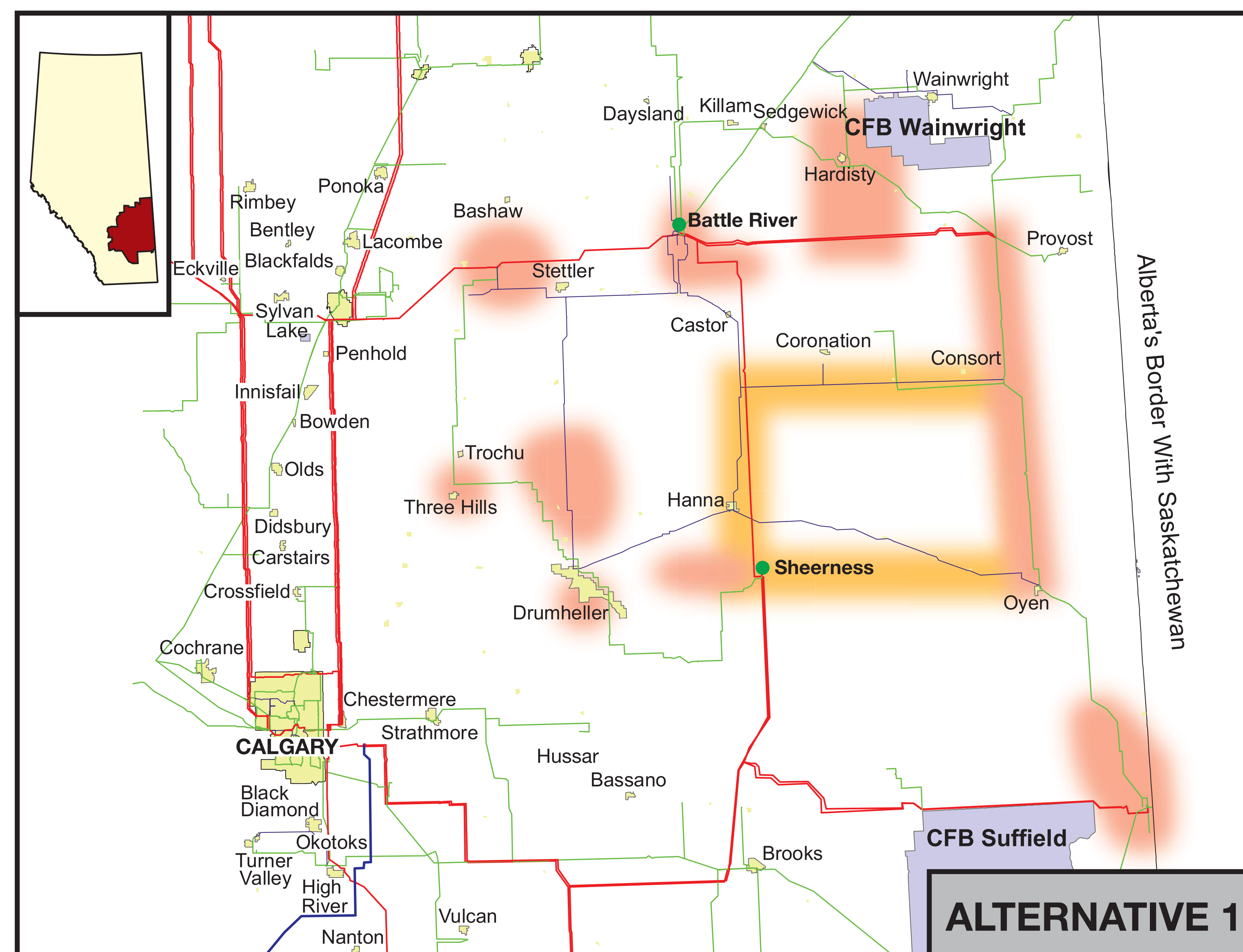
Load Forecast	Base Load Growth Scenario			High Load Growth Scenario		
Alternatives/Description	1	2	3	1	2	3
Single circuit 240 kV line (approximate km)	330	50	230	380	130	130
Double circuit 240 kV line (approximate km)	30	180	30	30	180	120
Single circuit 144 kV line (approximate km)	30 – 80	30 – 80	30 – 80	30 – 80	30 – 80	30 – 80
New 240 kV Substations	5	4	4	5	4	4
240/144 kV Transformers	5	5	5	9	8	9
144/72 kV Transformers	3	3	3	3	3	3
Var Support (SVCs)	3	3	3	3	3	3

\* Includes wind development.

## Comparative Summary of Alternatives

Description	Alternatives		
	1	2	3
Reliability Criteria	Meets Criteria	Meets Criteria	Meets Criteria
Operation Flexibility	Very Good	Satisfactory	Very Good
Available capacity to accommodate future growth	Yes	Limited Capability	Yes
Foot Print	Relatively Large	Large	Relatively Low





## Existing Transmission VOLTAGE

- 69 kV
- 138 kV
- 240 kV
- 500 kV

- Existing Generating Station

The red areas show potential development common to all alternatives

The orange areas indicate development specific to each alternative





# Participant Involvement Program for Hanna Region Reinforcement

## Discussions with:

- Residents living in Hanna Region
- Area First Nations
- Industry stakeholders
- East central Alberta government representatives (municipal and provincial)
- Community interest groups and other parties

## Activities:

- Mailed information to over 57,000 addresses in Hanna Region
- Open Houses  
(February 23 – March 10, 2009)
- Meetings

## Information on the AESO's consultation efforts

- The AESO website
- Newspaper advertisements
- Transmission projects phone line  
1-888-866-2959





## TFOs and Their Roles

AltaLink and ATCO Electric are the Transmission Facility Owners (TFOs) whose service areas fall within the Hanna Region.

At some time in the future, the Alberta Electric System Operator (AESO) will direct one or more TFOs to identify specific routes for the proposed transmission system developments.

At that time, the TFOs will begin participant involvement programs including consultation with landowners.

Once the TFOs have determined their recommended specific routes, the TFOs must file Facilities Applications with the Alberta Utilities Commission for approval to construct and operate the required transmission facilities.

**ALTALINK**

**ATCO** *Electric*





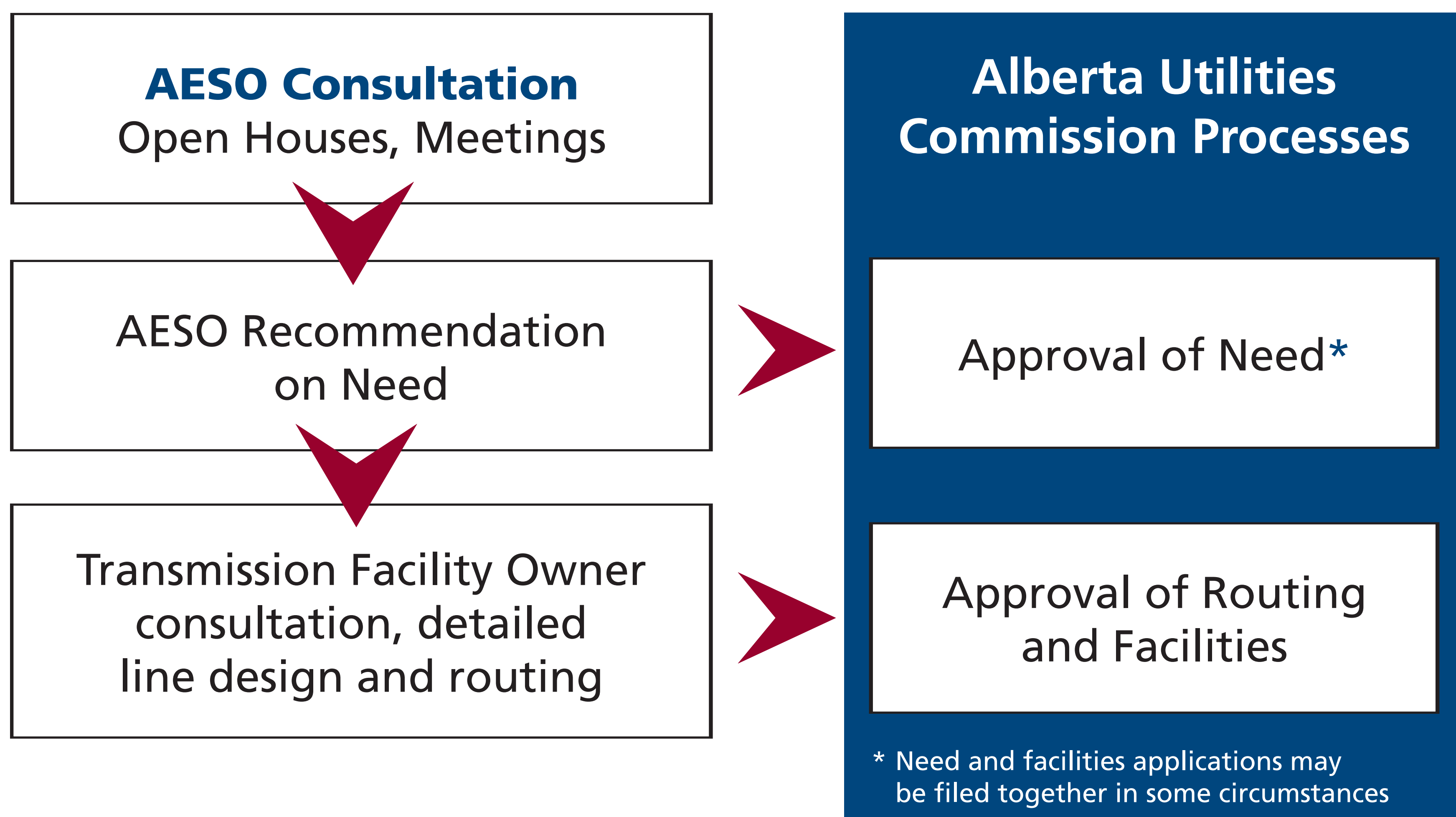
# Route Selection

When evaluating potential routes, TFOs consider the following factors:

- Agricultural
- Residential
- Environmental
- Cost
- Electrical
- Visual
- Other Special Situations



# Regulatory Process for Transmission System Development



## Alberta's Transmission Development Process

1. The Need: the AESO studies the need for transmission development, determines a preferred alternative and applies to the Alberta Utilities Commission for approval
2. The Facilities (lines, towers and substations): To meet the need, the Transmission Facility Owner applies to the Alberta Utilities Commission for approval to construct facilities



# Hanna Region Transmission Plan: Project Schedule 2009

No.	Description	Year 2008			Year 2009					
		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
1	Technical Studies (PV & QV Losses, Dynamic Analysis)*	■	■	■	■	■	■	■		
2	Participant Involvement Program (PIP)	■	■	■	■	■	■	■	■	
3	Estimate Capital Costs (NID Class)					■	■	■	■	
4	Social/Land Impact Assessment			■	■	■	■	■		
5	Economic Analysis							■		
6	Prepare NID Document				■	■	■	■	■	
7	File NID Application									■

\* Includes alternative screening.

## Open House Posterboards –Round Two



# Welcome

The AESO welcomes you to its Open Houses on the Need to reinforce the electricity system in the Hanna Region (east central Alberta).

- Registration
- Orientation





# Our Principles for Public Involvement in Transmission System Planning

1. Every member of the public must have an opportunity to comment on the plans.
2. The public must have an opportunity to be informed in a timely manner of the direction, plans, status of issues and decisions related to a project.
3. The experience and expertise offered through public involvement is used to improve the quality and implementation of decisions.
4. The public involvement process and the rationale for decisions are transparent.

## **A STAKEHOLDER is**

Anyone who has a “stake”  
in the outcome of the project





## The AESO is:

A not-for-profit statutory company, operating in the public interest.

Independent of any company or person with a material interest in the electric industry.

## AESO Key Functions:

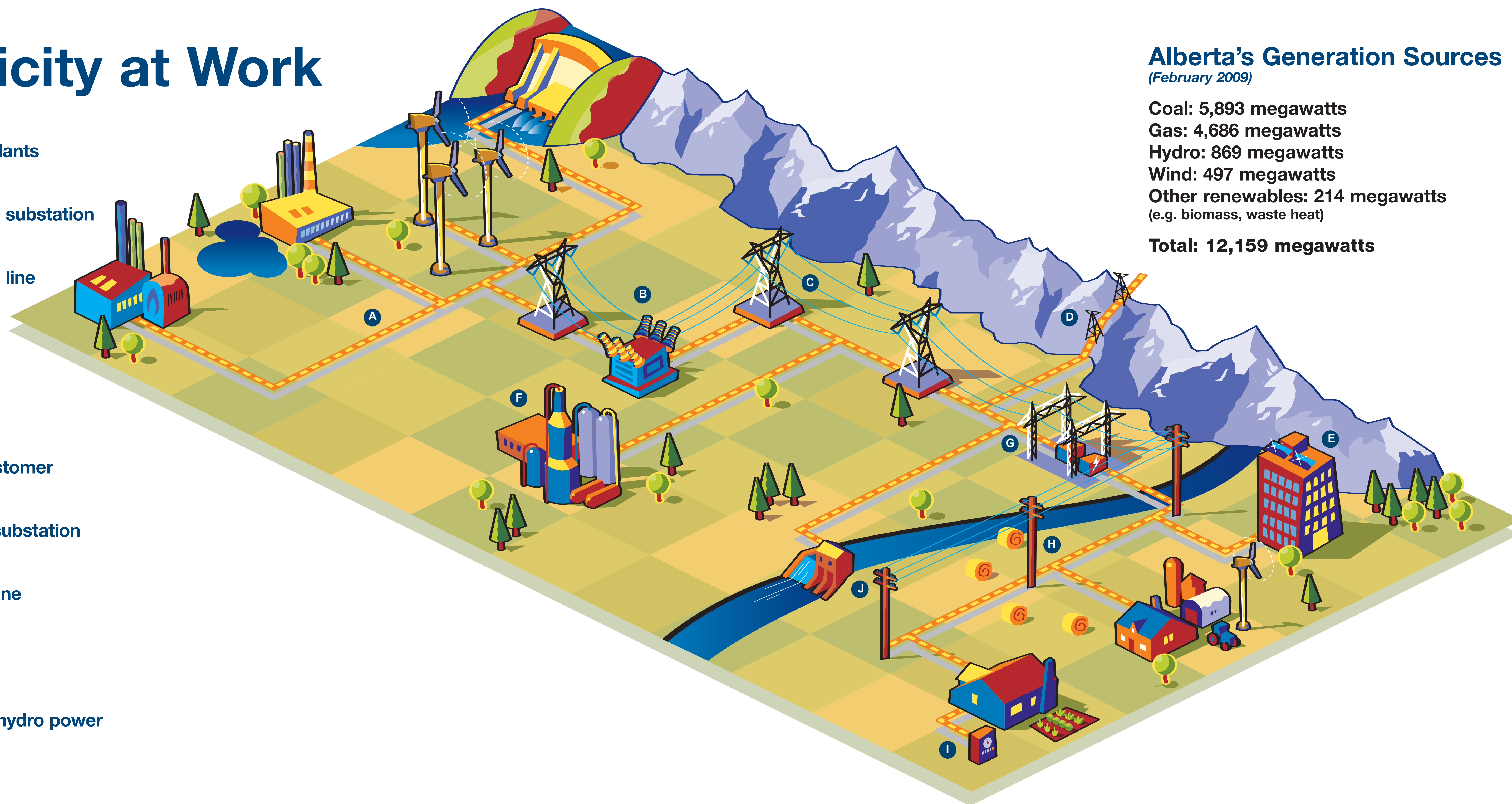
Operation and long-term planning of the Alberta Interconnected Electric System to ensure reliable service to Albertans.

Promote a fair, efficient and openly competitive market for electricity in Alberta.



# Electricity at Work

- A** Generating plants
- B** Transmission substation
- C** Transmission line
- D** Intertie
- E** Solar panels
- F** Industrial customer
- G** Distribution substation
- H** Distribution line
- I** Power meter
- J** Run-of-river hydro power



## Alberta's Generation Sources (February 2009)

Coal: 5,893 megawatts  
 Gas: 4,686 megawatts  
 Hydro: 869 megawatts  
 Wind: 497 megawatts  
 Other renewables: 214 megawatts  
 (e.g. biomass, waste heat)  
**Total: 12,159 megawatts**



# Transmission System Planning at the AESO

- 20-Year Transmission System Outlook – generation and load focused; high level conceptual transmission alternatives
- 10-Year Transmission System Plan – roadmap for transmission development and context for Need Applications
- Individual Need Applications

## The AESO's Transmission System Planning Process

Two main drivers of transmission planning:

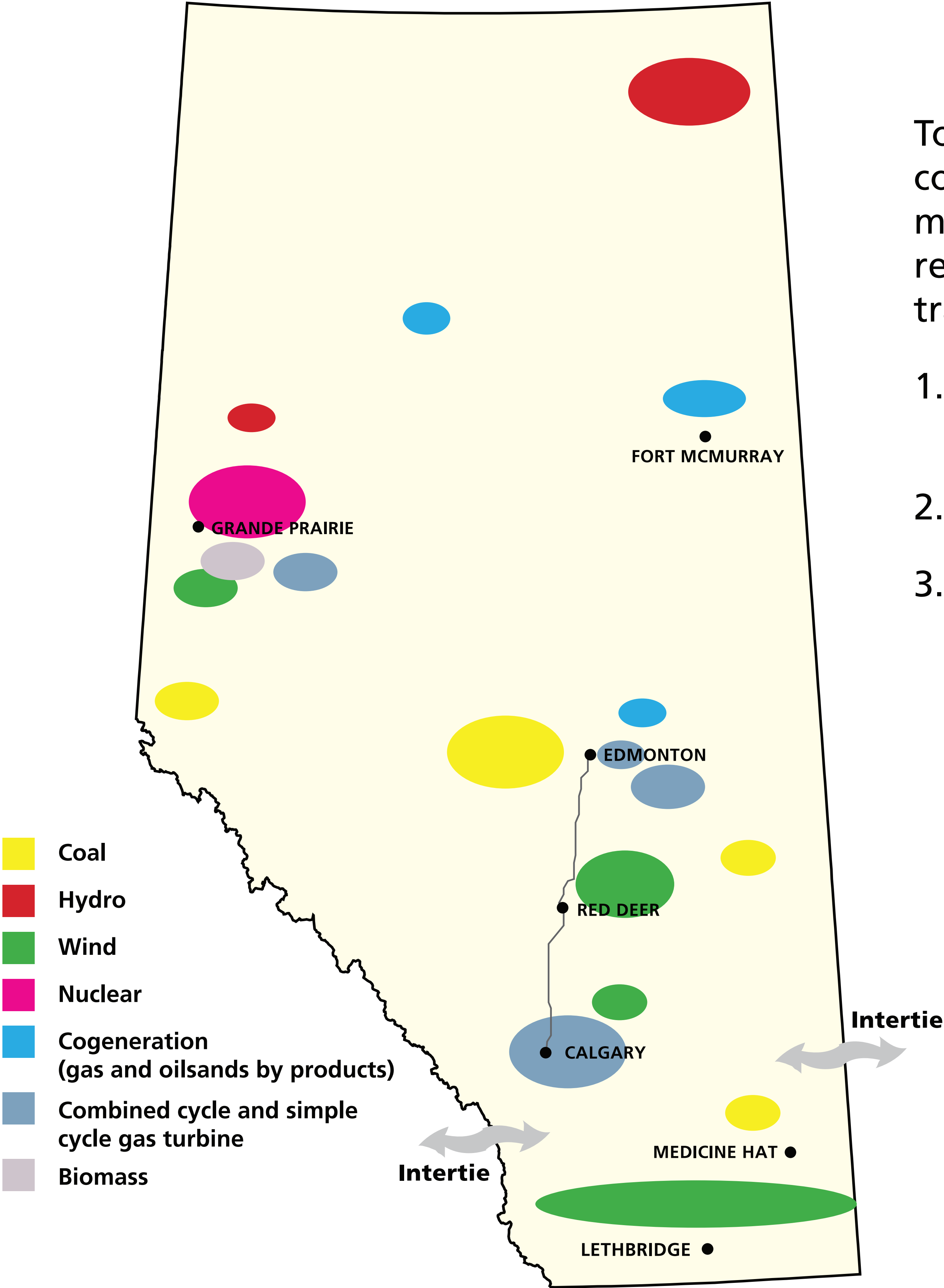
1. Load growth (demand)
2. Generation development (supply)

## Transmission System Expansion

The AESO is constantly monitoring the capacity of the transmission system to reliably meet Alberta's demand for electricity. As our population grows and our economy expands, the need for electricity increases. To maintain reliability, the transmission system must keep pace with Alberta's growth.



# Alberta's Potential Long Term Generation Development



To facilitate Alberta's competitive electricity market the AESO is required to plan transmission to:

1. Accommodate new generation
2. Eliminate congestion
3. Restore existing intertie capacity

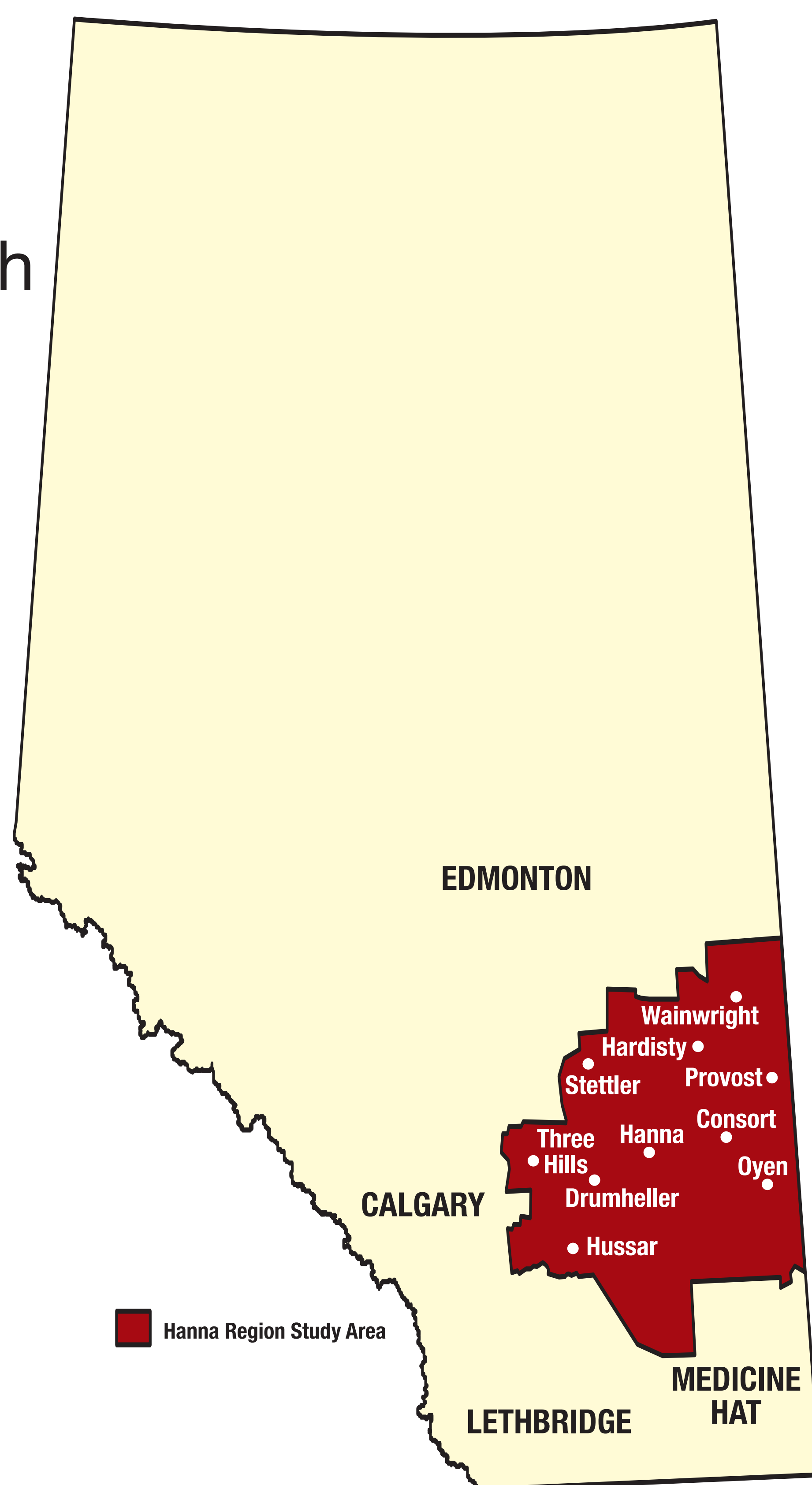




## Hanna Region Study Area

Hanna Region Study Area roughly comprised of:

- Special Areas 2, 3 and 4
- MD of Wainwright
- MD of Provost
- Flagstaff County
- County of Stettler
- County of Paintearth
- Cypress County
- CFB Suffield
- CFB Wainwright
- County of Vermilion River
- Starland County
- Kneehill County
- Wheatland County
- M.D. of Acadia
- County of Newell







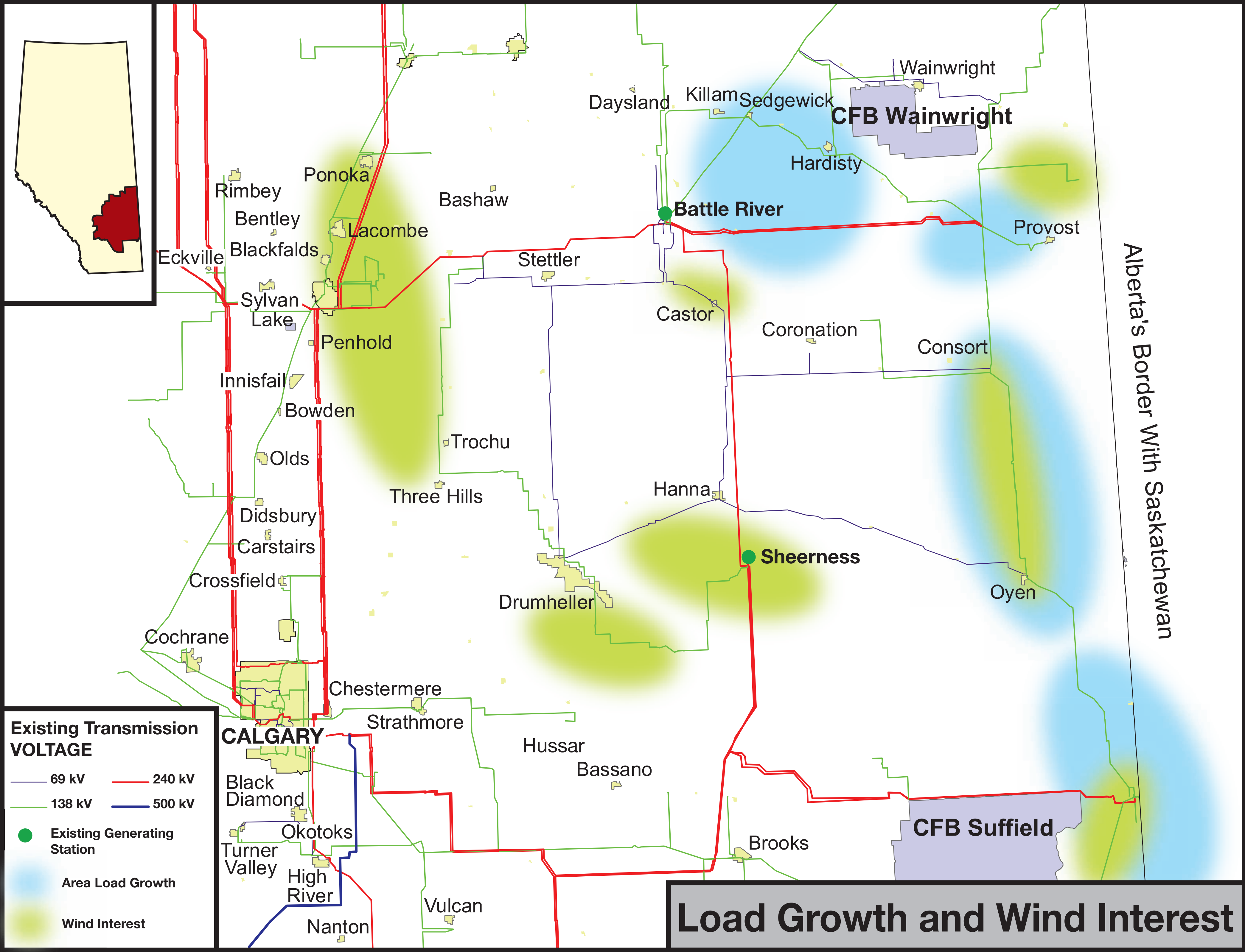
## Overview of Need – Hanna Region

The transmission in this area lacks the capacity to supply additional demand or to integrate new generation

- Demand for electricity in this region is growing rapidly
- Load (demand) growth areas:
  - Wainwright, Provost and Hanna areas
  - Load is expected to double over the next 10 years
- Wind interest in this area: Over 2,000 MW

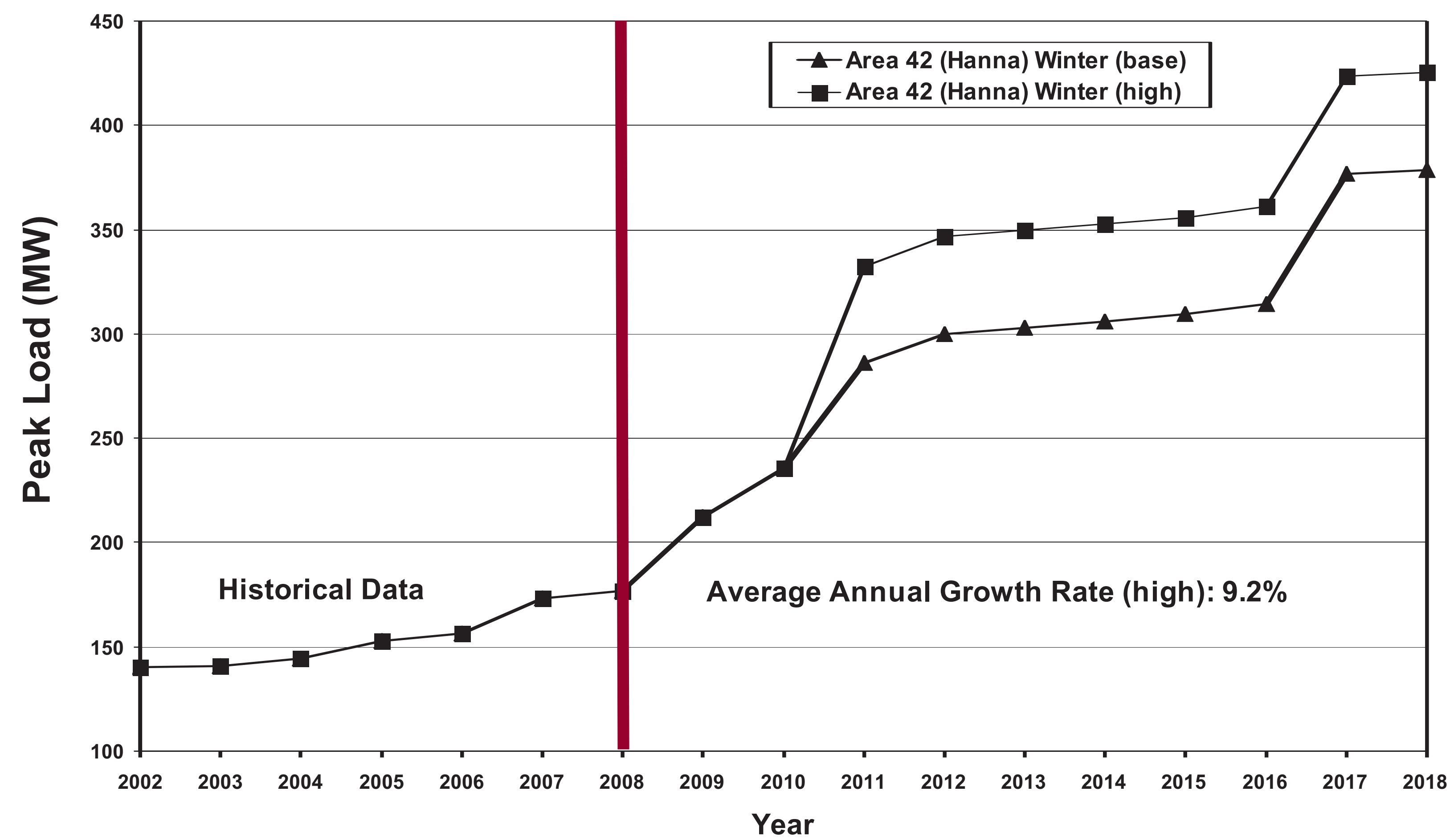


# Map of Load (demand) and Wind Interest in Hanna Region

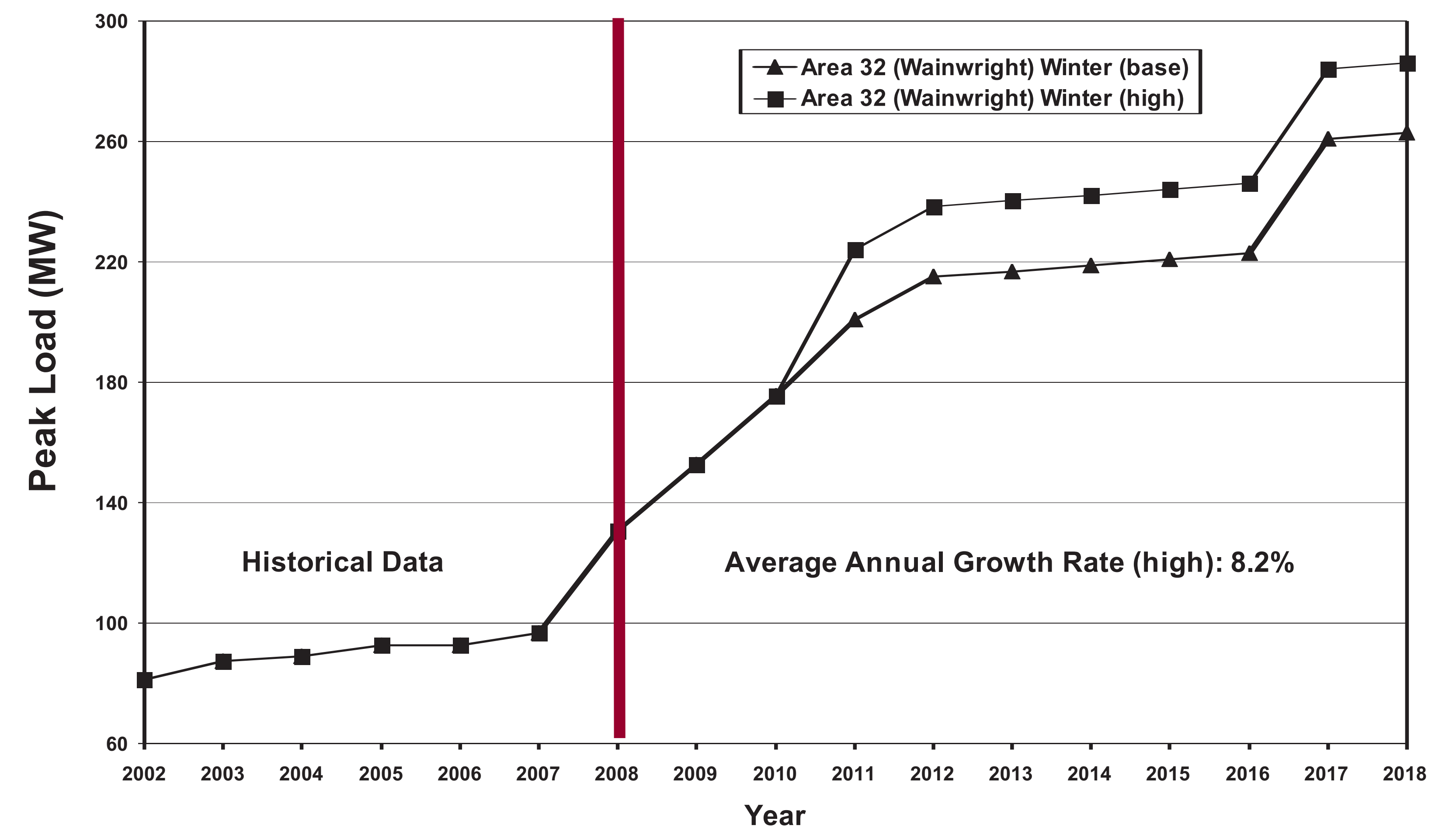




### Hanna Area Load Forecast (with Pipeline Loads)



### Wainwright Area Load Forecast (with Pipeline Loads)







# Integrating Wind Energy

## Challenge

- Wind energy is variable and can be unpredictable

## AESO Measures to Integrate Wind

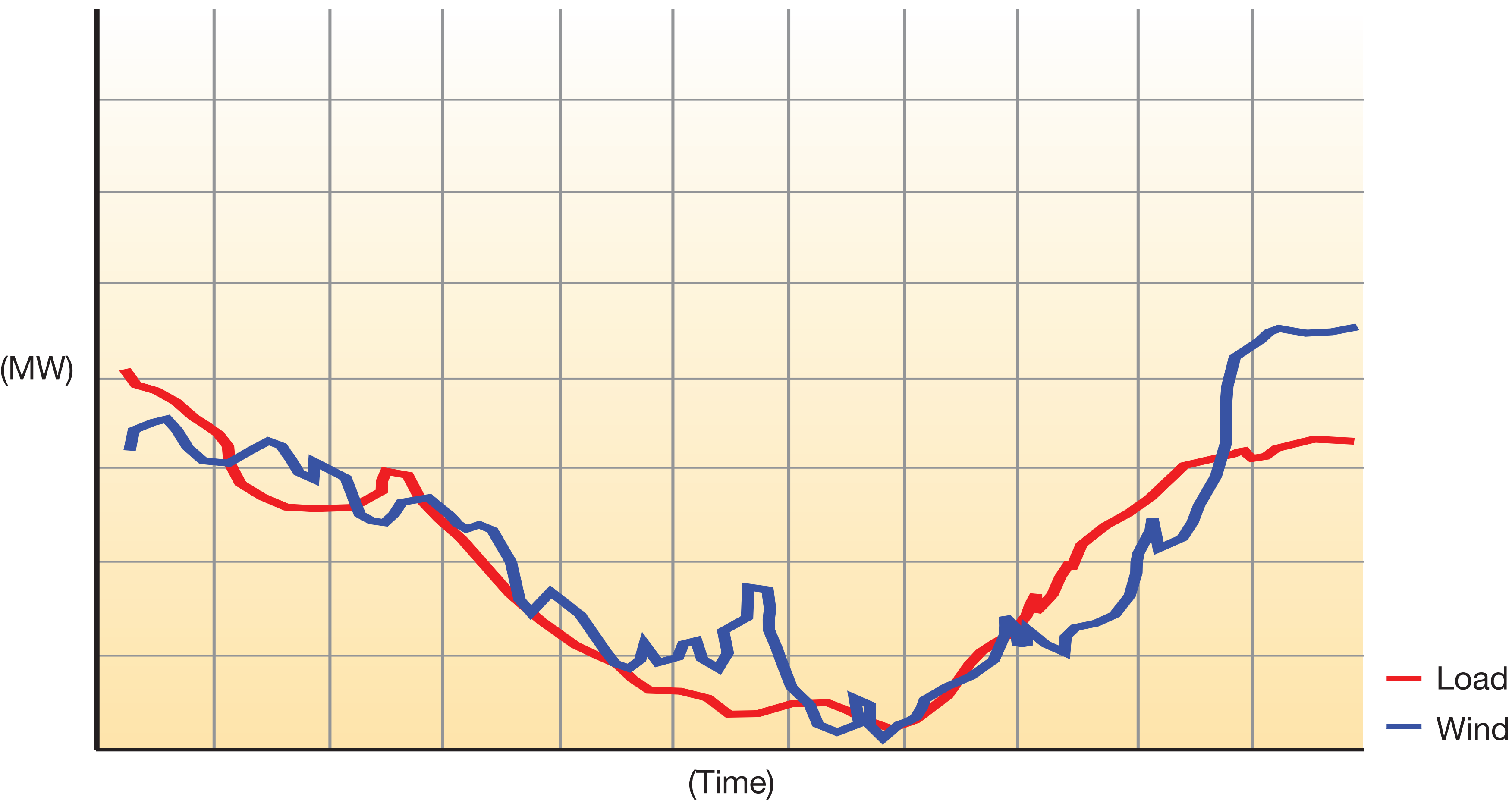
- The Market & Operational Framework
- The AESO wind power interconnection process
- Generation projects queue
- AESO need applications
  - South Alberta Transmission Reinforcement (NID submitted December 2008)
  - Hanna Region Reinforcement (NID in development)



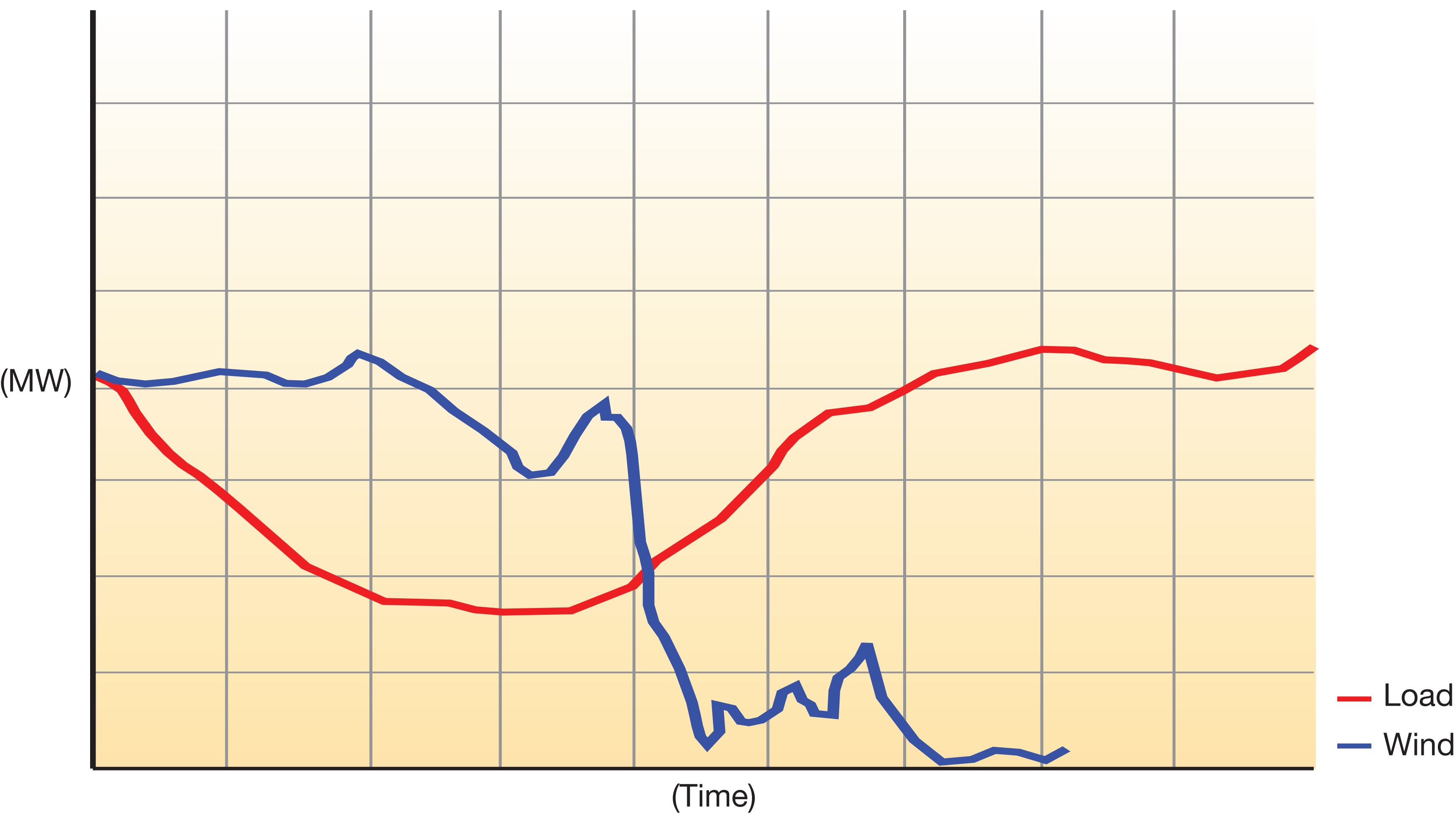


# Wind Variability

Wind and load correlating well

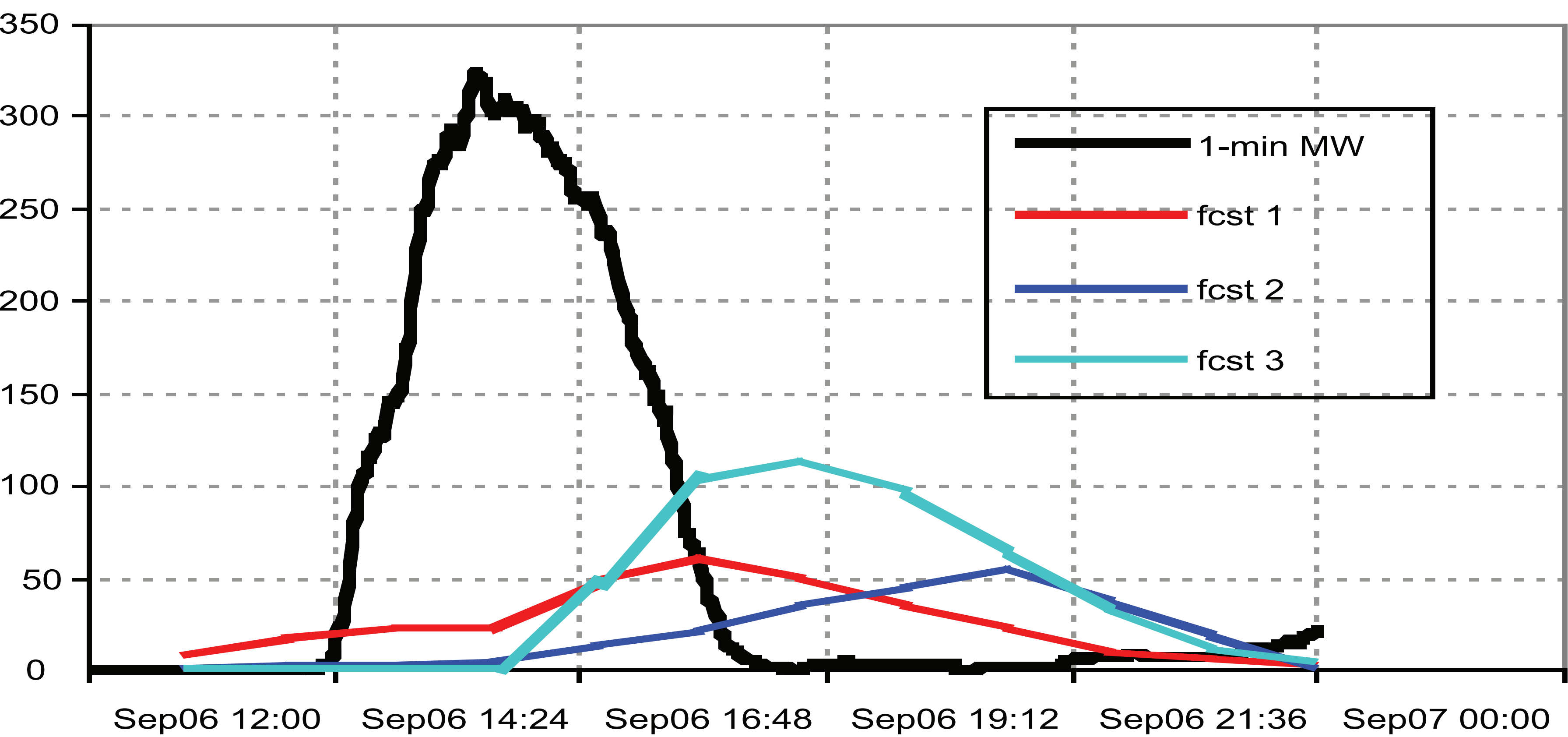


Wind power and load not correlating well

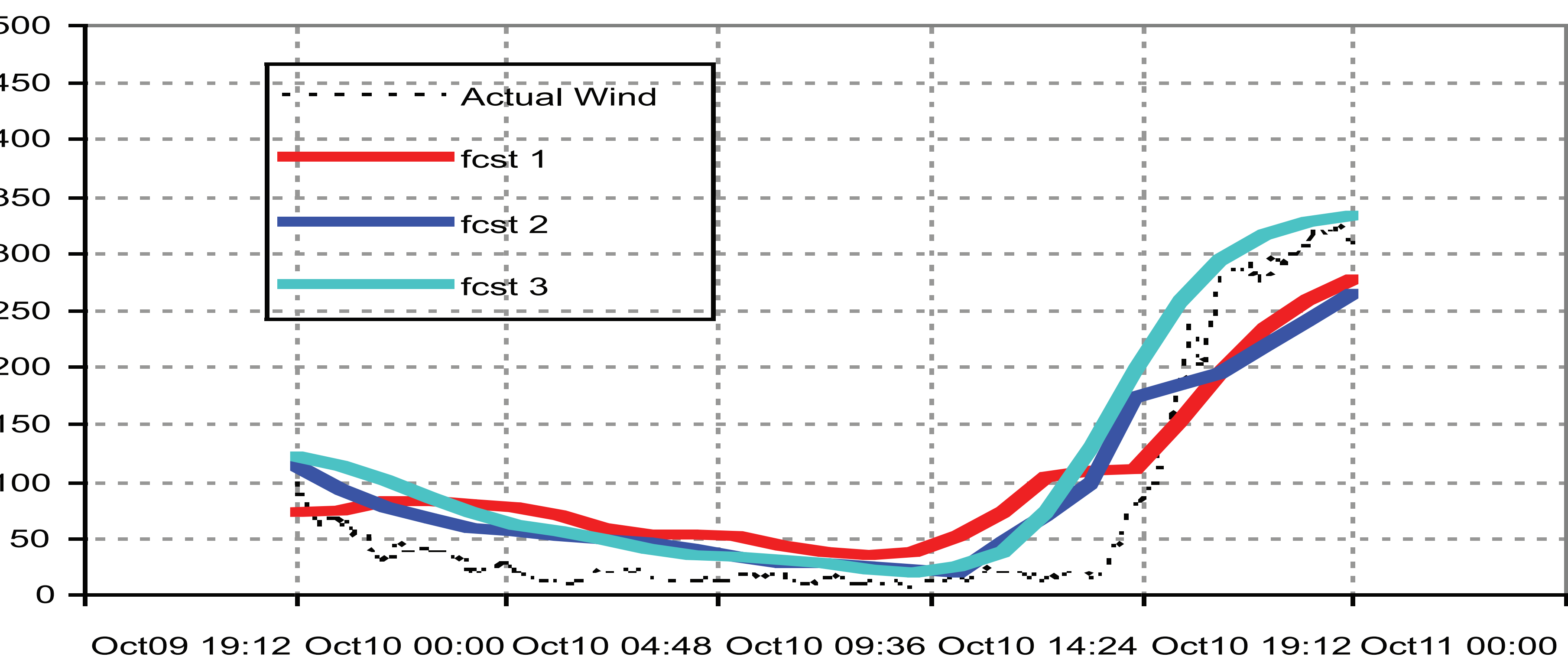


# Wind Energy and the AIES

Wind forecast 06 September 2007



Wind forecast 10 October 2007



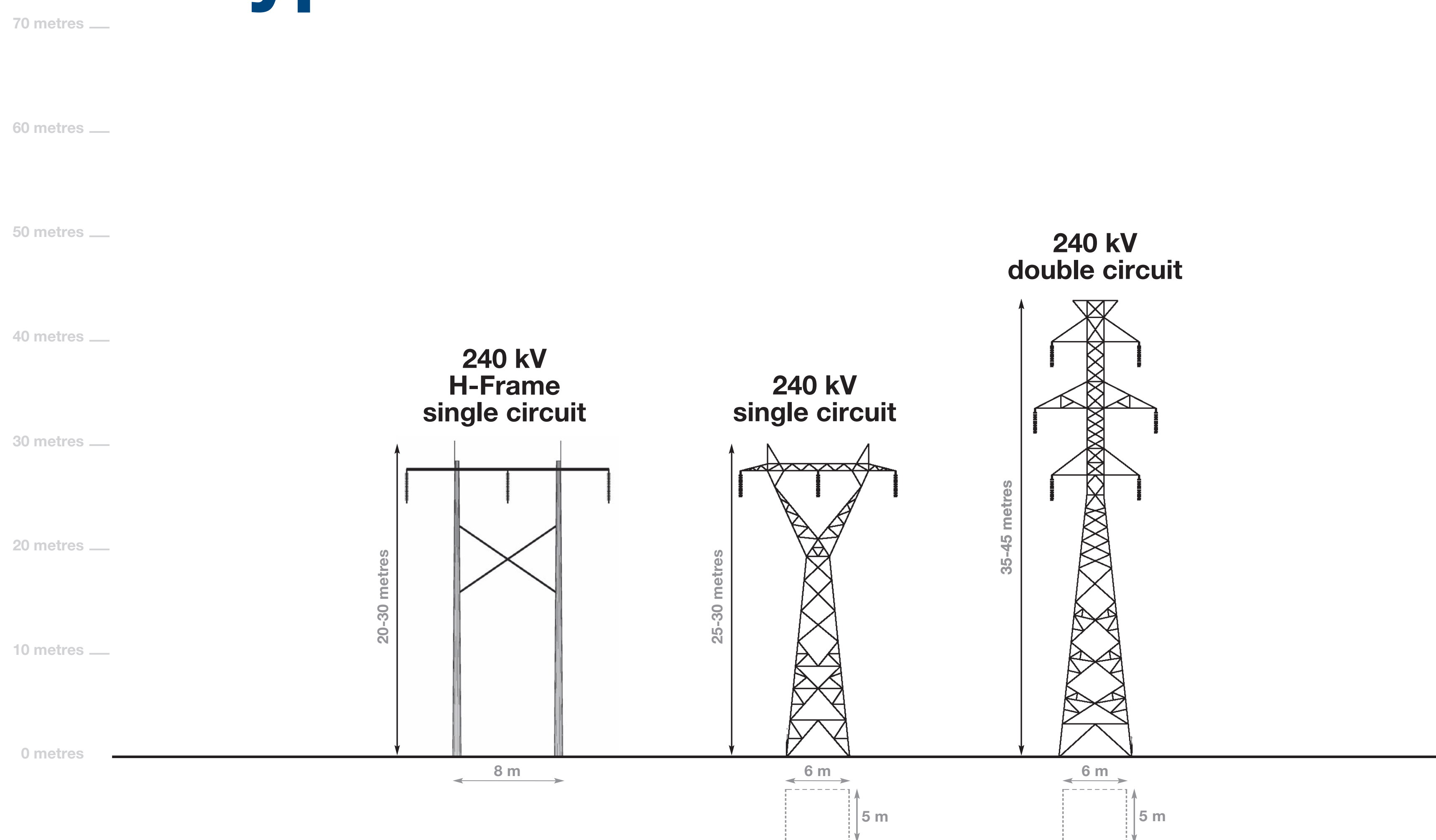


# Hanna Region Transmission System Alternatives

- Investigated 240 kV AC and 144 kV AC options
- 144 kV AC option found to be technically inadequate
- Developed three alternatives (1, 2, and 3)

AC – Alternating current

## Types of Possible Towers





# Technical Comparison of Alternatives\*

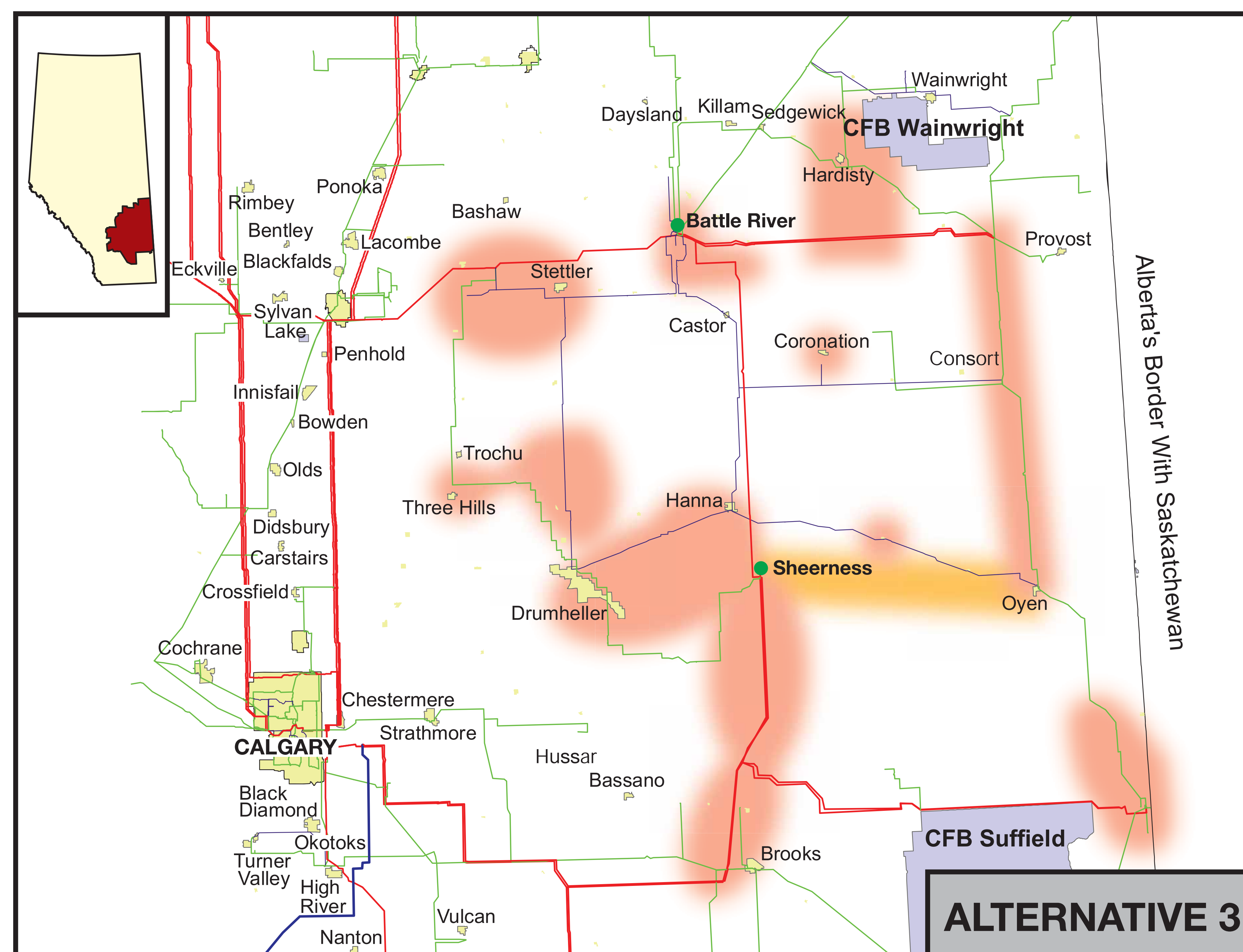
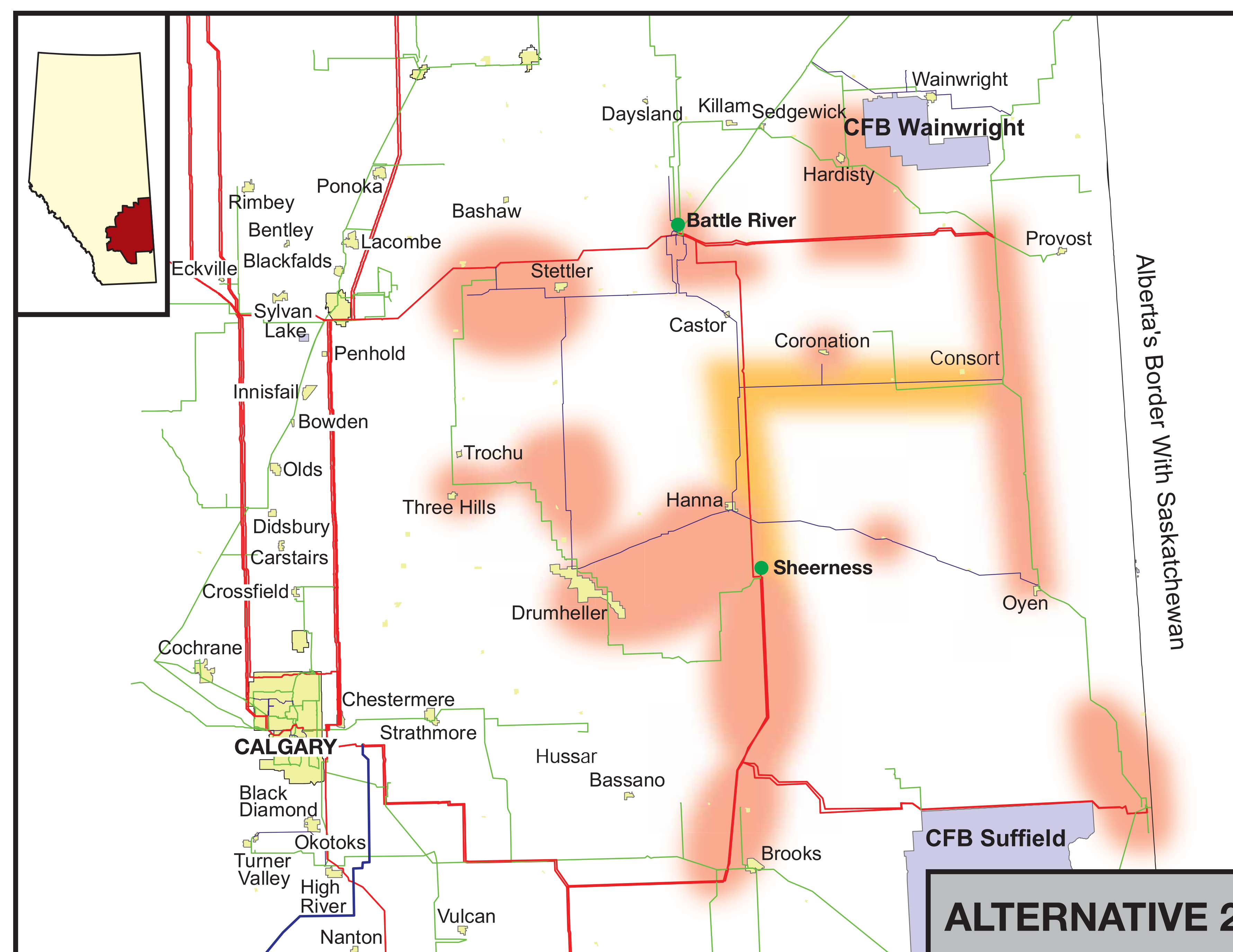
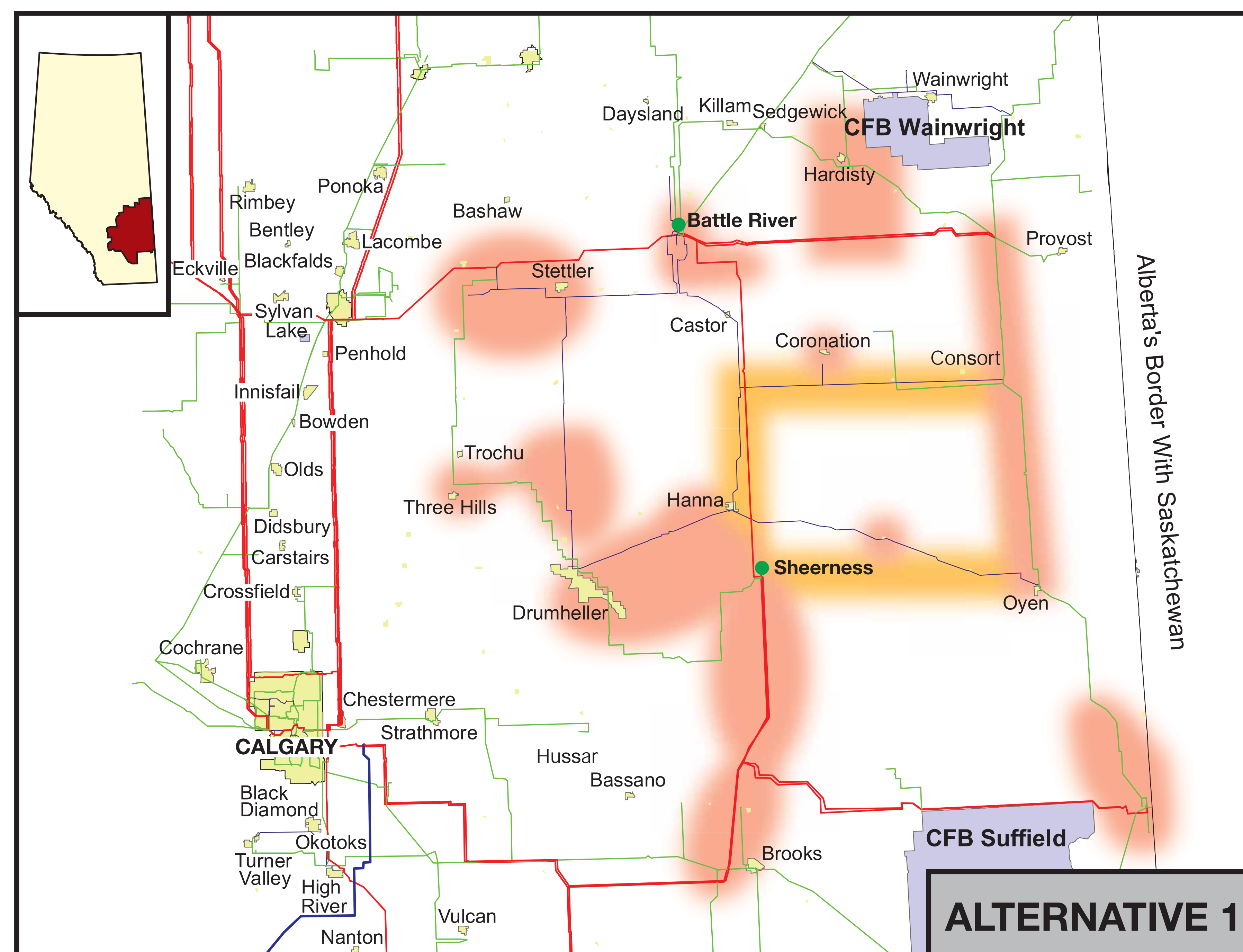
Alternatives/Description	1	2	3
Single circuit 240 kV line (approximate km)	443	185	185
Double circuit 240 kV line (approximate km)	47	248	162
Single circuit 144 kV line (approximate km)	146	146	146
New 240 kV Substations	6	6	5
240/144 kV Transformers	8	7	8
144/72 kV Transformers	1	1	1
Var Support (SVCs)	1	1	1

\* Includes wind development.

## Comparative Summary of Alternatives

Description	Alternatives		
	1	2	3
Reliability Criteria	Meets Criteria	Meets Criteria	Meets Criteria
Operation Flexibility	Very Good	Satisfactory	Very Good
Available capacity to accommodate future growth	Yes	Limited Capability	Yes
Foot Print	Relatively Large	Large	Relatively Low





## Existing Transmission VOLTAGE

- 69 kV
- 138 kV
- 240 kV
- 500 kV

● Existing Generating Station

The red areas show potential development common to all alternatives

The orange areas indicate development specific to each alternative





# Participant Involvement Program for Hanna Region Reinforcement

## Discussions with:

- Residents living in Hanna Region
- Area First Nations
- Industry stakeholders
- East central Alberta government representatives (municipal and provincial)
- Community interest groups and other parties

## Activities:

- Mailed information to over 74,000 addresses in Hanna Region
- Open Houses  
(February 23 – March 10, 2009)  
(June 22 – June 23, 2009)
- Meetings

## Information on the AESO's consultation efforts

- The AESO website
- Newspaper advertisements
- Transmission projects phone line  
1-888-866-2959





## TFOs and Their Roles

AltaLink and ATCO Electric are the Transmission Facility Owners (TFOs) whose service areas fall within the Hanna Region.

At some time in the future, the Alberta Electric System Operator (AESO) will direct one or more TFOs to identify specific routes for the proposed transmission system developments.

At that time, the TFOs will begin participant involvement programs including consultation with landowners.

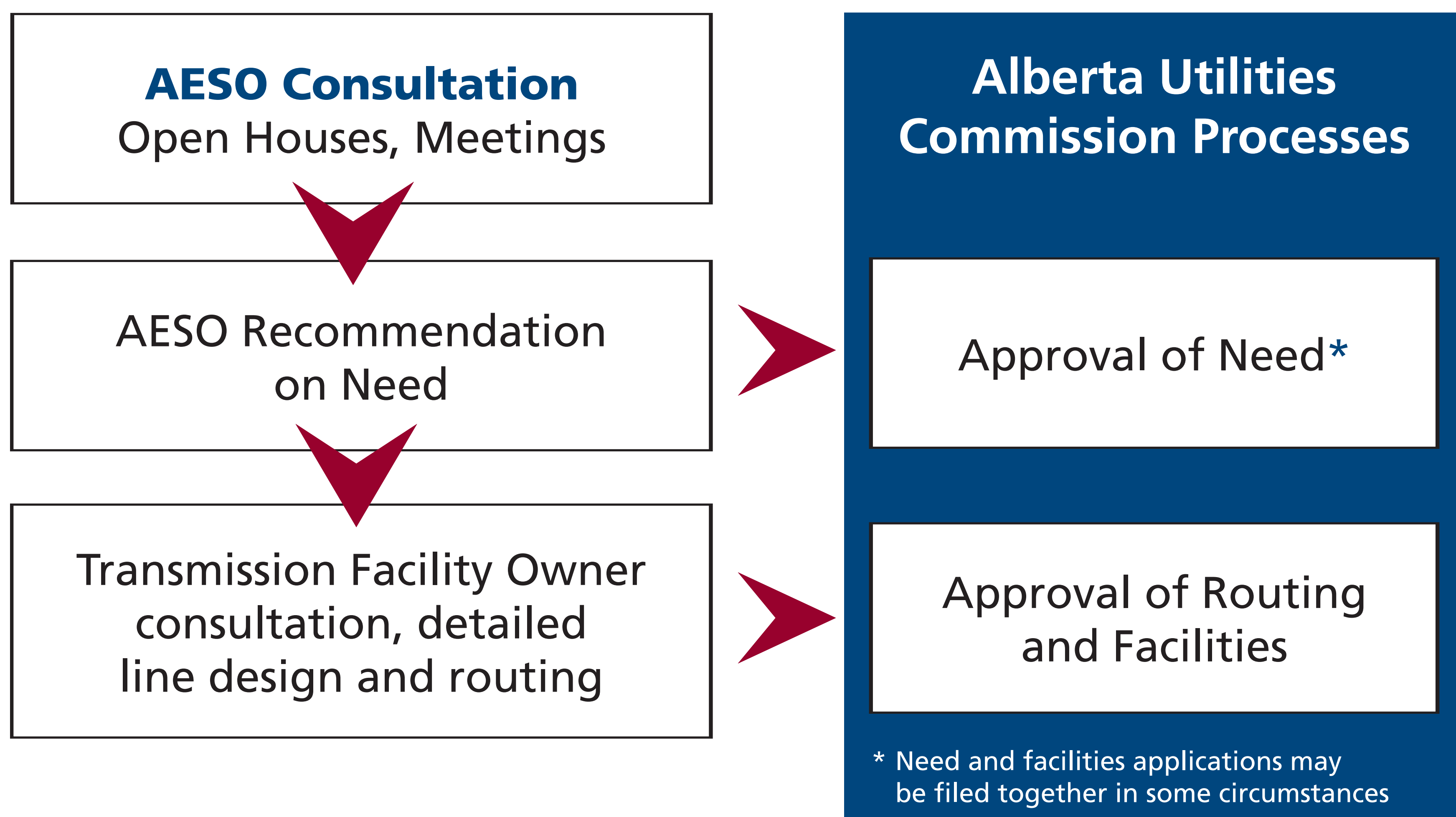
Once the TFOs have determined their recommended specific routes, the TFOs must file Facilities Applications with the Alberta Utilities Commission for approval to construct and operate the required transmission facilities.

**ALTALINK**

**ATCO** *Electric*



# Regulatory Process for Transmission System Development



## Alberta's Transmission Development Process

1. The Need: the AESO studies the need for transmission development, determines a preferred alternative and applies to the Alberta Utilities Commission for approval
2. The Facilities (lines, towers and substations): To meet the need, the Transmission Facility Owner applies to the Alberta Utilities Commission for approval to construct facilities





# Route Selection

When evaluating potential routes, TFOs consider the following factors:

- Agricultural
- Residential
- Environmental
- Cost
- Electrical
- Visual
- Other Special Situations



# Hanna Region Transmission Plan: Project Schedule 2009

No.	Description	Year 2008			Year 2009						
		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	July
1	Technical Studies (PV & QV Losses, Dynamic Analysis)*		■	■	■	■	■	■	■	■	
2	Participant Involvement Program (PIP)		■	■	■	■	■	■	■	■	
3	Estimate Capital Costs (NID Class)				■	■	■	■	■	■	
4	Social/Land Impact Assessment					■	■	■	■	■	
5	Economic Analysis								■	■	
6	Prepare NID Document					■	■	■	■	■	■
7	File NID Application										■

\* Includes alternative screening.



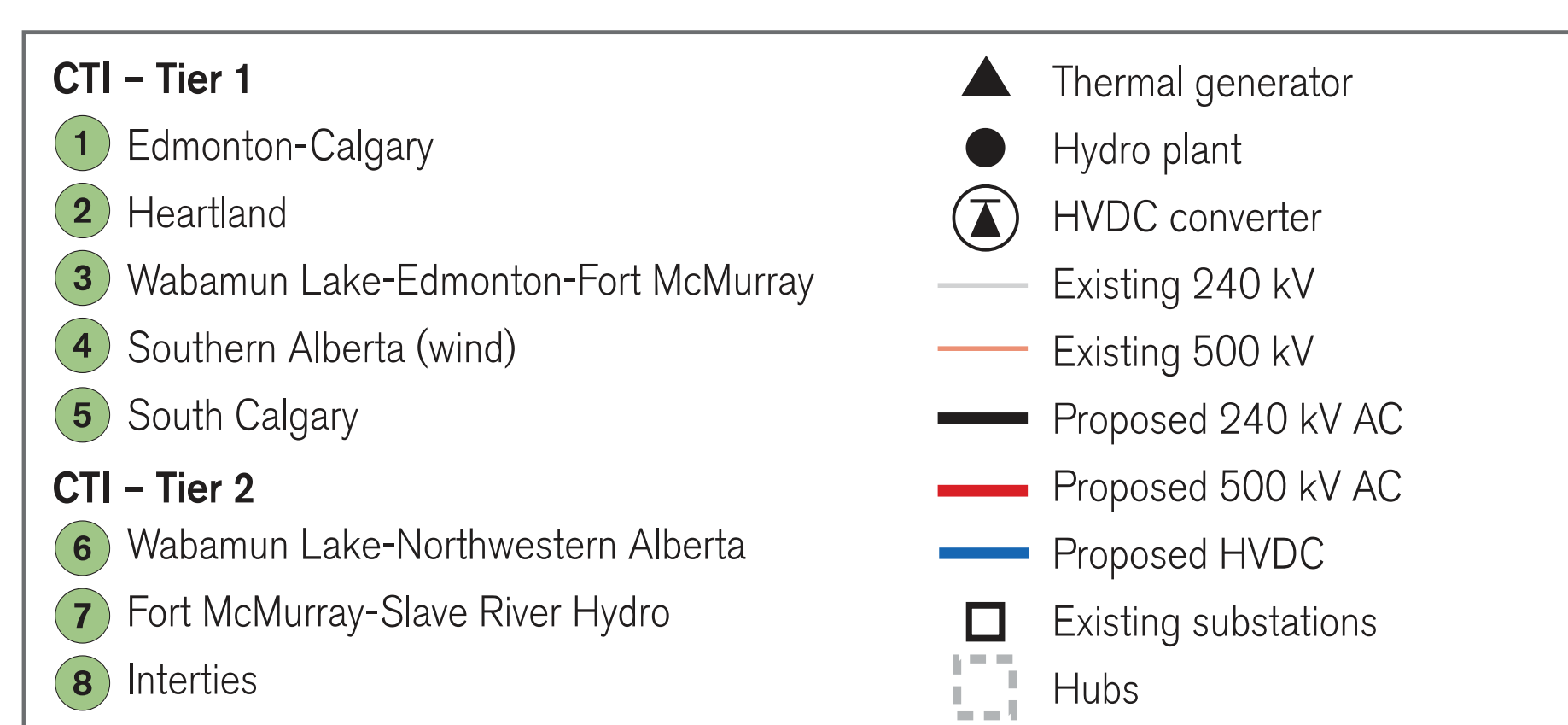


# Critical Transmission Infrastructure (CTI)

## Tier 1 Projects will:

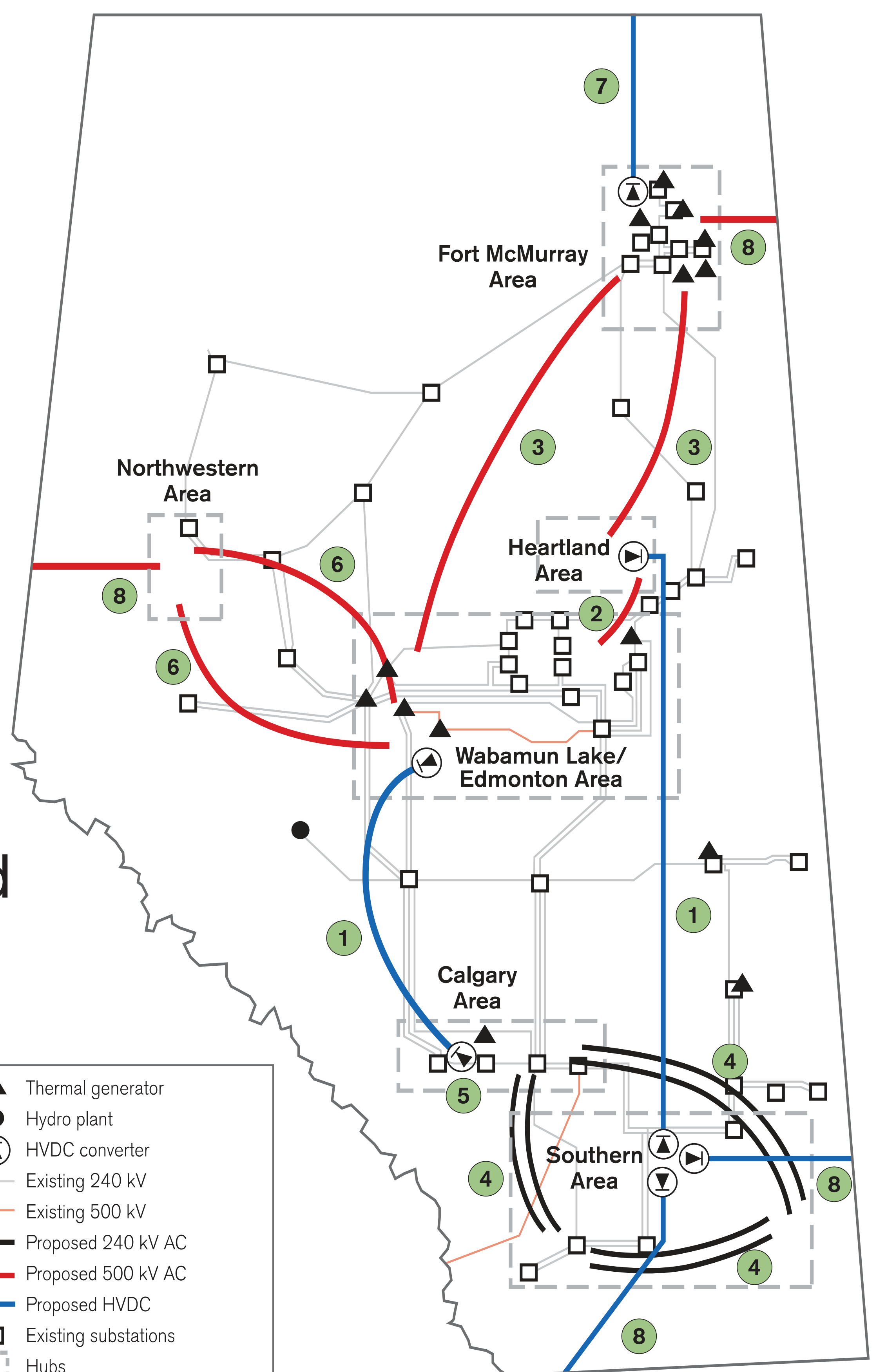
- Create a stronger system between **Edmonton and Calgary**
- Address the power needs of industry in the **Industrial Heartland** around Edmonton and north to **Fort McMurray**
- Add capacity in **southern system** to connect new wind farms
- Upgrade the system in and around the city of **Calgary**

**Tier 2** Projects include critical transmission infrastructure that requires further technical analysis and public consultation.



Note: For illustrative purposes only; does not depict actual line routes or substation locations.

HVDC: high voltage direct current  
kV: kilovolt  
AC: alternating current





## **EXHIBIT D**



# Hanna Region Transmission Development

Ramaiah Divi, P.Eng

Manager, Central System Planning

Reliable **Power**

Reliable **Markets**

Reliable **People**



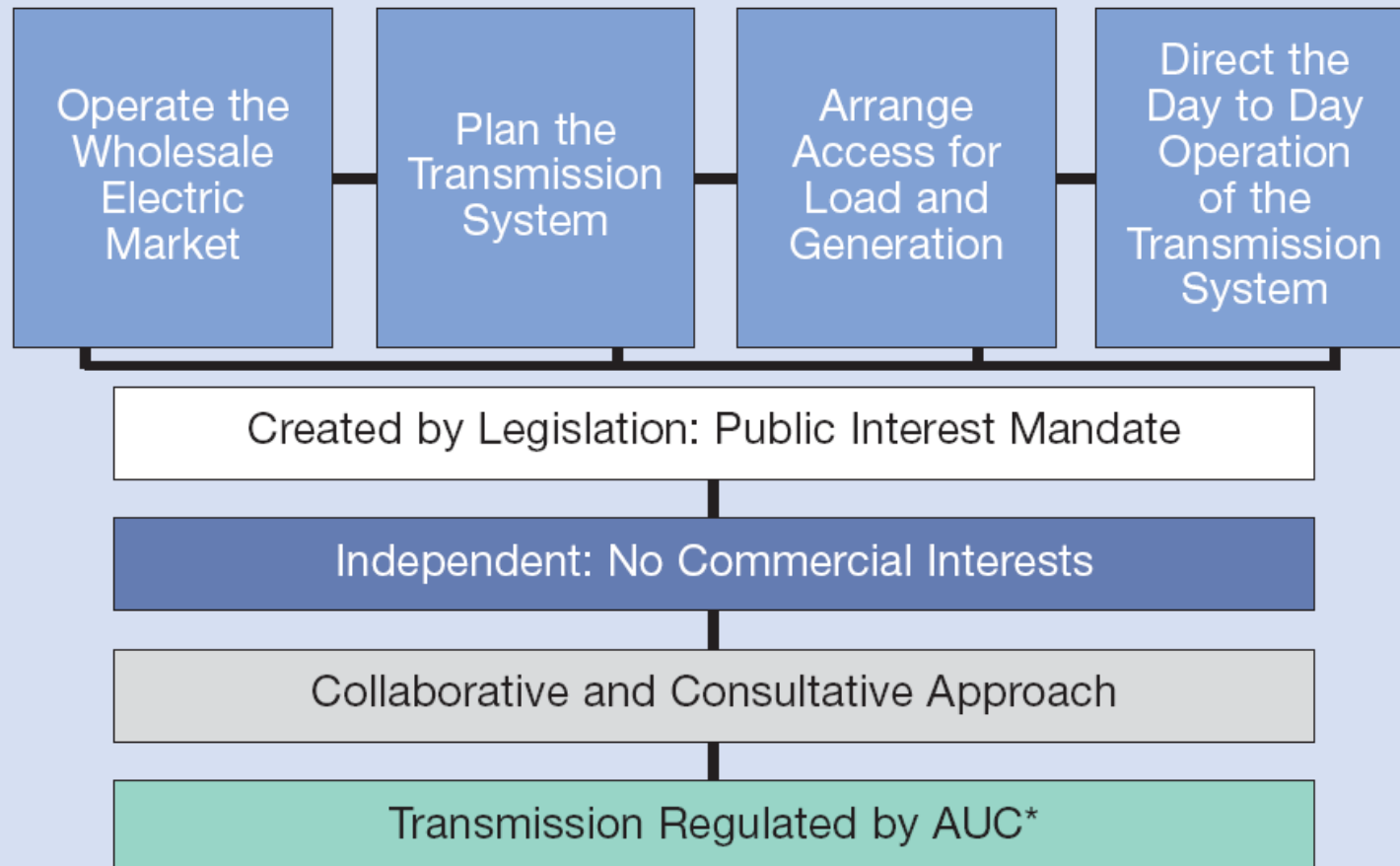


# Overview of Presentation

- Overview of:
  - **Alberta Electric System Operator (AESO )**
  - **Regulatory Process for Transmission Development**
  - **Alberta's Electricity Industry**
  - **Transmission Planning Process**
- Need for Transmission Development in the Hanna Region
  - **Study Region**
  - **Study Drivers**
- Transmission Development Alternatives
- Next Steps
  - **Participant Involvement Program (PIP)**
  - **Need Identification Development (NID) Application**
- Timelines



# AESO – Our role



\*Alberta Utilities Commission

# AESO Vision

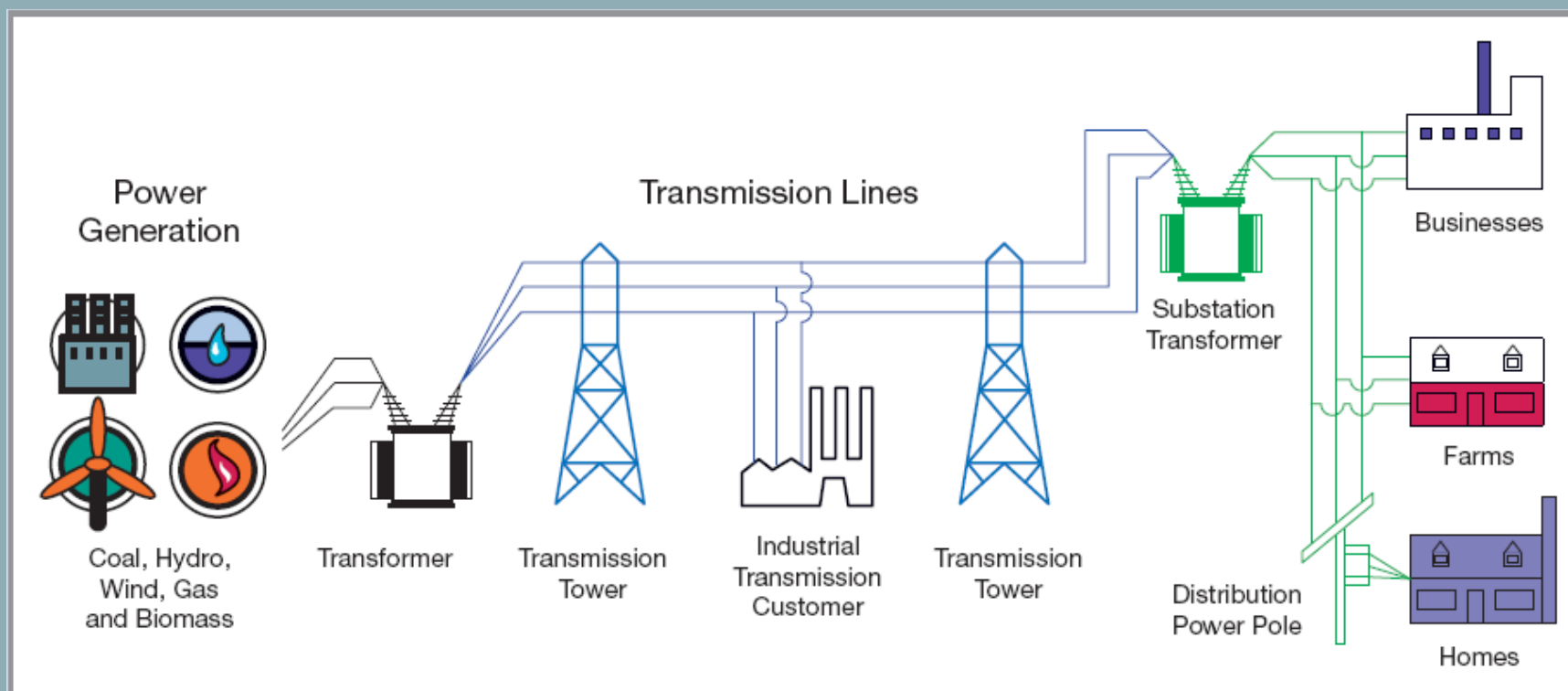


**The AESO will be seen as a key contributor to the development of Alberta and the quality of life for Albertans, through our leadership role in the facilitation of fair, efficient and openly competitive electricity markets and the reliable operation and development of the Alberta Interconnected Electric System (AIES).**



# The Big Picture

## The flow of power



# The Big Picture (cont'd)



## Alberta's Electricity Generation



Coal-Fired  
Plants

5,893 MW



Natural  
Gas-Fired Plants

4,699 MW



Hydro  
Power

869 MW



Green  
Power

Wind Power

497 MW



Green  
Power

Other  
Renewables

214 MW

**Total Installed Generating Capacity 12,172 MW**

### Transmission Interconnections

British Columbia

Import: 0-780 MW;  
Export 0-800 MW

Saskatchewan

Import: 0-150 MW;  
Export 0-60 MW



# The Big Picture (Contd.)



## Alberta's Electrical System

**High Voltage Lines: 69KV, 138/144KV, 240 KV and 500 KV**

<b>Transmission Lines</b>	<b>21,000 km</b>
---------------------------	------------------

<b>Interties to B.C.</b>	<b>Up to 780 MW</b>
--------------------------	---------------------

<b>Interties to Saskatchewan</b>	<b>Up to 150 MW</b>
----------------------------------	---------------------

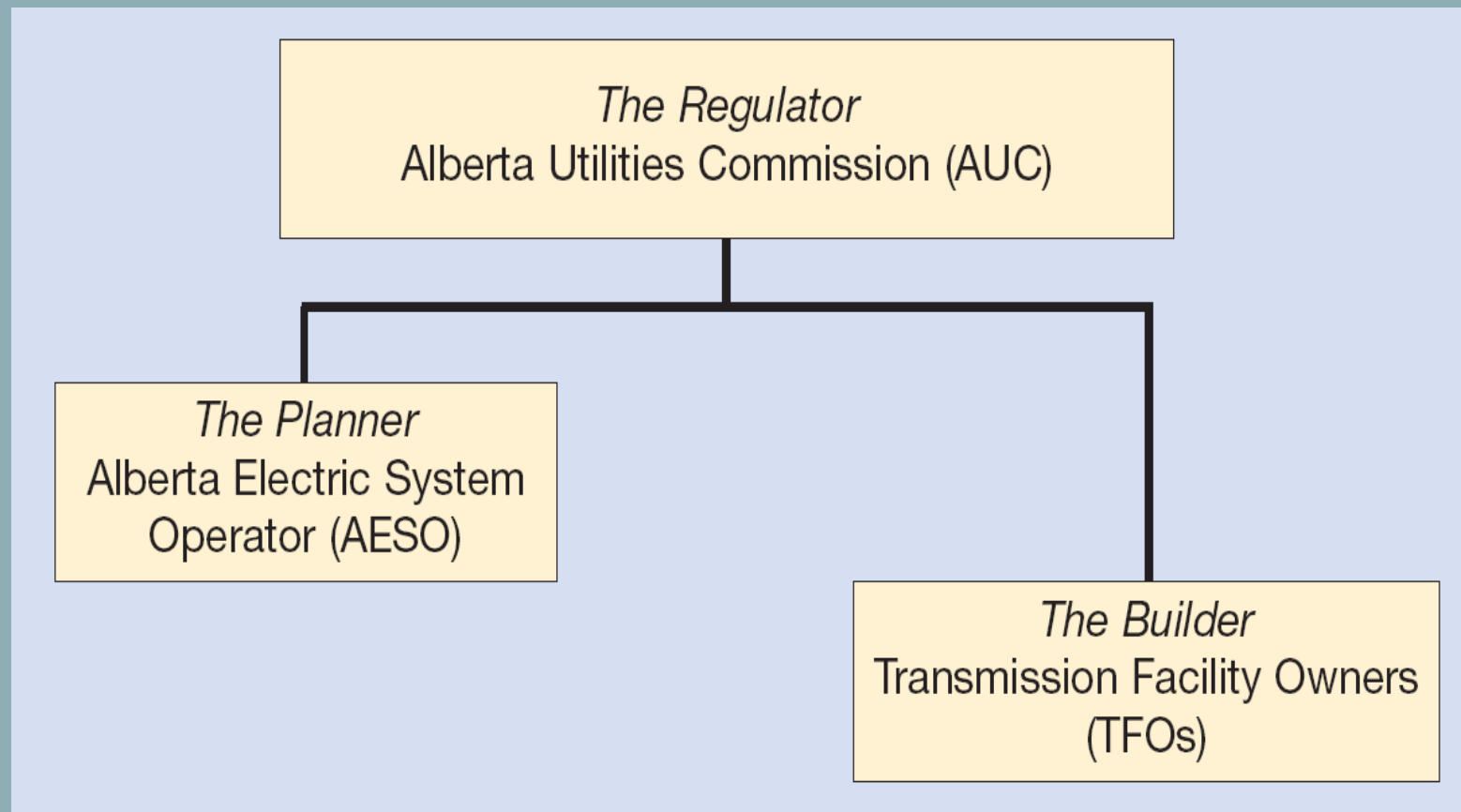
<b>Merchant Line to Montana</b>	<b>Up to 300 MW</b>
---------------------------------	---------------------

<b>Peak Demand</b>	<b>9701 MW</b>
--------------------	----------------

<b>Generation Capacity</b>	<b>12,172 MW</b>
----------------------------	------------------

<b>Number of Generating Units</b>	<b>Over 280</b>
-----------------------------------	-----------------

# Regulatory Process: The Players



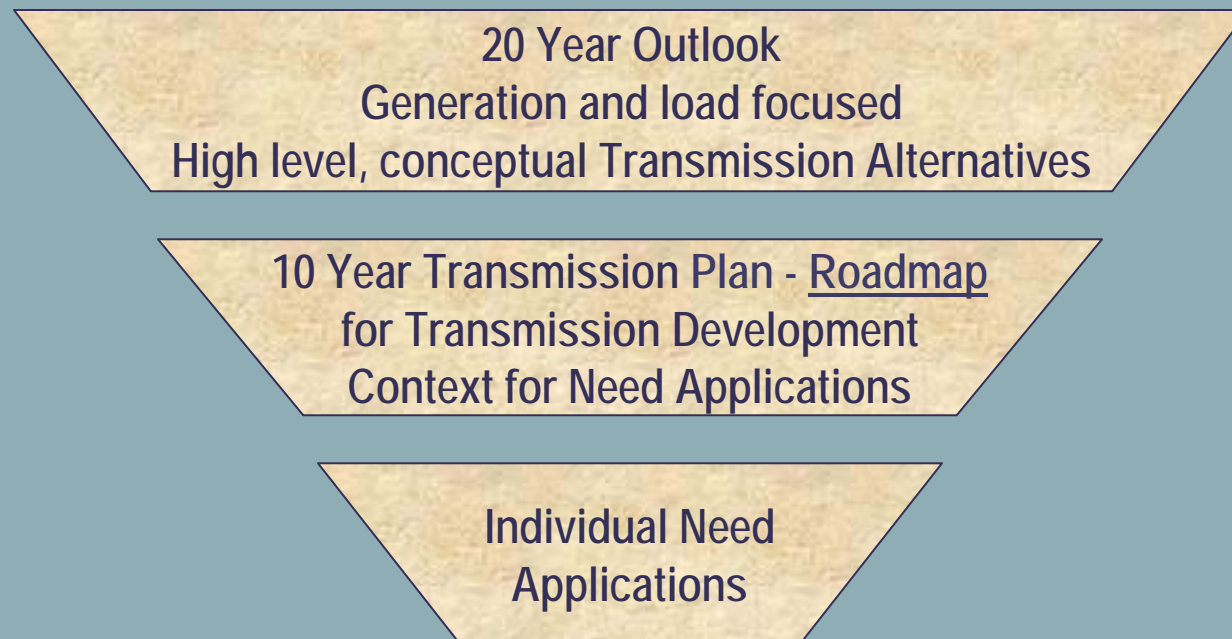


# Transmission 2-stage process



- AESO
  - determine the need for transmission development
  - submit a **Needs Identification Document (NID)**, to the Alberta Utilities Commission (AUC) for approval that will include a recommendation for transmission reinforcement
- Transmission Facility Owner (TFO)
  - detailed routing and specific siting
  - detailed engineering
  - separate consultation process
  - submit a **Facilities Application** to the Alberta Utilities Commission (AUC) for approval

# Overall Transmission Planning Framework





# Transmission Planning Process: Planning Considerations



- **Social impacts of project/transmission plan**
  - **Social/Landowner**
  - **Environmental**
  - **Land Use**
- **Technical: Technical performance**
- **Economic: Capital costs and line losses**

# Hanna Region Transmission Development -Need



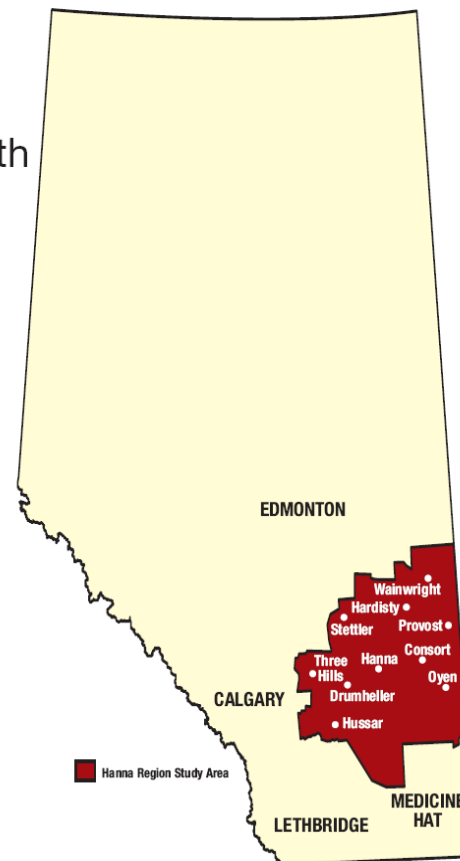
## Hanna Region Transmission Development



# Hanna Region – Study Area

Hanna Region Study Area roughly comprised of:

- Special Areas 2, 3 and 4
- MD of Wainwright
- MD of Provost
- Flagstaff County
- County of Stettler
- County of Paintearth
- Cypress County
- CFB Suffield
- CFB Wainwright



## Overview of Need – Hanna Region

***The transmission system in this area lacks the capacity to support additional demand or integrating new generation***

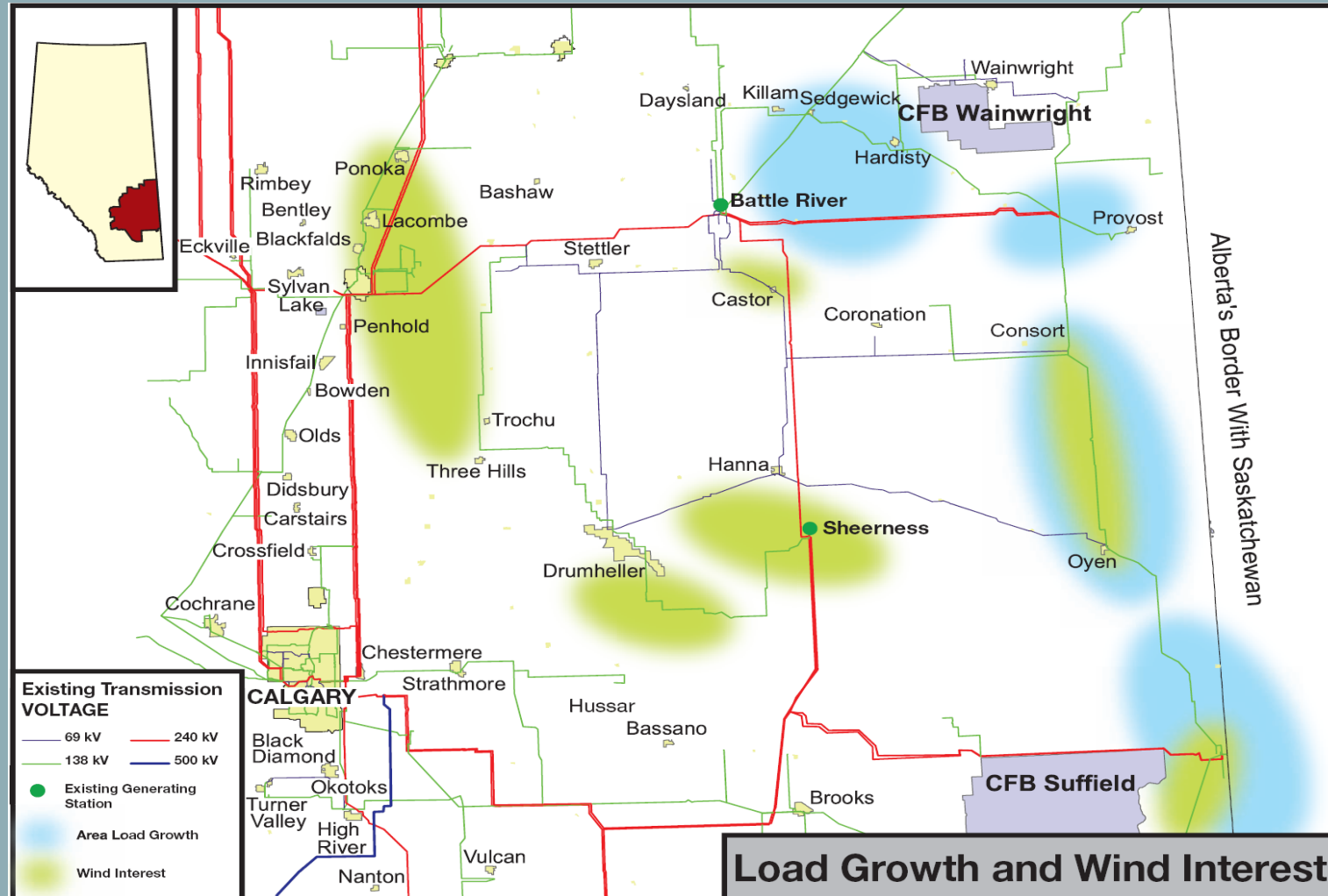
- **Demand for electricity in this region is growing;**

### **Load Growth Areas:**

- **Wainwright, Provost and Hanna areas**
  - **Load is expected to double over the next 10 year**
- 
- **Wind interest in this area: Well over 1500 MW**



# Map of Load (demand) and wind interest in Hanna Region

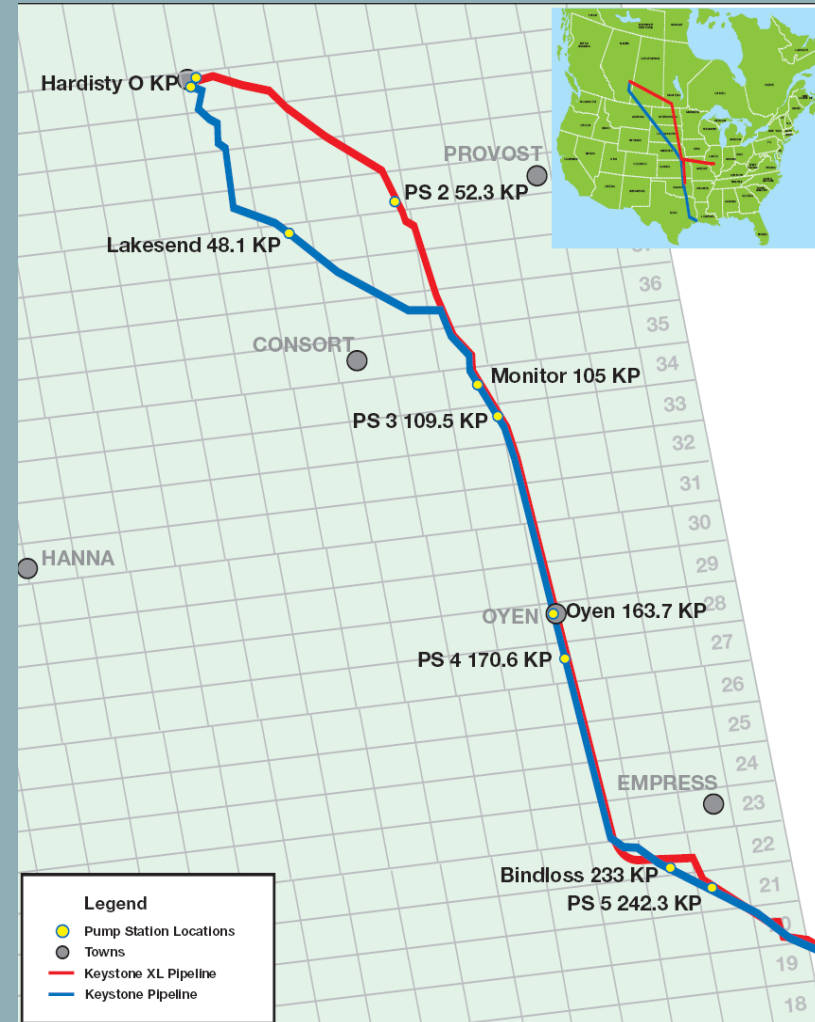


# Keystone Pipe Line



## Load Growth:

- Construction of new pipelines
- Development of Coal Bed Methane Wells
- Associated infrastructure



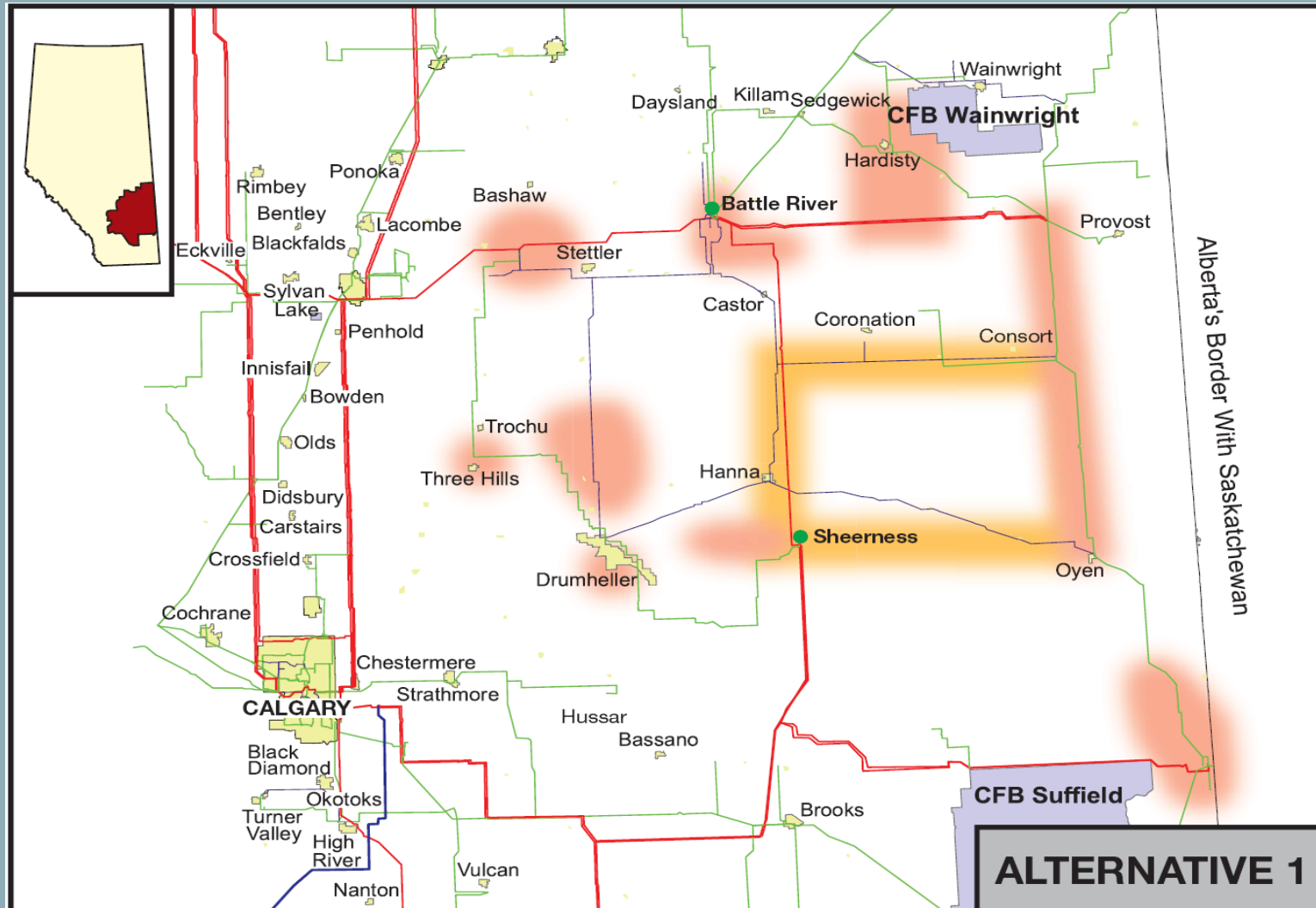


# Hanna Region: Transmission System Alternatives



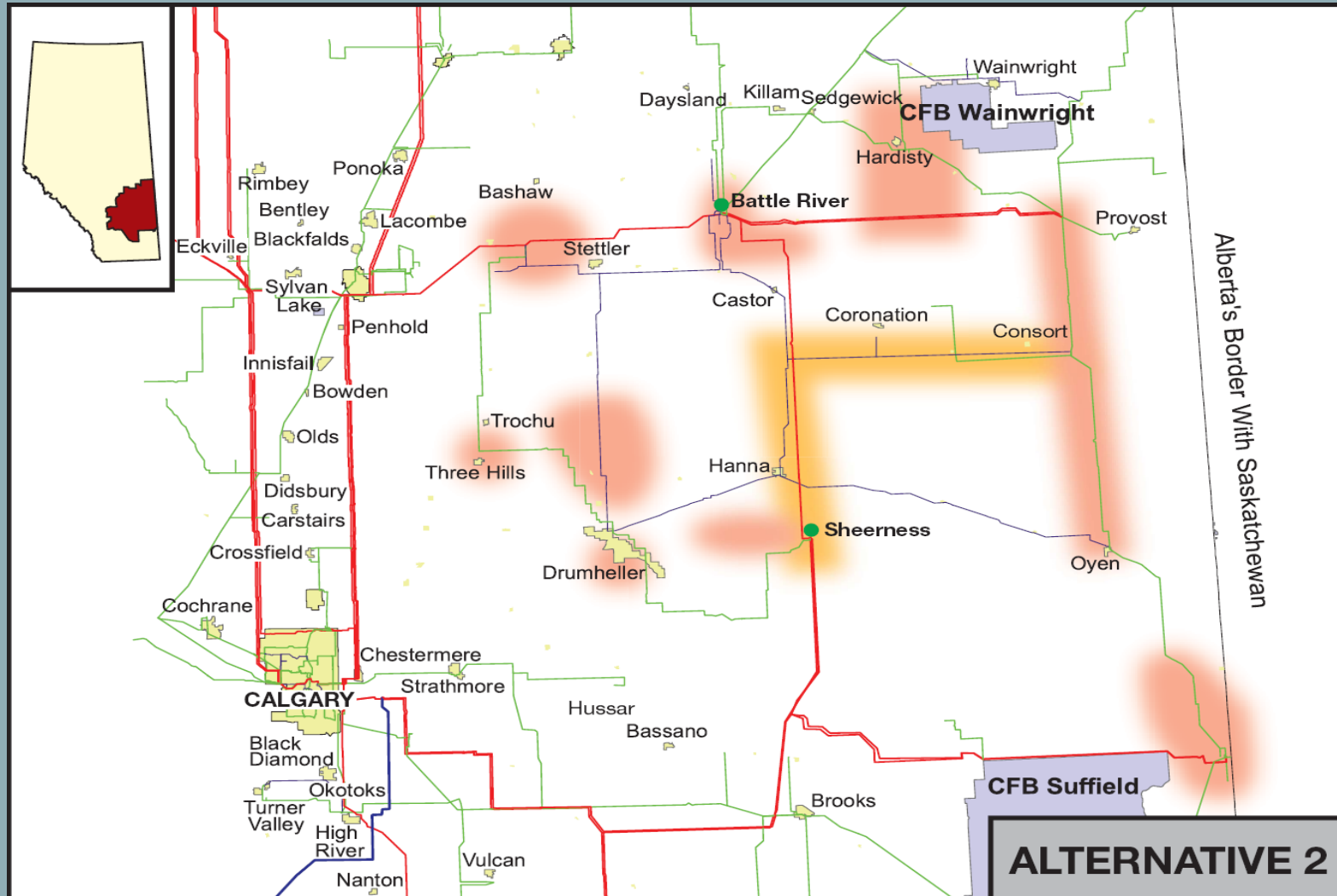
- **Investigated 240 kV and 144 kV options**
- **144 kV Option found to be technically inadequate**
- **240 kV AC Options**
- **Developed Four Alternatives (A, B, C, and D)**

# Alternative 1

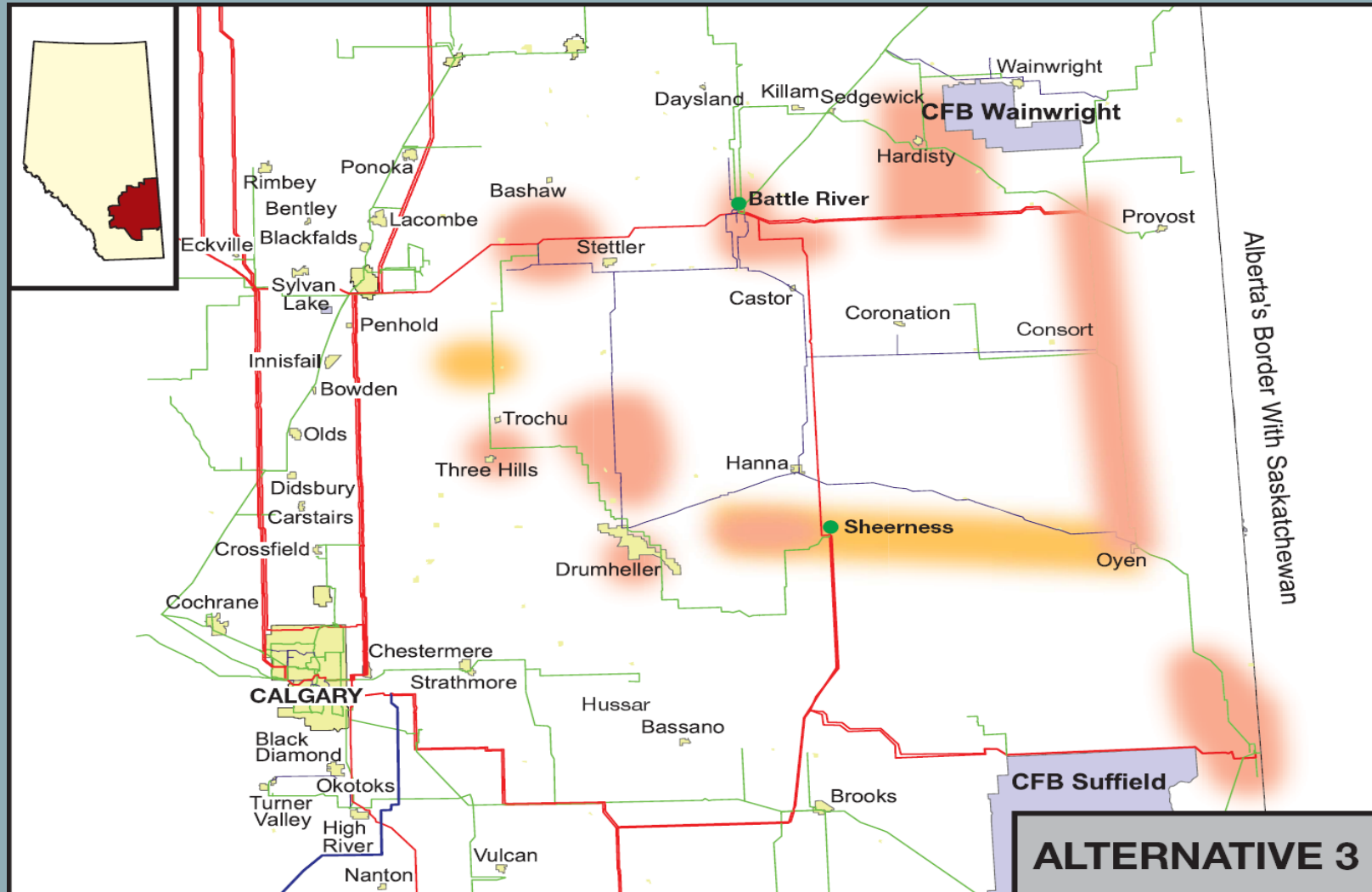




# Alternative 2

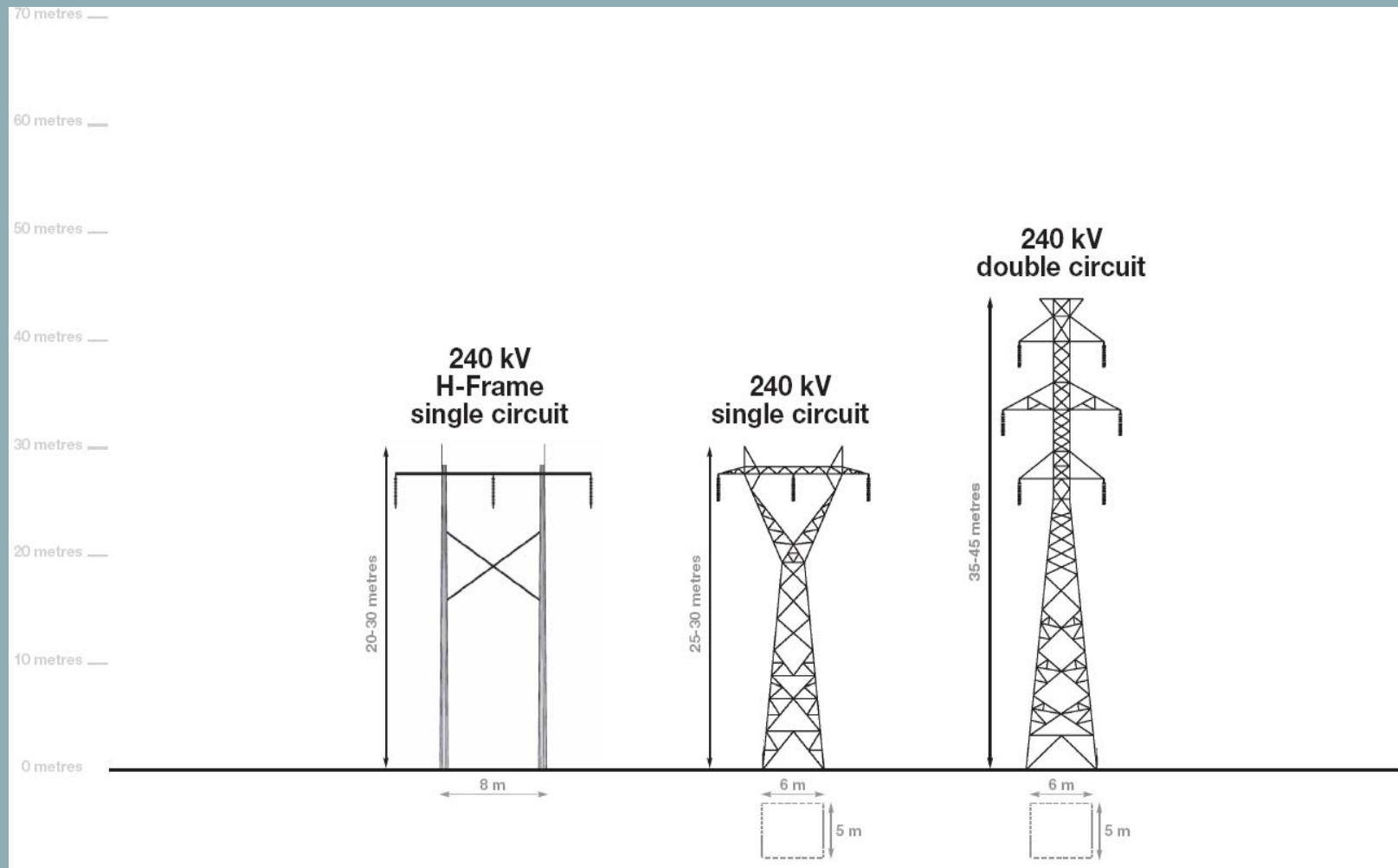


# Alternative 3





# Types of Possible Towers



# Technical Comparison between Alternatives 1- 3



Load Forecast	Base Load Growth Scenario			High Load Growth Scenario		
	1	2	3	1	2	3
Alternatives/Description						
Single circuit 240 kV line (approximate km)	330	50	230	380	130	130
Double circuit 240 kV line (approximate km)	30	180	30	30	180	120
Single circuit 144 kV line (approximate km)	30 – 80	30 – 80	30 – 80	30 – 80	30 – 80	30 – 80
New 240 kV Substations	5	4	4	5	4	4
240/144 kV Transformers	5	5	5	9	8	9
144/72 kV Transformers	3	3	3	3	3	3
Var Support (SVCs)	3	3	3	3	3	3



# Qualitative Comparison of Alternatives

Description	Alternatives		
	1	2	3
Reliability Criteria	Meets Criteria	Meets Criteria	Meets Criteria
Operation Flexibility	Very Good	Satisfactory	Very Good
Available capacity to accommodate future growth	Yes	Limited Capability	Yes
Foot Print	Relatively Large	Large	Relatively Low

# Participant Involvement Program (PIP)



## **Activities:**

- **Meetings with:**
  - **First Nations**
  - **Municipal Districts and Counties**
  - **Special Interest Groups**
  - **DOE/AUC**
- **Open Houses, Feb 23 – March 10, 2009**



# Next Steps



- **Continue PIP**
- **Determination of preferred alternative**
- **Preparation of Need Identification Document**

# Need Identification Document



## **Preparation of need application**

## **Recommendation of Hanna System Plan Based on:**

- **Technical**
- **Economic**
- **Social**



# Project Schedule

No.	Description	Year 2008			Year 2009					
		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
1	Technical Studies (PV & QV Losses, Dynamic Analysis)*	■	■	■	■	■	■	■		
2	Participant Involvement Program (PIP)	■	■	■	■	■	■	■	■	
3	Estimate Capital Costs (NID Class)					■	■	■	■	
4	Social/Land Impact Assessment			■	■	■	■	■		
5	Economic Analysis							■		
6	Prepare NID Document				■	■	■	■	■	
7	File NID Application									■

\* Includes alternative screening.

# Contact us



General AESO Inquiries on Hanna Region Transmission Development:

**Marina Lakhani, Project Coordinator, Transmission**

**403.539.2783**

**[marina.lakhani@aeso.ca](mailto:marina.lakhani@aeso.ca)**



**æeso**

ALBERTA  
ELECTRIC  
SYSTEM  
OPERATOR



## **EXHIBIT E**





**AESO Stakeholder Consultation  
Hanna Transmission Reinforcement  
Stakeholder Questions/Comments and AESO Responses  
June 19, 2009 Stakeholder Consultation Session**

The AESO would like to take this opportunity to thank all stakeholders for their participation in the consultation on the Hanna Transmission Reinforcement project.

The June 19, 2009 stakeholder meeting was attended by and/or the AESO received written comments from the following organizations and consultants:

Alberta Wind Energy Corporation  
ATCO Electric  
b7kennedy & Associates Inc.  
Depal Consulting Limited  
Doug Andrews  
Greengate Power  
Siemens  
Suncor Energy  
TDI Systems Inc.  
TransCanada  
TransAlta  
Windlab Developments Canada Ltd.

**Hanna Transmission Reinforcement  
Stakeholder Information & Consultation Session  
Comment and Response Matrix  
June 19, 2009**

<b>Stakeholder</b>	<b>Stakeholder Question asked during the June 19 meeting</b>	<b>AESO/Other Response</b>
Doug Andrews	How long after the Needs Identification Document is approved would the Transmission Facility Owner (TFO) file the Facilities Application?	It depends on the status of the Needs Identification Document, but most likely would be at least one year from now – Raymond Wong, ATCO Electric
	Are you planning on filing the application in stages, i.e. segmented? The more lines, the more the pushback. Generation in Wintering Hills doesn't necessarily require lines to the East. We would like this line to be expedited, to connect wind generation as soon as possible. We would not want the other lines to delay the line to connect wind generation.	Our purpose is to connect the wind generation as well as ease the load capacity as fast as possible. We will look at the TFO to build the critical pieces as fast as possible. Critical pieces would mean both wind and load. We consider them equally important.
	I do not see the HVDC lines on the map. Has the DC line been taken into account?	Yes. The HVDC line is targeted to be in service by 2013/2014.
	I'm aware of two wind farms to be connected to the 138 kV line. If one of them does not get connected, will that affect the 240 kV line?	No. The 240 kv line is intended to provide a connection for wind farms in the Hand Hills and Wintering hills areas into the system
Greengate Power	Are you considering it to comply with reliability criterion?	Yes.



Doug Andrews	What lines are being given to ATCO and AltaLink?	The 'Ware Junction to West Brooks' section will be worked on by AltaLink. All other lines are in ATCO's service territory and hence they will be responsible for the construction.
b7kennedy & Associates Inc.	<p>I want to point out that the system is at capacity right now. There is urgency from the pipeline loads.</p> <ol style="list-style-type: none"> <li>1. Adding a line from Ware Junction to West Brooks, you do not have enough transmission reinforcement.</li> <li>2. Did AESO examine the line from Anderson/Coyote Lake to Calgary?</li> <li>3. Did AESO look into connecting Empress to Oyen?</li> </ol>	*The answers to these three questions are given at the end of page
	Regarding the 500 kV DC line- what is the reliability criteria? Drawing a line from Weir Junction to Langdon, will the HVDC get rid of that line, though it was applied for?	<p>The HVDC line is part of Bill 50, i.e. the Critical Infrastructure plan. The Ware Junction line is still part of the South Application.</p> <p>As the hearing is on Monday, we will be talking about it there, and will see how it goes.</p>
Doug Andrews	Will it delay the rest of the South System?	<p>No.</p> <p>Hanna NID is based on the assumption that 500 kV HVDC comes into same area,. The South NID was developed well before the Bill 50 came into existence. The South NID contains the 240 kV D/C line from Ware junction to Langdon. These two NIDs are different and the decision to proceed with</p>

		<p>240 kv D/C line in the South NID will be dealt with later on..</p> <p>Regarding Bill 50, the 3<sup>rd</sup> reading is this fall.</p>
	Regarding the focus of the TFO, does the HVDC line take precedence?	<p>Raymond Wong –ATCO Electric (AE) is experiencing tremendous growth in the North West, Fort McMurray and Central East areas for 2012 and beyond. Based on our current resource situation, the 2012 ISD projects as AESO proposed will be difficult for AE to meet. AE is developing a business plan for 2010 and beyond. We're looking at getting more resources. We're also trying to get some advance work done. We will require an 'x' amount of money to do Right-of-Way planning. However, a delay on one line shouldn't hold up another line.</p>
	Q: When can we get a formal statement on that? Is it possible to have a Facilities Application for each segment so each portion won't depend on the next?	<p>Raymond-It's possible and something we may look into. AE will not submit a single Facility Application for the entire Hanna area. Instead, AE will divide them into several applications to minimize regulatory delays. Many Facility applications will be submitted instead. It will most likely be per segment of line.</p>
TransCanada	The AESO needs to direct the TFO before the TFO can promise anything. We cannot afford to have the	The AESO is currently following the project schedule we have laid out, and part of that



	reinforcement come in late.	will be working with the TFO to meet our deadlines.
	Do you have a sense yet from your side of stakeholders and what kind of opposition you can expect to this?	We have received approval from the Board, and ATCO is on the same page as us. From the 10 open houses we held in February and March, we got a lot of positive feedback, and there was a lot of interest in wind generation.
Doug Andrews	What resources are ATCO short of?	Raymond-: Our executives are actively reviewing resource requirements for all the projects. The two key critical paths are ROW planning for the Facilities Application and construction resources. All the TFOs in the province are extremely busy with projects with similar ISDs and are competing for the same resources.
	Are you looking beyond the Canadian border for more resources?	ATCO is looking beyond the Canadian borders, yes.
	Does ATCO hire external land agents help with the work?	Raymond: ATCO does hire land agents to assist with the ROW planning.
TransCanada	I would like AESO to be aware of the financial cost of any delay to the project. Its three billion dollars a year for us. That's \$250 million dollars a month. The lines must be in service by mid 2012. We are informing the AUC and the Department of Energy to create a heightened awareness of the cost of delay.	

\*Answer to b7kennedy & Associates Inc.:

1. The Hanna area is connected to the bulk system via three 240 kV lines. They are 912L (Nevis to Red Deer, west to the east), the 9L933L/933L, and 931L lines that connect Anderson .to West Brooks in the south. These existing three lines have the capacity to transport a maximum of approximately 1500 MW of generation. Even if a line goes out of service, their capacity drops from 1500 MW to 1000 MW. The combined generating capacity of existing Sheerness and Battle River plants is approximately 1500 MW and the existing lines can ship power to the major load centers in Calgary and surrounding area taking into account a regional load of about 500 MW.

By 2017, approximately 700 MW of wind projects will be added to the Hanna region system. This will increase the generating capacity FROM 1500 MW to 2200 MW. The peak load in the Hanna region could reach at least 1000 MW.

The AESO proposes to add a 240 kV line from Ware Junction to West Brooks in 2012. The total number of lines, thus, will increase from an existing three lines to four lines bringing the total transmission capacity to approximately 2000 MW. The net power to be transferred from the Hanna region to the bulk system is about 1200 MW ((2200 MW (generation) – 1000 MW (peak load)). Even with a single line out of service, the remaining three will have enough capacity to transfer remaining generation.

2. The AESO considered a double circuit line from Coyote Lake to East Cross-field to move wind generation to Calgary area and this line meets the requirement like the one proposed by the South system (i.e. Ware Junction to Langdon). However, this option was not pursued further due to serious right-of-way issues.

3. The AESO's studies indicated no benefit in connecting Empress to Oyen via a 240 KV line. In fact, the proposed double circuit line from Oakland to Oyen serves the same purpose but eliminates the need for a right of way from Empress to Oyen.



## **EXHIBIT F**



## You're invited...we're listening

06 February 2009

Dear Stakeholder:

**Re: Open Houses in support of potential transmission development in the Hanna region  
(east central Alberta), February 23 to March 10, 2009**

The Alberta Electric System Operator (AESO) is responsible for the safe, reliable and economic planning and operation of the Alberta Interconnected Electric System (AIES).

The AESO is planning the transmission system to interconnect a number of new wind power developments proposed for this area, and to meet growing demand for electricity in this region driven by large pipeline and industrial loads.

We are hosting Open Houses throughout the Hanna region to discuss the need to improve the electric transmission system in this area. Information will be available on proposed alternatives under consideration for this reinforcement. At each event, AESO representatives will be available to discuss the project and to listen to your opinions and your advice. Events run from **4:00 pm until 8:00 pm**, at the locations and on the dates listed below:

**Wainwright, February 23**  
Wainwright Communiplex

**Hanna, March 3**  
Hanna Legion Hall

**Hardisty, February 24**  
Hardisty Community Hall

**Drumheller, March 4**  
Meeting Room, Hotel Ramada Drumheller

**Provost, February 25**  
Provost Recreation and Culture Centre

**Hussar, March 5**  
Hussar Community Hall

**Consort, February 26**  
Consort Community Hall

**Three Hills, March 9**  
Meeting Room, Super 8 Motel

**Oyen, March 2**  
Seniors' Recreation Centre

**Stettler, March 10**  
Recreation Centre

(over)





## You're invited...we're listening

Transmission Facility Owner (TFO) representatives will be present at the Open Houses to answer questions related to routing and other facilities application-related topics.

After receiving community input, the AESO will identify a preferred system alternative for meeting the need and file a Needs Identification Document with the Alberta Utilities Commission. Once the preferred system alternative is approved by the AUC, the AESO will direct Transmission Facility Owners to begin developing their respective Facilities Applications for their portions of the transmission system. TFOs will conduct separate participant involvement programs for these applications; routing options will be discussed at this time.

Should you wish to discuss our planning efforts in the Hanna region further, please check our website at [www.aeso.ca](http://www.aeso.ca) or direct comments and questions to:

**Marina Lakhani**  
**AESO – Alberta Electric System Operator**  
2500, 330 - 5<sup>th</sup> Ave SW, Calgary, AB T2P 0L4  
**1.888.866.2959**  
**[stakeholder.relations@aeso.ca](mailto:stakeholder.relations@aeso.ca)**

Please join us at any of the open houses listed above (**between 4:00pm and 8:00pm on the dates indicated**) to share your views on this development. We are committed to a consultation process founded upon principles of fairness and transparency.

Sincerely,

Ramaiah Divi, P. Eng.  
Manager, Central System Planning

## Transmission Reinforcement in the Hanna Region (East Central Alberta)

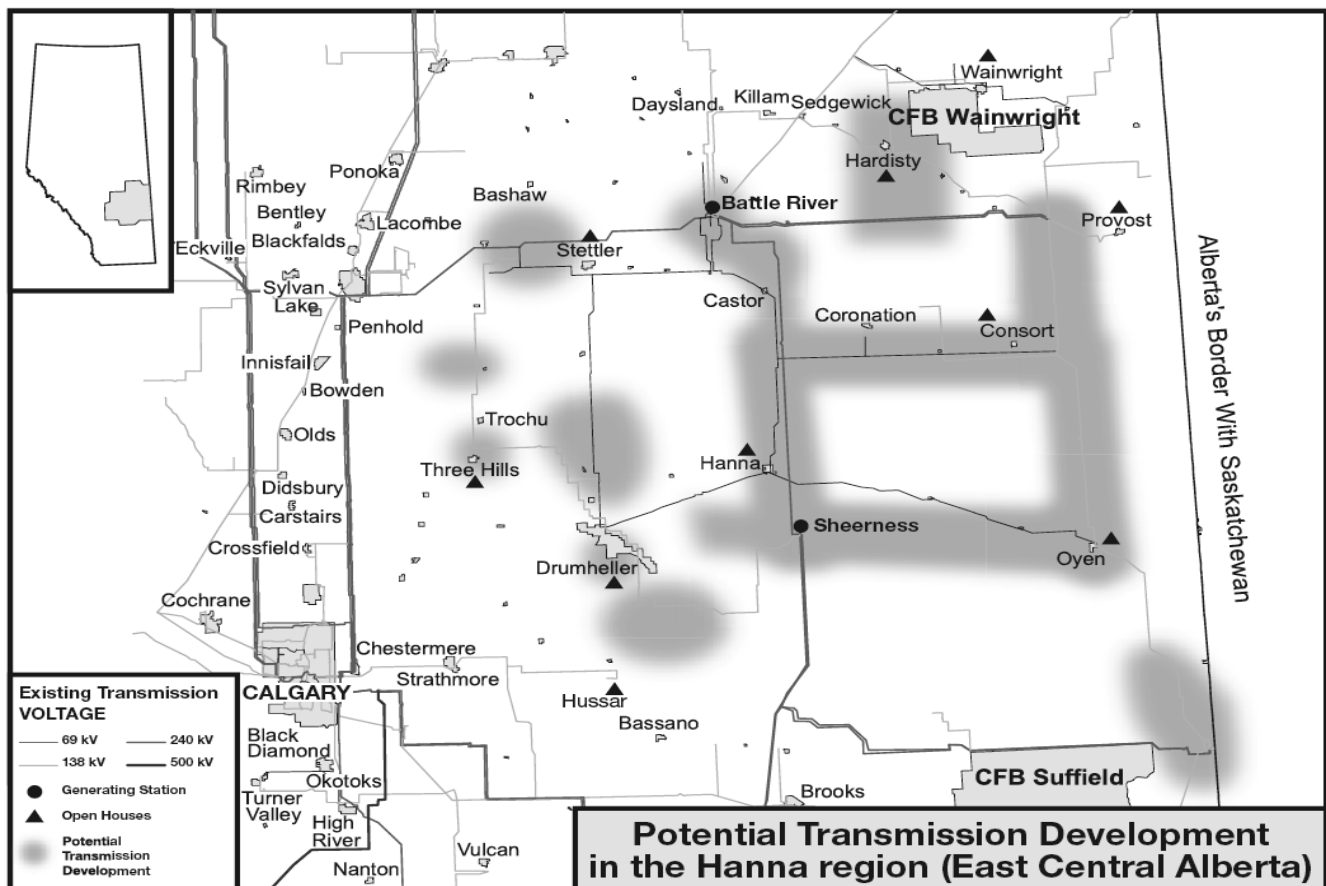
For more information please contact the AESO at 1.888.866.2959,  
[www.aeso.ca](http://www.aeso.ca) or [stakeholder.relations@aeso.ca](mailto:stakeholder.relations@aeso.ca)

### Who is the AESO?

The Alberta Interconnected Electric System (AIES), our province's transmission system or "grid," is planned and operated by the Alberta Electric System Operator (AESO). This network of higher-voltage transmission lines, towers and equipment carries ("transmits") electricity from generators to large industrial customers as well as lower-voltage systems that distribute it to cities, towns and rural areas. Our job is to maintain safe, reliable and economic operation of the provincial transmission grid.

### Why Transmission system reinforcement is needed for the Hanna region (East Central Alberta)?

System reinforcement is needed in the Hanna Region to meet growing demand for electricity and to interconnect proposed wind power developments. The AESO has received applications for wind power development of well over 11,500 megawatts (MW) in all of Alberta; over 1,400 MW of this total is distributed among wind farms proposed for the Hanna region. Over the next ten years, however, the AESO anticipates that up to 700 MW of this total may develop in the Hanna region. Additionally, demand for electricity in the Hanna region is forecast to increase. Pipeline development is the main driver for this increase. The existing transmission system in this region, however, is at capacity, and cannot carry any additional electricity. System reinforcement, therefore, is needed to meet increasing demand for electricity and to interconnect new wind farms.



The map above shows a shaded area where the AESO has identified potential areas for transmission system reinforcement.

(over)



### **Where will the new lines be proposed?**

Consultation with stakeholders will identify a preferred solution for reinforcing the system; the preferred solution will form part of our Needs Identification Document (NID) that we will submit to the Alberta Utilities Commission (AUC) later this year. We will also submit individual Needs Identification Documents to the AUC to connect wind power projects which successfully meet AESO's interconnection milestones.

The Hanna region is served by Transmission Facility Owners AltaLink and ATCO Electric. Should the AUC approve our NID, we will assign the larger system reinforcement and each new interconnection to the respective Transmission Facility Owner (AltaLink or ATCO), to build the required transmission facilities. Before AltaLink or ATCO can begin constructing these facilities, they must develop a Facilities Application which addresses, among other considerations, matters relating to routing, and submit this document to the AUC for approval. Further consultation with stakeholders will form a part of this application process.

### **What's happening right now?**

So far, our planning study has produced three main alternatives to address the challenges facing the transmission system in the Hanna region. After gathering stakeholder insights on our alternatives, our study will identify areas where transmission lines and other related facilities could be added to improve the system.

The targeted in-service date for these facilities is 2012.

*The AESO is committed to protecting your personal privacy in accordance with Alberta's Personal Information Protection Act. Any personal information collected by the AESO with regard to this project may be used to provide you with further information about the project, may be disclosed to the Alberta Utilities Commission (and as a result, may become public), and may also be disclosed to the eligible Transmission Facility Owner(s). If you have any questions about how the AESO will use and disclose your personal information collected with regard to this project, please contact us at 1-888-866-2959 or at [stakeholder.relations@aes0.ca](mailto:stakeholder.relations@aes0.ca).*

## You're invited...we're listening

08 June 2009

Dear Stakeholder:

**Re: Two Open Houses for Additional Transmission Development in the Hanna region, June 22 and June 23, 2009**

The AESO is responsible for the safe, reliable and economic planning and operation of the Alberta Interconnected Electric System (AIES). The AESO is planning the transmission system to interconnect a number of new wind power developments proposed for this area, and to meet growing demand for electricity in this region driven by large pipeline and industrial loads.

In February and March of this year we held 10 Open Houses throughout the area to explain the project and gather public feedback.

As a result of further analysis we see the need for more transmission development than previously outlined, specifically in the areas north and east of the Town of Drumheller, as well as north of the City of Brooks.

We will host two more Open Houses in these areas. Please join us at either of the events listed below. At each event, AESO representatives will be available to discuss the project and to listen to your opinions and your advice. Events run from **4:00 pm** until **8:00 pm**, at the locations and on the dates listed below:

**Brooks, June 22**  
**Banquet Room C, Heritage Inn**

**Drumheller, June 23**  
**Banquet Hall, Drumheller Inn**

Transmission Facility Owner (TFO) representatives will be present at the Open Houses to answer questions related to routing and other facilities application-related topics.

After receiving community input, the AESO will identify a preferred system alternative for meeting the need and file a Needs Identification Document with the Alberta Utilities Commission. Once the preferred system alternative is approved by the AUC, the AESO will direct Transmission Facility Owners to begin developing their respective Facilities Applications for their portions of the transmission system. TFOs will conduct separate participant involvement programs for these applications; routing options will be discussed at this time.

Should you wish to discuss our planning efforts in the Hanna region further, please check our website at [www.aeso.ca](http://www.aeso.ca) or direct comments and questions to:

**Marina Lakhani**  
**AESO – Alberta Electric System Operator**  
2500, 330 - 5<sup>th</sup> Ave SW, Calgary, AB T2P 0L4  
**1- 888- 866- 2959**  
[stakeholder.relations@aeso.ca](mailto:stakeholder.relations@aeso.ca)

Please join us at any of the open houses listed above **(between 4:00pm and 8:00pm on the dates indicated)** to share your views on this development. We are committed to a consultation process founded upon principles of fairness and transparency.

Sincerely,



Ramaiah Divi, P. Eng.  
Manager, Central System Planning

(over)



## Transmission Reinforcement in the Hanna Region (East Central Alberta)

For more information please contact the AESO at 1.888.866.2959,  
[www.aeso.ca](http://www.aeso.ca) or [stakeholder.relations@aeso.ca](mailto:stakeholder.relations@aeso.ca)

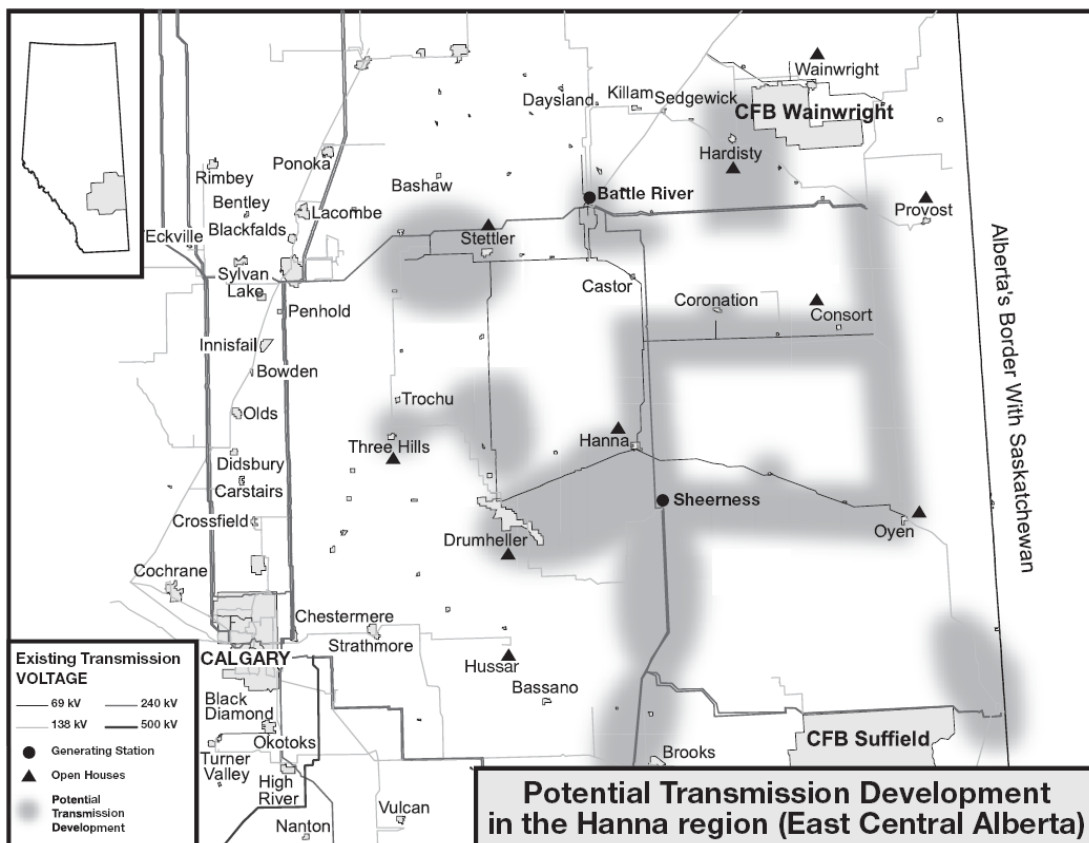
### Why Transmission system reinforcement is needed for the Hanna region (East Central Alberta)?

System reinforcement is needed in the Hanna Region to meet growing demand for electricity and to interconnect proposed wind power developments. The AESO has received applications for wind power development of well over 11,500 megawatts (MW) in all of Alberta, of which over 2,000 MW are proposed in the Hanna region. Over the next ten years, however, the AESO anticipates that up to 700 MW of this total wind capacity may be developed in the Hanna region. Additionally, demand for electricity in the Hanna region is projected to more than double over the next ten years. Pipeline development is the main driver for this increase in demand. The existing transmission system in this region, however, is at capacity, and cannot carry any additional electricity. System reinforcement, therefore, is needed to meet increasing demand for electricity and to interconnect new wind farms.

A review of detailed technical studies while forecasting plausible wind distribution in the Hanna and bulk system development in southern Alberta revealed that new lines from the Anderson substation south to the Ware Junction substation, and then again south to the West Brooks substation are required. In addition, some upgrades and new transmission facilities are found to be necessary to meet system requirements in the western part of the Hanna study area (the Drumheller, Delburne, Stettler and Rowley communities).

### Who is the AESO?

The Alberta Interconnected Electric System (AIES), our province's transmission system or "grid," is planned and operated by the Alberta Electric System Operator (AESO). This network of higher-voltage transmission lines, towers and equipment carries ("transmits") electricity from generators to large industrial customers as well as lower-voltage systems that distribute it to cities, towns and rural areas. Our job is to maintain safe, reliable and economic operation of the provincial transmission grid.



The map above shows a shaded area where the AESO has identified potential areas for transmission system reinforcement.

### **Where will the new lines be proposed?**

Consultation with stakeholders will identify a preferred solution for reinforcing the system; the preferred solution will form part of our Needs Identification Document (NID) that we will submit to the Alberta Utilities Commission (AUC) later this year. We will also submit individual Needs Identification Documents to the AUC to connect wind power projects which successfully meet AESO's interconnection milestones.

The Hanna region is served by Transmission Facility Owners AltaLink and ATCO Electric. Should the AUC approve our NID, we will assign the system reinforcement and each new interconnection to the respective Transmission Facility Owner (AltaLink or ATCO), to build the required transmission facilities. Before AltaLink or ATCO can begin constructing these facilities, they must develop a Facilities Application which addresses, among other considerations, matters relating to routing, and submit this document to the AUC for approval. Further consultation with stakeholders will form a part of this Facilities application process.

### **What's happening right now?**

So far, our planning studies produced three main alternatives to address the challenges facing the transmission system in the Hanna region. After gathering stakeholder insights on our alternatives, our study will identify areas where transmission lines and other related facilities could be added to strengthen the system.

The targeted in-service date for these facilities is 2012.

*The AESO is committed to protecting your personal privacy in accordance with Alberta's Personal Information Protection Act. Any personal information collected by the AESO with regard to this project may be used to provide you with further information about the project, may be disclosed to the Alberta Utilities Commission (and as a result, may become public), and may also be disclosed to the eligible Transmission Facility Owner(s). If you have any questions about how the AESO will use and disclose your personal information collected with regard to this project, please contact us at 1-888-866-2959 or at [stakeholder.relations@aesocanada.com](mailto:stakeholder.relations@aesocanada.com).*