Capital Region Board

Capital Region Regional Energy Corridors Policy Framework
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1 Introduction and Summary

As the central hub of oil and gas exploration and development in Western Canada, the Capital Region is crisscrossed with an intricate web of petroleum pipelines and power transmission lines. The municipal members of the Capital Region Board are keenly aware of the challenges of planning communities in and around pipelines and power transmission lines. For this very reason, the Provincial Government mandated through the CRB Regulation that the Capital Region Growth Plan identify the location of corridors for transportation and utilities as part of a comprehensive, integrated regional land use plan for the Region. Planning for future growth must recognize and address the need to minimize land use conflicts arising from planned increases in oil and gas activity, and new power infrastructure within the Capital Region, while supporting economic development and diversification.

The Growth Plan currently identifies existing infrastructure and utility corridors within the Capital Region. However, there is little direction and policy to support planning for future corridors, energy or otherwise. An Energy Corridors Policy Framework must provide the Board with an understanding of the scope and magnitude of future energy corridor requirements, the opportunities and constraints with the region to accommodate additional or expanded corridors, and ultimately, with policy recommendations that will assist the Board in evaluating and directing the location of future corridors that align with the overall principles and policies of the Growth Plan.

For municipalities in the greater Edmonton area managing regional corridor growth will continue to be a significant opportunity and increased planning challenge. The combined growth in the Capital Region and petroleum pipeline and power transmission lines is increasing land-use constraints for industrial development and conflicts with residential land development.

Petroleum and power facility growth is forecast to continue, driven by the Capital Regions’ petroleum transportation and refining hub, forecasted growth in bitumen production and related demand for power transmission in the region and province. 14-16 major pipeline projects to facilitate bitumen production growth are forecast over the next 20 years. This growth translates into substantive jobs, new businesses and opportunities as well as strong sustained community growth that also require land for development. Without clear linear corridor access, pipeline routes and associated refining and storage facilities will have to move elsewhere.

Historically, in the late 70s, planning was initiated to address the need for growth in pipelines, power lines and road infrastructure in the greater Edmonton area. This resulted in the development of the Transportation Utility Corridor (TUC) for linear corridors around Edmonton and the North East Pipeline Corridor (NEPC) – an extension of the TUC. Both of these Corridors are administered and regulated by the Province. The NEPC is largely full today with real development constraints for future linear corridor development. Current models for linear corridors are more focused on proponent-driven solutions which has resulted in an increase in Capital Region Land fragmentation from multiple linear corridors across the region.

There are many stakeholders who influence energy corridor location and development. However, unlike the provincial 1970s Transportation Utility Corridors approach, there is not a clear agency guiding linear corridor management. The Capital Region Board, and Municipalities, have some,
but limited capacity to influence the location of linear corridors. Municipalities have the right to
intervene, yet their strongest role is in the determination of land uses through their Municipal
Development Plans. The Board’s main role is through its Regional Evaluation Framework.

This report recommends that the Capital Region Board adopt an Energy Corridors Policy
Framework that supports the CRB in developing a master plan to guide the development of energy
corridors and that the CRB leads the development of a comprehensive advocacy strategy with
partners to address energy corridor issues.

2 Regional Energy Corridors

This section defines regional energy corridors and outlines the types of models used to develop
regional energy corridors.

2.1 Regional Energy Corridors Defined

The Capital Region Growth Plan is comprised of a family of documents that includes a main
document “Growing Forward”, 5 appendices – 4 of which specifically address each of the pillars of
the Growth Plan: Land Use, Inter-municipal Transit, Housing and GIS, 2 addendums which
further expand upon the work in each of the appendices, and additional documents added after the
Plan was approved by the Province in 2010. Throughout the documents, attempts are made to
define and distinguish local infrastructure from regional infrastructure, multi-use corridors from
multi-mode movement corridors, recreation corridors, waterway corridors, etc.

Regional Energy Corridors are not specifically defined, however, there are references in the
December 2009 Addendum to energy sector pipelines in a definition for Heartland Pipeline
Corridor, power systems in the Regional Infrastructure definition, and transmission lines and
pipelines within the definition for Multi-Use Corridor. Therefore, before defining Regional Energy
Corridors, it is important to understand what would be in the corridors. In this regard, the Study is
limited to Power Infrastructure and Petroleum Pipeline Infrastructure which are described in the
following sections.
2.1.1 Power Infrastructure

*Power Infrastructure* consists of Power Transmission Lines (highlighted in blue) that move electricity from generating stations (highlighted in black) to regional step-down Substations (highlighted in green). The bulk transfer of electricity generally occurs on Transmission Lines of at least 138 kV and up to 500 kV in the Capital Region.

Not considered in the definition of *Power Infrastructure* for Regional Energy Corridors are Power Distribution Lines which provide the final delivery of electricity from the substations to the end (i.e. retail) customers.

![Figure 1: Power Infrastructure Schematic](http://en.wikipedia.org/wiki/Electric_power_distribution)
2.1.2 Petroleum Pipeline Infrastructure

*Petroleum Pipeline Infrastructure* consists of Transmission Pipelines that move petroleum across the province and internationally and between storage and processing facilities.

Petroleum pipelines carry natural gas, natural gas liquids, crude oil and refined petroleum products. They range in size from 101.6 mm to 1,212 mm (4 in to 48 in.).

Gathering Lines (from well source to processing) and Distribution (local retail distribution) are not considered as a part of this project’s Regional Energy Corridor definition.

![Figure 2: Oil Liquids Transmission Schematic](http://www.cepa.com/about-pipelines/types-of-pipelines/liquids-pipelines)
2.1.3 Regional Energy Corridor Defined

For the purposes of this study, and to distinguish the pipelines and power lines that are the subject of this study from local utilities, the following definition is used to describe Regional Energy Corridors:

*Regional Energy Corridors* – Linear corridors that support the placement of Power Infrastructure and Petroleum Pipeline Infrastructure used for the transportation of electricity and petroleum products from generation facilities and extraction/refining facilities to locations within and beyond the Capital Region.

2.2 Regional Energy Corridor Development Models

There are a number operational management and funding models that create energy corridors within the Capital Region. Each of these models has a different level of impact on broader planning and land management requirements within the CRB.

The four main models are described in below subsections and are currently being used within the Capital Region for both pipeline and power transmission lines.

2.2.1 Individual Corridor Development

Individual facility operators develop project design, location and routing. Routing is determined based on the single operators’ interest. Project right-of-ways are acquired and utilized by the individual facility operator. While individual corridors are necessary to access certain locations (i.e. project sites), they do create the highest degree of planning and land fragmentation.

2.2.2 Common Corridor Development

Facility operators make arrangements to route projects along certain common corridor routes and acquire and manage rights-of way for their projects adjacent to other corridors. This common corridor arrangement is guided by regulation and provincial and national regulators to minimize corridor proliferation and land sterilization. Common corridors reduce planning and land fragmentation impact.

2.2.3 Provincial Transportation Utility Corridor (TUC)

Restricted Development Areas (RDAs) are defined under regulation to enable the province to establish and maintain multiple-use corridors. The RDAs are known as Transportation Utility Corridors (TUCs). TUCs are designed for long-term alignment of ring roads and major linear utilities in urban areas.

Most land within designated TUCs has been purchased by the province, or is under an offer to purchase by the province. TUCs can be considered a proactive approach to linear corridor management.

The TUCs can be considered highly successful as they have defined and managed corridor access for pipeline, power line, road and other infrastructure within the CRB. The challenge now, however...
is that the TUC is at capacity in many areas and new linear developments need to find new routes (new land and planning challenges) to site their projects within the Capital Region.

2.2.4 Municipal Utility Corridor

One of the Capital Region Municipalities, Sturgeon County, has purchased land to facilitate pipeline routing. Sturgeon County purchased a corridor approximately 1.5km long to focus corridor access in one area and provide access into the North West Upgrader site. This proactive approach, like the Provincial TUC model, has been partially successful as some portions of the corridor have been used.

3 Regional Energy Corridor Development

Regional energy corridor development is driven by the Capital Region’s central location to Alberta’s oil, gas and electricity industries.

This section outlines the status of current energy corridor development, explores future power and pipeline corridor needs.

3.1 Existing Regional Energy Corridor Development

3.1.1 Pipeline Corridors

Edmonton area refineries, processing facilities and associated infrastructure play a fundamental role in the distribution of petroleum products throughout North America and the world. Linking these facilities to the producing areas in Northern Alberta, the storage hub in Hardisty, Alberta, and broader markets within Canada and around the world is an integrated pipeline system.

Today there are two major common routes from the Alberta Industrial Heartland (AIH) feeding the NEPC used by the various pipelines. This has resulted in establishment of the two routes as unofficial corridors. Future pipelines will most likely follow this alignment.

The NEPC was designed to provide an entrance point into the TUC for pipelines originating in northern Alberta and the proposed industrial area northeast of Ft. Saskatchewan. The intention was also that light industrial and residential growth would not be able to impact the space set aside for future pipelines. The NEPC was to run from just east of Highway 21 north of Sherwood Park, southwest into the TUC just north of Highway 16.

A growing natural gas processing and natural gas liquids petrochemical industry is also expanding in the Heartland, taking advantage of the now cheap natural gas feedstock and the abundance of natural gas liquids, which is driving an expansion of pipelines, petrochemical facilities and storage.

The current pipeline infrastructure footprint in the Capital Region is shown on Figure 3.

Figure 3: Capital Region Pipeline Footprint
FIGURE 3: CAPITAL REGION PIPELINE FOOTPRINT
3.1.2 Power Line Corridors

The Capital Region is home to several key provincial electrical (coal) generation plants (Wabamun, Keephills and Genesee). The central location of these facilities and their proximity to the oilsands region and southern Alberta, have pushed the development of transmission lines through and around the Capital Region. Power transmission right-of-way (ROWs) widths can vary by location and type of equipment used. Generally, ROWs are 30 meters wide for a 138kv transmission line (with structures 25 – 30 meters high) and 60 meters wide for a 240kv transmission line (with structures 45 to 50 meters high).

The current power line footprint is shown on Figure 4.

Figure 4: Capital Region Power Line Footprint
3.2 Future Regional Energy Corridor Development

This section outlines the estimated need for power transmission lines and petroleum pipelines within and through the Capital Region over the next 20 years.

3.2.1 Power Transmission Corridor Needs

The Alberta Electrical System Operator (AESO) is a not-for-profit company created under the Electric Utilities Act and is responsible for Transmission System Development throughout Alberta. AESO updates its Long-term Transmission Plan (LTP) every two years. The 2013 LTP outlines the AESO vision for Alberta’s power transmission needs to support the province’s economic growth over the next 20 years. The AESO models transmission needs by Planning Region (Figure 5).
FIGURE 5: AESO PLANNING REGIONS

- Central
- Edmonton
- Northeast
- Northwest
- South
- Capital Region

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The Capital Region covers the Edmonton Planning Region and part of the Northeast Planning Region.

Future growth assumptions and estimates over the next twenty years in the Capital Region are driven by the following drivers of need:

**Oilsands and Co-generation Growth**

- Growth in the oilsands and co-generation in the Northeast Planning Region, which covers Fort Saskatchewan, the Heartland and the Lower Athabasca region, is forecast to require an additional 3.5% (4,600MW) of new generation capacity.

**Urban Growth and Replacement**

- Urban load growth, retiring coal plants and aging cable infrastructure in the Edmonton Planning Region is forecast to require an additional 2.0% (2,600MW) of new generation capacity.

**Current Projects**

There are three current projects just completing or starting development in the Capital Region.

The Heartland Transmission Project (Figure 6) was recently completed and is now in operation. It provides one double-circuit 500kv alternating current transmission connecting the south side of the city of Edmonton through the TUC to a new substation in the Gibbons-Redwater. The approved (solid green) and alternate routes that were considered shown below provide an illustration of route planning. Each linear corridor project, pipeline or power transmission is required to plan and assess alternate routes as this map shows. The Heartland Project chose the route that included the TUC as its existing ROW was easier to access, more economic and less disruptive to the region and its stakeholders.
Two new 500 kilovolt direct current (DC) projects have been approved (2012) by the AUC to reinforce north-south transmission. AltaLink is developing the Western Alberta Transmission Line (WATL –) connecting the Wabamun Lake hub at Genesee to the Calgary area hub near Langdon (Figure 7).

Figure 6: Heartland Transmission Project
Source: Altalink
ATCO Electric is anticipating completion of construction at the end of 2014 for the Eastern Alberta Transmission Line (EATL – Figure 8) from the Heartland hub northeast of Edmonton to a southern hub at Brooks.
Future Power Transmission Projects

The AESO has forecast transmission load and related substation system needs over the next twenty years, to 2032, in its 2013 Long-term Transmission Plan (LTP). It sets out a vision for system needs in two planning areas corresponding to the Capital Region, the Fort Saskatchewan Sub-Planning Area and the Edmonton Sub Planning Areas (see Figure 5). Two major interties into the Fort McMurray area are planned. These needs are outlined on Figure 9.

Figure 9: Future Power Transmission Corridor Needs
FIGURE 9: FUTURE POWER TRANSMISSION CORRIDOR NEEDS
Fort Saskatchewan Planning Region

Table 1: Fort Saskatchewan Region 20 Year Forecast Summary

<table>
<thead>
<tr>
<th>Timeframe</th>
<th>Development</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014 - 2017</td>
<td>• 240/138kv source substation located between Deerland and Heartland</td>
</tr>
<tr>
<td></td>
<td>substations</td>
</tr>
<tr>
<td></td>
<td>• 138kv Transmission Line to Redwater and Beamer (just north of Fort</td>
</tr>
<tr>
<td></td>
<td>Saskatchewan) substations from new generating source substation</td>
</tr>
<tr>
<td></td>
<td>• 500kv/240kv transformation (substation step-down) capacity at Heartland</td>
</tr>
<tr>
<td></td>
<td>substation</td>
</tr>
<tr>
<td></td>
<td>• 240kv supply to Josephburg substation</td>
</tr>
<tr>
<td>2018 - 2022</td>
<td>North East of Edmonton</td>
</tr>
<tr>
<td></td>
<td>• 500kv Fort McMurray East transmission line between Heartland and Thickwood</td>
</tr>
<tr>
<td></td>
<td>Hills</td>
</tr>
<tr>
<td></td>
<td>• Increase 138kv transmission line capacity between Fort Saskatchewan</td>
</tr>
<tr>
<td></td>
<td>and Westwood substations</td>
</tr>
<tr>
<td>2023 - 2032</td>
<td>• Increases transmission line capacity between the proposed large</td>
</tr>
<tr>
<td></td>
<td>generation site and a new East Edmonton substation</td>
</tr>
</tbody>
</table>

Source: AESO 2013 Long-term Transmission Plan

Edmonton Planning Area

Table 2: Edmonton Region 20 Year Forecast Summary

<table>
<thead>
<tr>
<th>Timeframe</th>
<th>Development</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014 - 2017</td>
<td>West of Edmonton</td>
</tr>
<tr>
<td></td>
<td>• 138kv transmission line between Acheson and North St Albert substations</td>
</tr>
<tr>
<td>2018 - 2022</td>
<td>West of Edmonton</td>
</tr>
<tr>
<td></td>
<td>• 500kv Fort McMurray West transmission between Sunnybrook – Livok –</td>
</tr>
<tr>
<td></td>
<td>Thickwood Hills</td>
</tr>
<tr>
<td></td>
<td>East of Edmonton</td>
</tr>
<tr>
<td></td>
<td>• New 240/138kv substation between Sherwood Park and Fort Saskatchewan</td>
</tr>
<tr>
<td></td>
<td>• 240kv transmission line from Clover Bar to new substation</td>
</tr>
<tr>
<td>2023 - 2032</td>
<td>South of Edmonton</td>
</tr>
<tr>
<td></td>
<td>• 138kv transmission line between Saunders Lake and Leduc substations</td>
</tr>
<tr>
<td></td>
<td>West of Edmonton</td>
</tr>
<tr>
<td></td>
<td>• New 500/240kv substation northwest of Edmonton to connect to the West</td>
</tr>
<tr>
<td></td>
<td>Fort McMurray 500kv transmission line</td>
</tr>
<tr>
<td></td>
<td>• 240kv transmission line from the new northwest substation to North</td>
</tr>
<tr>
<td></td>
<td>Calder substation</td>
</tr>
</tbody>
</table>

Source: AESO 2013 Long-term Transmission Plan
3.2.2 Future Pipeline Corridor Development

The Capital Region’s success as a hub for petroleum production and distribution has exceeded original forecasts. Today, key components of our petroleum system are very close to being isolated with limited opportunities for growth and expansion. This is a direct result of a shortage of space for pipelines to export bitumen production.

Future pipeline growth is driven by the forecast growth for the export of crude bitumen from the oil sands regions of Alberta. The ERCB’s 2013 Energy Reserves 2012 and 2013 – 2022 Supply/Demand Outlook forecasts a decline in natural gas production, stable natural gas liquid and conventional oil production and a substantive increase of bitumen production from approximately 2 million barrels per day to 3.6 million barrels per day over a ten year period. (Figure 10).

Current “Announced” Projects

There are a series of pipeline projects that have been publically announced or are at various stages of conceptual planning, project permitting and construction aimed to transport forecasted growth in production. Two projects were recently completed and eight projects that have been formally announced as under design. These are major linear corridor projects. The following list does not include the numerous pipeline inter-connections between facilities within the Capital Region and AIH area or longer term projects.
This list serves as a reference for short and medium term pipeline corridor needs.

1. Alberta Carbon Trunk Line
   » A 240 km pipeline connecting CO2 from industrial emitters in and around the Industrial Heartland south to Clive, Alberta
   » Regulatory approval 2011, engineering work underway, no construction dates

2. Enbridge Woodland Pipeline Extension
   » Pipeline connecting Cheecham to Enbridge Tank Farm in “Refinery Row”
   » The first 16 km construction completed to Highway 21.
   » The remaining construction to the AIH and north to Cheecham to be completed 2014/2015

3. Enbridge Norlite Pipeline Project
   » 24” 489 km diluent pipeline from Stonefell to Fort McMurray
   » Regulatory application anticipated in 2014 with potential construction beginning in summer of 2015

4. Enbridge Northern Gateway
   » Two adjacent pipelines 1,177 kms from Bruderheim to Kitimat, BC
   » Regulatory application submitted in 2010, project decision anticipated in 2014

5. Pembina Pipeline Phase III Expansion
   » 24” Pipeline from Simonette to Edmonton
   » Preliminary field work underway

6. Inter Pipeline Fund
   » Pipeline between IPF’s Terminal in the AIH and “Refinery Row” adjacent to Edmonton
   » Construction expected to start summer of 2014

7. TransCanada Grand Rapids Pipeline
   » A dual diluent and blended bitumen pipeline project connecting Edmonton to Fort McMurray
   » Regulatory applications submitted in August 2013, construction anticipated to start in 2014

8. TransCanada Heartland Pipeline Project
   » A 36” crude oil pipeline connecting the Industrial Heartland with TransCanada’s Hardisty Alberta hub
   » Regulatory application submitted October 2013, construction anticipated to commence in late 2014

**Future Pipeline Projects**

Looking forward, increasing demand will require further expansion of corridor systems as a result of an increase in the number of planned pipelines, growth and shifts in the location of industrial development, and the projected future petroleum needs of an exporting country such as Canada. With
this expansion comes an existing and future need for Regional Energy Corridor planning and protection in the Capital Region.

The Capital Region can anticipate:

- 8-10 additional projects from 2014-2024
- An additional 4-6 projects from 2024-2034

Today we are seeing a shift of industrial development to the AIH away from the historical “Refinery Row” area east of Edmonton in Strathcona County. This shift is expected to continue over the coming years. It is expected that this shift will not eliminate totally the need for interconnectivity between existing shipping and refining infrastructure in the “Refinery Row” area and the AIH (Figure 11).

Figure 11: Future Pipeline Corridor Needs
The AIH and City of Edmonton see the development of secondary and tertiary industries dependent on feedstock supplied through pipelines as a future growth activity. These industries would be located throughout the AIH and the Edmonton Energy and Technology Park in Northeast Edmonton.

4 Regional Energy Corridor Opportunities and Constraints

4.1 Corridor Constraints

Siting and developing energy corridors in any region requires careful consideration of the region’s natural geography, developed areas and planning intentions. This section identifies the various constraints that impact the location and development of energy corridors in the Capital Region.

Energy Corridor growth constraints can be categorized in three different ways:

- Physical constraints – constraints related to corridor capacity, or existing development footprint, airports, coal extraction areas (Figure 12).
- Policy constraints – designated growth areas (PGAs, CCRAs, Alberta’s Industrial Heartland), lands outside local jurisdiction (reserves, CFB Edmonton) (Figure 13).
- Natural constraints – hydrology, parks, protected areas, environmentally sensitive areas; would result in fragmentation/disturbance (Figure 14).
- A consolidated constraints map is shown on Figure 15.

Figure 12: Regional Energy Corridors Physical Constraint
Figure 12A: Regional Energy Corridors Physical Constraints – Heartland Area
Figure 13: Regional Energy Corridors Policy Constraints
Figure 13A: Regional Energy Corridors Policy Constraints – Heartland Area
Figure 14: Regional Energy Corridors Natural Constraints
Figure 14A: Regional Energy Corridors Natural Constraints – Heartland Area
Figure 15: Regional Energy Corridors Consolidated Constraints
Figure 15A: Regional Energy Corridors Consolidated Constraints – Heartland Area
FIGURE 12: REGIONAL ENERGY CORRIDORS PHYSICAL CONSTRAINTS

List of Corridor Constraint Areas
1. Easterly limits of Fort Saskatchewan
2. Proposed Bremner Town Site
3. Aurum Industrial Park Development
4. Georgia Pacific Building
5. Fort Hills (Sturgeon Land Holdings)
6. North Bruderheim Area
7. Ellerslie Substation
8. Genesee Area

Physical Constraints
- International Airport
- Regional Airport
- CFB/ASU Airport
- Regional Development Footprint (2009)
- Country Residential Footprint (2009)
- ERAA Land
- CRB Regional Boundary
- Member Municipality (County)
- Member Municipality (Urban)
- Non-Member Municipality
- Urban Service Area
- Fort Hills Property
- Coal Extraction Area
- Northeast Edmonton Penetrator
- Existing Heartland Pipeline Corridor
- Corridor Constraint Area
FIGURE 13: REGIONAL ENERGY CORRIDORS POLICY CONSTRAINTS
FIGURE 14: REGIONAL ENERGY CORRIDORS NATURAL CONSTRAINTS
FIGURE 14A: REGIONAL ENERGY CORRIDORS NATURAL CONSTRAINTS – HEARTLAND AREA

- CRB Regional Boundary
- Alberta's Industrial Heartland
- Member Municipality (County)
- Member Municipality (Urban)
- Non-Member Municipality
- Urban Service Area
  - Regional Road (Existing)
  - Regional Road (Long-Term)
  - Rail Line
  - Transportation Utility Corridor

Natural Constraints
- Water Course
- Water Body
- Provincial Park/Protected Area
- Provincial Environmentally Sensitive Area
- Elk Island National Park

Coordinate System: DTM NAD92
Projection: Transverse Mercator
Datum: North American 83
central meridian: -114.0000
FIGURE 15: REGIONAL ENERGY CORRIDORS CONSOLIDATED CONSTRAINTS
FIGURE 15A: REGIONAL ENERGY CORRIDORS CONSOLIDATED CONSTRAINTS – HEARTLAND AREA
4.2 Present and Future Growth Conflicts

There are a number of known present and future conflict areas between energy corridor needs and growth and development within the Capital Region. This section highlights some of the more challenging conflict areas.

Eight of the key areas are identified below and referenced by number on Figure 12 which provides an overall summary of constraints within the Capital Region.

1. **The easterly limits of Fort Saskatchewan – Urban development constraint.** One of the two unofficial corridors to feed into the North East Pipeline Corridor (NEPC) passes through the southeast corner of the easterly limits of the City. This area is scheduled for eventual development and is held by an active long term developer.

2. **The proposed Bremner Town Site – Urban development constraint.** The northwest corner of the proposed town site east of Highway 21 and northeast of Sherwood Park is bisected for approximately one kilometer by a significant number of pipelines entering the NEPC. Today, this alignment is the only one available for any new pipelines going into the Edmonton area.

3. **Aurum Industrial Park Development – Urban development constraint.** The current alignment of NEPC is basically filled to capacity and the Aurum Development in east Edmonton has greatly impacted the ability to expand the corridor for additional pipeline space. Existing and proposed developments along the Corridor will limit any ability to expand for future pipelines.

4. **Georgia Pacific Building – Urban development constraint.** Of additional concern and impacting future needs is the Georgia Pacific Building and property located on the north side of Highway 16 in the TUC. This property, although in the TUC, is not owned by the Province and as a result forms a major roadblock to future pipelines.

5. **Fort Hills (Sturgeon Land Holdings) – Urban development constraint, land owner conflict.** A major portion of developable lands in the Alberta Industrial Heartland in Sturgeon County are held by one oil company. Today, activity on this land is negligible. Corridor alignment space is required so that liquids can move from and to the Alberta Industrial Heartland in the direction of the west and north. This has proved problematic as the landowner, is not interested in breaking up its large industrial site until it confirms its end use for this land holding.

6. **North Bruderheim Area – Industrial development constraint.** There have been significant oil and gas activities including well sites and gathering systems in the area directly north and east of the Town of Bruderheim. There would appear to be significant land opportunities for Heavy Industrial Development in Lamont County. However, pipeline access to the west is all but eliminated with options from the south being impacted by the present industrial growth activities east of Bruderheim.

7. **Ellerslie Substation – Urban development constraint.** The TUC is at capacity around the Ellerslie Substation and it is bordered by residential neighborhoods, effectively blocking the ability to take an extra high voltage (500kv or higher) line out.
8. **Genesee Area – Environmentally sensitive areas and physical land constraint.**
There are many environmentally sensitive areas in and around the Genesee area limiting the route options for future transmission lines.

### 4.3 Opportunities

The 2010 Stewart Weir “Linear Infrastructure Corridor Systems Proposed Pipeline Corridors” report identified eight potential corridors in the Capital Region considered here. The 2010 study identified the following potential new corridors or corridor additions identified below. The report was commissioned by the AIH and was developed closely with industry and the province. One outcome of this work was the purchase of additional lands in the NEPC by Alberta Infrastructure to better connect the TUC to lands around the Aurum lands. No further actions have been undertaken and similar issues are present today in a more acute form.

- NEPC Extension
- West Intersite Connector
- North East Intersite Connector
- Redwater Field By-pass
- Stonefell Access Corridor
- South East Ring Road Corridor
- Horse Hills Connector
- Highway 21/Heartland Connector

The interview process re-affirmed many of the findings of the 2010 study with industry identifying three areas where future corridors could be protected to reduce future conflicts:

- An east west corridor along the southerly limits of the AIH to facilitate pipeline alignments to the Hardisty area and provide an alternate route for inter-site activities in the AIH.
- A by-pass of the town of Brudereim to allow access north to the Cold Lake and Ft. McMurray areas of the province for petroleum pipelines.
- An east west corridor west of the North Saskatchewan River parallel to Highway 28 to facilitate access to and from the AIH.

As well, two existing corridors were identified where additional expanded capacity was required:

- Expansion of the NEPC
- Expansion of the AIH to NEPC corridors

The above five areas are shown on Figure 11 and identified as:

1. NEPC Extension
2. Highway 21/Heartland Connector
3. South AIH Corridor
4. Bruderheim By-pass
5. Sturgeon Land Holdings
4.4 Opportunities and Constraints Conclusions

The eight identified constraints will need to be addressed by a range of stakeholders to remove barriers to both corridor development but also growth management within the Capital Region.

Addressing corridor constraints proactively will:

- Reduce planning conflicts.
- Limit the increased alienation and sterilization of land within the region by focusing on corridor routes that meet the needs for Capital Region growth and industrial development. If certain constraint areas are not addressed corridors will be developed by routing around the conflict area, expanding into other areas and alienating a larger land base.
- Maintain industrial development energy corridor access within the region. There is the potential that further pipeline development between the AIH and the refinery area near Edmonton could be halted with a resultant significant economic impact to Capital Region.
- Prevent future pipelines and refining facilities from bypassing the Capital Region entirely. The Capital Region is currently seeing a movement from the Fort Saskatchewan area to the Heartland, for example. Continued constraints will see further movement to other potential hubs, further out from the Heartland, to Hardisty or to North East BC (natural gas) reducing the capital investment potential of the region.

5 Key Energy Corridor Stakeholders, Roles and Models

5.1 Stakeholder Roles

There is a broad range of Government, Regulatory, Industry and public and non-profit stakeholders who play a role in the design, development and operations of power and pipeline infrastructure. The key stakeholder roles that are played in Energy Corridor management are:

- **Regulatory:** A number of regulatory authorities lay out the regulatory terms for regional corridor review and permitting for pipelines: Alberta Energy Regulator (AER) and National Energy Board (NEB); and power transmission: Alberta Utility Commission (AUC) Key conditions that the regulators lay down include: public engagement, setback distances from related developments, alignment of energy corridors adjacent to other corridors as a preference.
- **Corridor Planning:** Corridor planning is primarily undertaken by industry. The AESO plays a role in the planning and designation of need for power corridors between two defined points.
- **Advocacy:** There are a number of advocacy interests around energy corridors: organized landowner groups, Municipality interventions at regulatory forums and industry groups.
- **Development:** Key development stakeholders are the pipeline and power transmission companies.

The CRB has four potential roles as a stakeholder in the planning and approvals of energy corridors and these are outlined in Table 3, Stakeholder Roles. The CRB’s roles include:
• Inform – Providing information and consulting on energy corridor design and development.
• Intervene – Providing testimony as a directly affected stakeholder in regulatory processes. The CRB does not have this role, however, its member Municipalities do.
• Recommend – Recommending courses of action to other stakeholders, using the role and influence of the 24 Member CRB to back its recommendations.
• Regulate – Governing decisions related to Member Municipality Statutory Plans for conformity to the CRB Growth Plan.
Table 3: Stakeholder Roles

<table>
<thead>
<tr>
<th>Stakeholders</th>
<th>Stakeholder Roles</th>
<th>CRB Role</th>
</tr>
</thead>
<tbody>
<tr>
<td>National Energy Board</td>
<td>The NEB Regulates the construction and operation of inter-provincial and international oil and gas pipelines, international power lines, and designated inter-provincial power lines.</td>
<td>✓</td>
</tr>
<tr>
<td>Alberta Energy Regulator</td>
<td>The AER Regulates the construction and operation of intra-provincial oil and gas pipelines.</td>
<td>✓</td>
</tr>
<tr>
<td>Alberta Electrical System Operator</td>
<td>ASEO is responsible for the safe, reliable and economic planning and operation of the Alberta Interconnected Electric System (AIES). ASEO contracts with transmission facilities owners (TFOs) to acquire transmission services and provide customer access.</td>
<td>✓</td>
</tr>
<tr>
<td>Alberta Utilities Commission</td>
<td>The Alberta Utilities Commission regulates the utilities sector, natural gas and electricity markets to protect social, economic and environmental interests of Alberta where competitive market forces do not.</td>
<td>✓</td>
</tr>
<tr>
<td>Alberta Energy</td>
<td>Alberta Energy manages the development of the province’s non-renewable resources and is responsible for ensuring the development of Alberta’s resources to the benefit of all Albertans.</td>
<td>✓  ✓</td>
</tr>
<tr>
<td>Municipal Affairs</td>
<td>Municipal Affairs administers a safety system which ensures appropriate safety standards for the construction and maintenance of buildings and equipment through safety codes, and fire and emergency management systems.</td>
<td>✓  ✓</td>
</tr>
<tr>
<td>Environment and Sustainable Resource Development</td>
<td>ESRD is the steward of air, land, water and biodiversity management and environmental oversight in the Province.</td>
<td>✓  ✓</td>
</tr>
<tr>
<td>Alberta Transportation</td>
<td>Transportation manages the provincial highway and traffic safety system.</td>
<td>✓  ✓</td>
</tr>
<tr>
<td>Municipal Agencies</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Capital Region Board</td>
<td>The CRB develops and manages the Capital Region Growth Plan and review and evaluate Municipal Statutory Plans within the Capital Region for conformity to the Growth Plan.</td>
<td>✓</td>
</tr>
<tr>
<td>Municipality/Counties (24)</td>
<td>Municipalities develop and regulate Land Use By-laws and Municipal Development Plans to address development adjacent to corridor right-of-ways.</td>
<td>✓</td>
</tr>
<tr>
<td>Stakeholders</td>
<td>Stakeholder Roles</td>
<td>CRB Role</td>
</tr>
<tr>
<td>-----------------------</td>
<td>-------------------------------------------------------------------------------------------------------</td>
<td>----------</td>
</tr>
<tr>
<td>Facility Operators</td>
<td>Stakeholder roles the planning, development and regulation of regional energy corridors</td>
<td></td>
</tr>
<tr>
<td>Pipeline Operators</td>
<td>Pipeline owners design, build and operate pipelines within the Capital Region.</td>
<td>✓</td>
</tr>
<tr>
<td>Transmission Facility Operators</td>
<td>Transmission Facility owners design, build and operate pipelines within the Capital Region.</td>
<td>✓</td>
</tr>
<tr>
<td>Landowners</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Private Land Owners</td>
<td>Private land owners manage their private property interests and participate in consultations, negotiations and project operations over third party uses (easements or sale) on their land.</td>
<td>✓</td>
</tr>
<tr>
<td>Stakeholder Groups</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alberta Industrial Heartland Association</td>
<td>Alberta’s Industrial Heartland Association strives to: promote a single approach to promote and facilitate industrial development proactively and efficiently collaborate on facilitating services and infrastructure plan for the area’s use while maximizing attractiveness and efficient industrial development minimize conflicts on land use and the environment, and coordinate environmental quality and sustainability standards promote open communication and harmony of participating municipalities and interested parties, and provide opportunities for industrial and non-industrial landowners to take part in planning and development promote and support a coordinated approach to achieving and maintaining appropriate standards of emergency preparedness, public safety, and health</td>
<td>✓</td>
</tr>
<tr>
<td>Alberta Urban Municipalities Association</td>
<td>The AUMA represents and advocates the interests of all members to both the provincial and federal governments. 20 of the 24 member municipalities are part of the AUMA. Lamont County, Leduc County, Parkland County and Sturgeon County are not members of the AUMA.</td>
<td>✓</td>
</tr>
</tbody>
</table>
### Stakeholders

The Capital Region Board does not have the ability to intervene at regulatory AUC or AER Hearings, Municipalities do.

<table>
<thead>
<tr>
<th>Stakeholders</th>
<th>Stakeholder Roles</th>
<th>CRB Role</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Canadian Association of Petroleum Producers</strong></td>
<td>CAPPP represents and advocates the interests of the Canadian upstream oil, oil sands and natural gas industry.</td>
<td>✓</td>
</tr>
<tr>
<td><strong>Canadian Energy Pipeline Association</strong></td>
<td>CEPA represents and advocates the interests of the Canadian energy pipeline industry.</td>
<td>✓</td>
</tr>
<tr>
<td><strong>Canadian Electricity Association</strong></td>
<td>CEA represents and advocates the interests of the Canadian electricity industry.</td>
<td>✓</td>
</tr>
<tr>
<td><strong>Canadian Association of Energy and Pipeline Landowner Associations</strong></td>
<td>CAEPL represents and advocates the interests of landowner associations who represent landowners affected by energy and pipeline proposals and projects.</td>
<td>✓</td>
</tr>
</tbody>
</table>
6 CRB Regional Energy Corridor Policy Framework

This section of the report provides a brief overview of existing policy within the Growth Plan as it applies to Regional Corridors. It also identifies a policy framework that considers both the constraints and future needs for pipeline and power transmission as identified in this report. The intent is to provide the basis for a policy framework from which the CRB and its stakeholders can consider further through work associated with the five year review of the Growth Plan.

6.1 Current Regional Corridor Policy

The Capital Region Growth Plan provides policy direction that influences regional energy corridors in three areas. Below is a brief description of each.

1. **Protection of the environment and resources**
   Growth Plan Policy directs that natural areas and resources extraction areas are protected from fragmentation.

2. **Minimize the regional footprint**
   The Growth Plan provides clear policy that the CRB work with the Province to identify, prioritize the need for future infrastructure alignments.

3. **Ensuring efficient provision of services**
   The Growth Plan encourages municipalities to facilitate the integration of various existing infrastructure corridors. Policy directs municipalities to protect infrastructure through policy and graphic representation in municipal statutory plans.

The current policy approach for regional corridors is “to identify and protect” future corridors. Policy does not however guide the CRB as to how to achieve this – as it assumes knowledge of where future corridors will be located. Nor does existing policy define a role for the CRB as to how this policy could be implemented.

The Growth Plan does however provide policies that identify growth areas, and encourages the efficient use of land and infrastructure. This does provide a basis on which to build a policy framework for future energy corridors.

6.2 Proposed Policy Framework

There is a policy gap in the Growth Plan for planning future energy corridors – the current approach “to identify and protect” does not guide the CRB as to how to identify future corridors – as it assumes knowledge of where future corridors will be located. Municipalities, acting on their own have some resources and rights under existing legislation and regulations to react to proposed corridors (intervene at regulatory hearings), but have limited ability, on their own, to direct the location of future corridors. Due to the role that corridors have on the regional economy, and the impact that can have on land development, and in order to achieve the Principles and Policies of the Growth Plan, it is necessary to develop a coordinated strategic approach to planning for future Regional Energy Corridors.
From the research and stakeholder interviews it is apparent that something must be done, and soon, before growth in the region prevents new and expanded power lines and pipelines from reaching their destinations, and as a result, threatens economic sustainability and increases land fragmentation.

6.2.1 Policy Framework:

1. The CRB is committed to securing economic growth that creates jobs and prosperity for the region.
2. The CRB recognizes that power transmission lines and petroleum pipelines are vital infrastructure necessary to support sustainable growth and enable the Region to compete globally.
3. Growth management planning by the CRB and within the Region should operate to encourage and facilitate, and not act as an impediment to, energy corridors.
4. Regional planning of energy corridors shall ensure compatibility of land uses and minimize the impact on municipal growth.
5. The CRB will plan for energy corridors in the Growth Plan to ensure the needs of industry are supported and sustained.
6. Growth Plan policies should recognize and seek to address existing and potential barriers to energy corridor development.
7. Policies in support of energy corridors shall align to the greatest extent possible with the Growth Plan principles and policies.
8. The CRB will actively promote collaboration between members, industry and the province to facilitate and prioritize the location of future energy corridors within the Capital Region.

6.2.2 Recommended actions:

1. Planning
   a. That the CRB develop a comprehensive master plan to guide the location and development of energy corridors within the Capital Region.

2. Advocacy
   a. That the CRB leads the development a comprehensive energy corridors advocacy strategy, in partnership with industry stakeholders, to communicate energy corridor issues and challenges in the Capital Region to the Provincial and Federal governments.

6.2.3 Recommendations by the Task Force to the Land Use & Planning Committee:

1. That the Land Use and Planning Committee direct that a Task Force be formed to oversee the development of an Regional Energy Corridor master plan. The purpose of the Plan is to development detailed policies and criteria for identifying and prioritizing the location of future Regional Energy Corridors in the Capital Region.
2. That the Land Use and Planning Committee, through the Board, request the Performance Monitoring Committee to develop a:
a. Detailed advocacy and communications plan that supports and advances the notion of a Regional Energy Corridor(s) that addresses existing and future electrical transmission and pipeline needs; and
b. A monitoring and reporting process for the implementation of the Regional Energy Corridors master plan.
7 References

Note – All weblinks accessed March through June 2014.


Scenarios to Strategy (2007) Alberta’s Industrial Heartland Corridors for Linear Infrastructure Stakeholders Infrastructure Priorities.
http://www.municipalaffairs.alberta.ca/documents/CRIGMP_Core_Infrastructure_November_2007_Appendix_B.pdf

Stantec (2004) AIHA Regional Pipeline Corridor and Setback Study.

Stewart Weir (2010) Linear Infrastructure Corridor (LIC) System Proposed Pipeline Corridors.
## Appendix 1: Glossary and Acronyms

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Definition</th>
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<tbody>
<tr>
<td>AER</td>
<td>Alberta Energy Regulator</td>
</tr>
<tr>
<td>AESO</td>
<td>Alberta Electrical System Operator</td>
</tr>
<tr>
<td>AUC</td>
<td>Alberta Utilities Commission</td>
</tr>
<tr>
<td>AIH</td>
<td>Alberta Industrial Heartland</td>
</tr>
<tr>
<td>CCRA</td>
<td>Cluster Country Residential Areas</td>
</tr>
<tr>
<td>Corridor</td>
<td>A passageway or route such as a major utility, roadway and transit route through an area.</td>
</tr>
</tbody>
</table>
| Constraint | - physical constraints – constraints related to corridor capacity, or existing development footprint, airports, coal extraction areas  
- policy constraints – growth areas (PGAs, CCRA, Alberta’s Industrial Heartland), lands outside local jurisdiction (reserves, CFB Edmonton)  
- natural constraints – hydrology, parks, protected areas, environmentally sensitive areas; would result in fragmentation/disturbance |
<p>| CRB     | Capital Region Board |
| DC      | Direct Current |
| LTP     | Long-term Transmission Plan |
| Heartland Pipeline Corridor | Regionally significant corridors that are identified and protected as conceptual locations of multiple new energy sectors' inter-connecting and intra-connecting pipelines necessary in conveying product to processors and to the market in Alberta’s Industrial Heartland. These corridors function to minimize risk, land fragmentation and the impact on the environment. |
| Multi-use Corridor | Defined in the Growth Plan Addendum as ‘A corridor designed to accommodate multiple infrastructure facilities such as roads, transmission lines and pipelines within and beyond the region’. |
| NEB     | National Energy Board |
| PGA     | Priority Growth Areas |
| Petroleum Pipeline Infrastructure | Petroleum Pipeline Infrastructure consists of Transmission Pipelines and Feeder Lines that move petroleum across the province and internationally and between storage and processing facilities. |
| Power Infrastructure | Power Infrastructure consists of Electricity Transmission lines that provide the bulk transfer of electricity on regional 138, 240 and 500 kV Transmission Corridors and their Substations. |
| Regional Energy Corridor | The identified Multiple-Use Corridors for regional Power Infrastructure - Electricity Transmission (138kv and larger) and Bulk System Substations and regional Petroleum Pipeline Infrastructure - Transmission Pipelines and Feeder Lines within and beyond the region. |</p>
<table>
<thead>
<tr>
<th><strong>Restricted Development Areas</strong></th>
<th>Restricted Development Areas are defined under regulation to enable the province to establish and maintain multiple-use corridors and are known as Transportation Utility Corridors (TUCs).</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Setback</strong></td>
<td>A setback is the absolute minimum distance that must be maintained between any energy facility (for example, a drilling or producing well, a pipeline, or a gas plant) and a dwelling, rural housing development, urban centre, or public facility. Setbacks vary according to the type of development and whether the well, facility, or pipeline contains sour gas.</td>
</tr>
<tr>
<td><strong>TUCs</strong></td>
<td>TUCs are designed for long-term alignment of ring roads and major linear utilities in urban areas.</td>
</tr>
</tbody>
</table>
Appendix 2: Study Research Questions

The following questions guided project research and interviews:

1.0 What are the regulatory approval requirements for energy corridors in the Capital Region? Summarize the petroleum pipeline (AER) and power transmission line approvals process.

2.0 Who are the key stakeholders in petroleum pipeline and power transmission planning and development within the Capital Region?
   2.1 What are the roles of the key stakeholders?
   2.2 What are the opportunities for the CRB to participate proactively in energy corridor regulatory approvals and project developments? Define CRB’s proactive role in the regulatory process for advocating on behalf of CRB interests with respect to future petroleum pipeline and power transmission line initiatives in the Region.
   2.3 How can the CRB Consult Stakeholders on a Regional Energy Corridor Policy Framework?

3.0 What is the technical definition of Regional Energy Corridors?

4.0 What is the forecasted demand for pipeline and transmission projects? Identify a high-level forecast of what regional energy corridor needs are through the Capital Region (forecasted volumes, pipeline origins and destinations, electricity origins and destinations) over the next 20 years.

5.0 What are the desired project locations (corridors) for these projects and key issues to consider? Review potential future locations for Regional Energy Corridors within the Capital Region graphic representation of where future potential Regional Energy Corridors should or should not locate to meet future industry demands.

6.0 Operational Management and Funding Models
   Summarize existing models for funding and operating petroleum pipeline and power transmission line corridors and outline relevant considerations for implementation of these corridors.
   6.1 What Energy Corridor operational management and funding models can be considered for Regional Energy Corridors in the Capital Region?
   6.2 How would these Models interface with the CRB and Stakeholders? What roles would they have with each model?

7.0 What does a CRB Regional Energy Corridor Policy Framework need to entail and consider? Establish a policy framework for the linear and logical planning of regional energy corridors that address:
   ii. location and co-location of infrastructure in these corridors;
   iii. a coordinated Regional approach for safety and emergency response planning;
   iv. minimization and mitigation of land use conflicts; and,
   v. risk management.
## Appendix 3: Interview List

<table>
<thead>
<tr>
<th>Organization</th>
<th>Contact Name</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Provincial</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alberta Infrastructure</td>
<td>Lyle Markovich</td>
<td>Director, Land Planning</td>
</tr>
<tr>
<td></td>
<td>Brian DeJong</td>
<td>Manager, Land Planning</td>
</tr>
<tr>
<td>Treasury Board Oil Sands Secretariat</td>
<td>Gary Haynes</td>
<td>Director, Community and Regional Planning</td>
</tr>
<tr>
<td><strong>Regional</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Capital Region Board</td>
<td>Neal Sarnecki</td>
<td>Manager Regional Projects</td>
</tr>
<tr>
<td></td>
<td>Stephanie Chai</td>
<td>Regional Planner</td>
</tr>
<tr>
<td><strong>Municipalities</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>City of Edmonton</td>
<td>Rick Sloan</td>
<td>Senior Policy Advisor, Office of the General Manager, Sustainable Development</td>
</tr>
<tr>
<td></td>
<td>Anne Denman</td>
<td>Senior Consultant, Office of the General Manager, Sustainable Development</td>
</tr>
<tr>
<td></td>
<td>Kunai Sharma</td>
<td>Strategic Initiatives Coordinator, Business Strategy and Operations</td>
</tr>
<tr>
<td>Strathcona County</td>
<td>Gerry Gabinet</td>
<td>Director Economic Development</td>
</tr>
<tr>
<td></td>
<td>Lori Mills</td>
<td>Energy Exploration Liaison</td>
</tr>
<tr>
<td></td>
<td>Garret Matteotti</td>
<td>Business Development Manager</td>
</tr>
<tr>
<td>Sturgeon County</td>
<td>Jordan Rumohr</td>
<td>Economic Development Officer</td>
</tr>
<tr>
<td>Lamont County</td>
<td>Jim Newman</td>
<td>Economic Development Officer</td>
</tr>
<tr>
<td>City of Fort Saskatchewan</td>
<td>Terry Stacey</td>
<td>Economic Development Officer</td>
</tr>
<tr>
<td><strong>Regulators</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alberta Electrical System Operator</td>
<td>Bill Strongman</td>
<td>Director, Regional System Planning</td>
</tr>
<tr>
<td><strong>Associations</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alberta Industrial Heartland Association</td>
<td>Neil Shelly</td>
<td>Executive Director</td>
</tr>
<tr>
<td><strong>Pipeline Companies</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TransCanada Pipelines</td>
<td>Scott Clark</td>
<td>Capital Projects Land Manager</td>
</tr>
<tr>
<td>Enbridge Pipelines Inc.</td>
<td>Brent Kaup</td>
<td>Sr. Manager, Land Services</td>
</tr>
<tr>
<td>Keyera Energy</td>
<td>Jason Johnson</td>
<td>Commercial Manager</td>
</tr>
<tr>
<td>InterPipeline Fund</td>
<td>Michelle Dawson</td>
<td>Director of Regulatory Affairs</td>
</tr>
<tr>
<td><strong>Utility Operators</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AltaLink</td>
<td>Mark Johns</td>
<td>Director, Stakeholder Engagement</td>
</tr>
<tr>
<td>AltaLink</td>
<td>Britney Wickham</td>
<td>Right-of-Way Planner</td>
</tr>
<tr>
<td><strong>Land Companies</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix 4: Interview Summaries

A summary of interview responses by question is outlined below.

1.0 What are the regulatory approval requirements for energy corridors in the Capital Region?

Summarize the petroleum pipeline (AER) and power transmission line approvals process.

- On the technical side:
  - You must show participation in a consultation process.
  - You must show following existing linear disturbances – no greenfield.
  - You must address environmental considerations.

- Alberta Energy Regulator as part of the application process – they review, approve and can dictate decision.

- Municipalities – i.e. Strathcona County reviews and participates in the process. They have the capability and the resources and do not shy away from the concept of intervening before the Regulator. Other municipalities challenge is that they need to up their game. (This does identify an area for better regulation and potential area for the CRB to participate – take up the work for the municipalities that Strathcona is doing. This would mean less work for the individual municipalities.)

- Regulatory approval requirements – Alberta Energy Regulator, NEB, AESO and TUC. Strathcona has a strong belief that they are part of the approval process because of: the large number of pipelines in their area, more challenges in their area, more at stake and the more resources they have in place. They feel they have a good understanding of the industry – upstream and midstream. They also believe strongly in the value added benefit to all.

- AER, NEB, TUC. Municipal approvals and permits are required for above ground facilities.

- Today the regulatory process has two active bodies – TUC and AER – dual process provides more uncertainty. On Provincial Land, AER must approve the project before they get land. This is backwards as they spend the time and money planning one direction and then they are pushed in a different alignment.

- Governments – provincial and municipal. We gain social license through consultation. We address risk through the process.

- Government is the authority – AESO has the role for power. Our county is very important in the process. We have used intervener status in the past and it is fair to say the mind-set is there. We want to be more involved in the process but at times lack the ability to do this. Some of us understand the economic advantage to right of ways and others don’t. Some are aware of the linear tax and recognize the jobs from additional industry development. The understanding differs between counties. The issue is a “rounding error” or above ground recognition problem. Some counties look to the large above ground facilities like NWR
Upgrader and say all the benefit is going to one county. They don’t realize how these facilities impact everyone in the Capital Region.

- Government is involved in the approval of projects. Our county has an Oil and Gas Extraction and Transportation Committee. The County hasn’t been active on the planning side. We want to get to the same project involvement as Strathcona.
- We are fortunate that recent pipeline activities are following an existing corridor in our area. This area is becoming an issue because the developer is having land taken for pipelines and we are considering setbacks for future development. We are looking at opening up our Area Structure Plan to review as a result of our set back considerations. We would like to be more involved but lack the will or the ability to become involved. A side issue for us is from a hazard point of view, what do we do when the product being shipped changes? As a general comment - The public does not understand the economics of the industry – AIH has been working on this.
- The requirements depend on what you are building. AER, Forestry/Environment conservation and rec. plans, Counties and Municipalities crossing agreements, road use permits, AT

2.0 Who are the key stakeholders in petroleum pipeline and power transmission planning and development within the Capital Region?

- Land owners both direct and adjacent, regulators, municipalities, various government departments, general public as a whole, First Nations and other operators both adjacent and crossing
- Land owners, communities, First Nations, other industry, government and the energy industry (The actual owner of the product being shipped is impacted by the results of the consultation and regulatory process.)
- Province, citizens, various municipal governments. As a comment, different municipalities are more active in the planning and development of projects. Strathcona County is good at involvement while the City of Edmonton is learning.
- Key stakeholders - Residents and tax payers. There is a difference between residents and tax payers. In other words, there is a difference between those being impacted and others in the community that are benefiting from jobs and tax revenues. Additional stakeholders include the GoFÁ (various departments) and the oil and gas industry.
- Major pipelines, AESO, ATCO, AltaLink, landowners, communities, governments
- Land owners, pipeline companies (all are not equal), AESO, SRD, SRB, AT, Alberta Regulator
- Anybody that is impacted by the infrastructure, counties, adjacent land owners/infrastructure, employees of oil and gas infrastructure facilities, everybody else
- All pipeline companies, transmission companies (Atco, AltaLink), land owners, municipalities, AESO, AT, AE, AER, NEB.
- Strathcona believe they can play a role in determining alignments to ensure compliance with the greater good need. They also believe that a major need they participate in is the need for responsible growth.
- Key Stakeholders - Land owners, County, Communities, Government, Oil and Gas companies. The majors don’t connect with the communities as much as the locals that are there often. We are there to protect our land owners and communities.
2.1 What are the roles of the key stakeholders?

- Regulators review approval and confirm it is constructed according to the approval granted. The land owner has to be willing to grant right of way and the right to operate and maintain the pipe. Other operators need to grant agreements for adjacent and crossing activities.
- Roles – Community, FN and land owners – we need their social license to go with the project.
- There is a general feeling in our county that we want to engage with the industry player and help facilitate and work with them.
- Our county’s role – education related to benefits. As we become more involved we need to show the benefits to our residents. For our councilors it is hard for them to wear a business hat instead of a resident hat. Councilors don’t think long term. This becomes an issue when trying to build on the corridor concept because we have short term pain with long term gain.
- From our county point of view, we are there to protect our land owners and communities.
- Roles of land owners – because we have to access the land we need input into routing.

2.2 What are the opportunities for the CRB to participate proactively in energy corridor regulatory approvals and project developments? Define CRB’s proactive role in the regulatory process for advocating on behalf of CRB interests with respect to future petroleum pipeline and power transmission line initiatives in the Region.

- There needs to be a strategic relationship between the CRB, regulator and even the operator. Corridors bring definition; certainty and time clarity. We get there by zoning and possibly expropriation.
- The CRB can invite key stakeholders to review both Stakeholder and CRB Growth plans.
- Define corridors; enforce the use of the corridor by zoning and planning. The TUC has been the most effective tool in the last 30 years. They need to become part of the solution, maybe as a facilitator. Important thing to remember – the one thing pipeline companies can do is follow rules.
- Education: The Regulators believe there is a general lack of understanding by the majority of municipalities regarding pipelines and population, risk management and the upstream and downstream aspects of the business and the benefits. (They mentioned at least three times the financial benefit of pipelines and the petroleum industry to the county through taxes, job, and spin off industries). (The public has no idea of the significance).
- All those in this interview are worried about CRB moving into their domain and undertaking tasks they feel are theirs. They identified education as a major need amongst municipalities, politicians and the general public. (Note- Maybe the CRB is the vehicle that the “have not” municipalities could use to address their needs related to this issue?) Having people understand the industry, why there is a need for connecting the parts, how growth will come and the risks associated with everything is part of the education process. Consistency is needed between the various municipalities.
- Education, industry association presentations, hear directly from the pipeline companies and associations including CEPA, CAPP, and CNDN Heavy Oil Association.
- There is need for a body to bring players together including industry, government, municipalities in order to develop a coordinated energy plan for the region and to preserve...
development able land. Today the risk is that infrastructure on lands can make it not fit for large development projects

- Corridors need to be tied to an overall plan.
- Awareness and support of ongoing developments. The issue of social license has become more prevalent for all linear developments. Independent support from the CRB and their views on the economic benefits to the region and public would be helpful.
- Set the standards to the existing layers – standardization, take the arbitrary nature out of the various counties. A good example is setbacks – the setbacks don’t make sense from a risk management point of view. How does the counties’ setbacks trump the AER? There is a need for an interface between the CRB and the AER.
- Governments representing Environment – They walk a fine line between minimizing footprints and putting unrealistic duties on projects. Club root is an example – the default is to follow previous project’s approach and not take a stand that is responsible and based on fact. An additional example would be Forestry offices, as there are differences between each office in how they work.
- Role of CRB – get everyone to the table.
- CRB Participation could be high level policy stuff – not in day to day decisions – they could make sure policies are aligned. We do not need another level slowing things down – set high level policy – area structure plan – maybe needs a bit of a hammer for times
- The role of CRB is to get everyone to the table but need the respect of municipalities. CRB could bring standardization, one door instead of multiple. The AIH is an example of this.

2.3 How can the CRB Consult Stakeholders on a Regional Energy Corridor Policy Framework?

- CRB consultation – Use media, become more public – a good example are the Enbridge Benefit Commercials associated with NGP.
- Need a forum for industry to be heard as well as the ancillary support businesses – engineering houses, environment, and land.
- Undertake presentations or receive feedback from pipeline industry group committees such as CEPA. General comment – Constituents are more likely to become involved in discussions through their local county so use the municipality as the method of engaging general public.
- Hard to answer – when you hold an open house and ask the public at large to participate you see groups that have an axe to grind show up. If you had Observer Status at some initial municipal meetings we would need to worry about confidentiality.
- The CRB could be the avenue to establish corridors. They can’t be a regulatory body. They have no expertise. They could be the where but not what pipeline is going to happen. Everyone needs to see the impacts of what doing nothing will do or we will get nothing done.

3.0 What is the technical definition of Regional Energy Corridors?
• A group of linear disturbances.
• A corridor with multiple pipeline and or transmission lines
• Movement and transportation of goods, products, raw materials within the region and with connections outside the region. A challenge is how do we fit this in with land use – it should be part of planning – zone the corridors. Not sure what the magic number of pipelines that are required for a “corridor” to become an actual corridor
• A group of pipelines within a defined area and defined alignment – working with other stakeholders with common area and no sterilization of
• Lands designated or set aside for utilization of linear infrastructure. The TUC is unique as it has designated areas for municipal servicing and different infrastructure as well as industry needs.
• A defined space that allows the expansion and development of energy infrastructure – allows this physically and by regulation. Assists communities with planning and risk management.
• A corridor designed for linear facilities including plants, power and pipelines that facilitates the growth of energy. It crosses multiple jurisdictions by crossing municipal boundaries while providing clarity on the approval process
• An alignment of pipelines, power lines, utilities in a cohesive manner that tries to avoid land waste and fragmented parcels. A corridor is protecting our long term interest and insures we can capture long term opportunities. We should establish corridors the same as the TUC. Today we are playing catch-up – we need to protect our long term interests and grow.
• Not sure how many pipelines or structures it takes to be corridor. Railways are becoming a big deal. A common group of pipelines. We need to recognize we are a small component of a larger part – We are a part of a pipeline or power line system that comes from Ft. McMurray and goes to a refinery. We need to think bigger.
• Corridors start with one – What is the most effective width for an individual pipeline – do they take too much? Corridors are about using land effectively and not sterilizing land. There isn’t any force that will push a pipeline into a specific location such as the case with well sites
• Similar to TUC – Anything for the transportation of goods or products. Multiple uses. Not sure what number or size would determine the definition.
• Multi use corridor that links Edmonton to Ft. McMurray and includes Hardisty. The region is part of an industry that is much more than the Edmonton area. Think bigger, must include linking producing hubs with storage and shipping hubs. It needs to be east west and north south.
• Where you have a significant amount of infrastructure, where we have common exit points, distinct exit points, includes pipelines and sometimes power.

4.0 What is the forecasted demand for pipeline and transmission projects?

Identify a high-level forecast of what regional energy corridor needs are through the Capital Region (forecasted volumes, pipeline origins and destinations, electricity origins and destinations) over the next 20 years.
• Forecasted demand – next 10 years – 2 or 3 big lines as part of the ramp up to 3 million barrels/days into the AIH and Edmonton area. Five or so between the AIH and Edmonton.
• Forecasted demand – at present there are 11 interested parties looking at developing in the AIH. We appear to be ramping up to 5 million barrels a day. We are seeing a shift – where the
AIH will be the HUB and not Refinery Row. Future growth is about gas, natural gas and gas liquids with NE British Columbia going to be our source.

- The AESO produces a 20 year Long Term Plan every 2 years. That should form the base forecast for any transmission demand.
- Need corridors near Williams river crossing, AIH into Refineries, into and through Lamont as well as through Sturgeon. (They mentioned risks zones around rail and heavy industry
- Continued ramp up of oil sands will have a continued need for infrastructure. In the Refinery Row area we see a shortage of room for additional tankage. As well, corridor access into the area has become an issue. AIH has been on the radar for ten years. Site activity builds pipe infrastructure activity. All the major pipeline companies have acquired land holdings in the AIH and with the shortage of land in the Refinery Row area, it is realistic to expect a shift to the AIH.
- The next 8 years are going to be intense. AIH is going to expand and become a bigger hub. There will be a continuation of the need to run some new lines between AIH and the Refineries. The ability to interconnect in the AIH is a problem – very limited opportunities for alignments. Setbacks on industrial land are a problem as well.
- There is a shift away from the refineries area near Edmonton to the AIH. We will see less lines coming into Edmonton. Rail will continue to grow. We do not see it slowing down. Is there public sensitivity towards rail? The tax benefit for the municipalities is minimal for railways.
- The sense is that there is continued interest. It is becoming more and more evident that we have problems with skilled labour and lack of tide water. As extraction increases and shale gas ramps up we are going to see a bigger demand to ship our raw products elsewhere for enhancement and manufacturing.
- For the next 15 to 20 years we are going to see increases in products being shipped. We are seeing a significant increase to rail car activity – (from memory) in 1955 5700 car movements, in 2035 there will be 235,000 car movements. This year we are seeing 3 trains per week from the area, next year 8 to 10 trains a week. We see a significant amount of our tax revenue from pipeline and power line infrastructure.
- Power lines are finished – the Heartland Transmission Project took care of that. Ongoing need for pipelines with continued growth for the next ten to twenty years. New developments in the AIH will need new pipelines. It is likely we will see some of the pipelines being a duplication - but they will meet a business need of a different supplier.
- Forecasted demand – The day when we complete the big export pipeline the price will go up, this will drive development and increase the players. The role of Edmonton will decline with the AIH seeing more and more coming and going from this area. He asked the question – will new technologies improve efficiencies which will result in the need to increase capacity. As we see our population growing we will see more opportunities for additional services and opportunities for industries.
- Oil sands are in a significant growth mode. We are going from 2mbd to more than 5mbd. A great deal will go through the port of Prince Rupert. Impact of NGP will be to accelerate the time frame. Project and capacities will increase sooner than originally thought. Today we are seeing different avenues for oil – important integration of rail and pipe.
- Significant build in the Heartland, smaller projects, for the next 4 or 5 years very significant growth, shifting more to the AIH as it is too congested in Edmonton, recognize the fact all the
majors have purchased lands in the AIH Comment about congestion in Edmonton area. We had two 300km pipelines and a 45km pipeline all start at the same time. The 45km pipeline in the Edmonton to AIH area is still bogged down and slow to start—no space, too much congestion. The others are basically finished.

5.0 What are the desired project locations (corridors) for these projects and key issues to consider?

Review potential future locations for Regional Energy Corridors within the Capital Region graphic representation of where future potential Regional Energy Corridors should or should not locate to meet future industry demands.

- Desired corridor locations – No additional needed if they designate the existing corridors to expand – we do not need anything else
- Desired corridor locations – the original study (Stewart Weir) was good. Presently we see a demand in Lamont County as there is a shortage of useable land in Sturgeon and Strathcona. We need to make sure we do not sterilize land.
- There are limitations to the co-location of transmission lines and pipelines as there is electricity induction issues and associated metal corrosion on pipelines proximate to transmission lines.
- If we are going to expand the number of corridors then this needs to be a political decision and recognition that it is a political need.
- From an electricity transmission perspective, there is a risk issue if all transmission is dedicated to one corridor if an extreme weather event takes out transmission lines.
- Transmission Facility Owners (TFOs) prefer to be located away from road allowances.
- Current CEAA, AER and AUC legislation push the location of linear corridors to follow other corridors.
- Desired Locations of Corridors - Should have regulated corridors. Like the concepts and original plans from the 2010 study. The AIH is the only place to be, we need to be able to access the area.
- From the North Saskatchewan River (AIH) south into the NEPC. Inside the AIH and trying to get out of the AIH has become a problem as well. Allowing industrial subdivision growth along the NEPC as created a major problem with very limited options. The TUC needs to address the Georgia Pacific property. If the AIH is the new hub, you need clear entry and exit points into the AIH. General comment – If the need for a pipeline corridor is framed to be an industry issue, then it appears that the government is in industry’s back pocket and the big issues of efficient development of land and fragmentation of land are forgotten.
- In the AIH we need a corridor to the river and outlet west as well as gain access to Hardisty. Expansion of the corridor to Edmonton and we need access to the North – would be fine if they were able to go out through Lamont County to the river.
- We need a holistic view and recognize the priority of our system. The Georgia Pacific land needs to be addressed. Any corridor needs to be concerned about length. We need a better use of right of way space. Today our main focus of activities is in the Refinery area to AIH.
- We should have regulated corridors. I like the concepts and original plans from the 2010 study. The AIH is the only place to be, we need to be able to access the area.
- Would like to see any corridor regulated. There is an immediate need in the AIH. There is a need for access from the Cold Lake direction into the AIH.
• Refineries to AIH – there is a shift from the East Edmonton to AIH, Sturgeon and Lamont. In forecasting there are an awful lot of what ifs? Huston has also showed a realization of what can happen when there is no more space. We need to focus on the areas that want it and will be developing in the future. We need to realize we are an exporter type market with transportation as a key component.
• Acreage development in Lamont is threatening to block development and pipeline capacity. What is the growth plan for Acheson (possibly Campbell and the international airport should be looked at).
• TUC pinch points – Georgia Pacific and NEPC. We are going to see more pipes going to the AIH to individual sites – not everyone goes to the same site.

6.0 Operational Management and Funding Models

Summarize existing models for funding and operating petroleum pipeline and power transmission line corridors and outline relevant considerations for implementation of these corridors.

6.1 What Energy Corridor operational management and funding models can be considered for Regional Energy Corridors in the Capital Region?

6.2 How would these Models interface with the CRB and Stakeholders? What roles would they have with each model?

• Management and funding – If designated then over time they should be acquired. Put in place a TUC like structure that is revenue neutral. The problem with an industry model is that they don’t trust each other. The TUC model has worked until Henday and the arrival of pinch points.
• Regulated utilities cannot get a return on their investment from land purchased in advance, or on speculation for a future corridor. Their funding or operational management models are limited by the legislation.
• Management and funding – Maybe the Edmonton Pipeline Group has a role. You need an outside party. A group could better address the need for Risk Management. Maybe the big companies should be brought to the table to participate?
  » Models - Private, municipalities, P3. It needs to be regulated to back it and push the companies in the direction. You need someonw to set it up.
  » Roles – The CRB role could be to consider where they go and make sure they are aligned with the plan. Make sure any new pipelines are compliant. The danger is that we get too many people or groups involved and we start to see “scope creep”.
• Operational and funding models – TUC, Private model, municipality controlled, some arm-length government involvement, a land trust. Ownership is the key – regulation gets you there. The problem that arises is the ability to expropriate and the ability to regulate – do you really need that? Management and funding models – P3 with industry, provincial and federal dollars. In urban areas, controlled is better. In rural self-regulated is preferable.
Operational and Management Funding Models - Province should buy land. We need a National Energy Strategy and include the Feds in this. The Provincial Government needs to step up as there is no real impetus for this. A model based on Industry involvement will not work.

History has shown that where a designated corridor is not owned, the pipeline companies are held to ransom. The TUC and NEPC are effective models as they provide certainty. There are some areas where problems are encountered in these corridors and that is where the government has failed to purchase the land.

One option is for the government to buy a strip of land for a corridor— to be effective it should be continuous and not voluntary. The idea of government and industry will not work as the perception is that industry is driving the process not regional or land use planning— without the government stepping up the companies will continue to do as they do now.

Would like to see purchased and completely regulated. Would suggest that industry could fund it for certainty purposes. Government would be responsible for regulation – maybe provide licenses based on your contribution. You could sell your license if you wanted to.

We need a regulated and controlled corridor – Government needs to be in charge. Industry doesn’t have the best intentions – the competing interests of the industry players would prevent them from getting along. For funding – Industry should put some funds into the process. Government has the better sell for the idea of the greater good.

Industry needs to be part of this, they must be at the table. We must also include municipalities. Funding should be by all levels of government. The Federal government and First Nations can’t be left out.

The TUC worked – don’t mess with something that worked. Funding – government funding with opportunities for municipalities to participate as well as industry. The funds are there (linear assessment and easement costs), they just aren’t dedicated to the issue.

P3 with industry, provincial and federal dollars. In urban areas, controlled is better. In rural self-regulated is preferable.

It is hard to believe that industry could take on the ownership or management of a corridor as they have too much vested interest. With any third party buying and managing a corridor there is a timing issue. The revenue schedule is risky as the timing is unsure. There is too much land for third parties to be involved.

A bought corridor would be more reasonable, you wouldn’t lose money, it would be much easier as we wouldn’t be negotiating against each other and we would save time.

Funding – economic evaluation should be done – it would be similar to TUC payback. There is an existing tax on the linear infrastructure with a rate based on pipe diameter. There is revenue flowing to all levels of government.

Unrealistic to think industry would participate because we would see the companies trying to control projects by influencing or holding land.

7.0 What does a CRB Regional Energy Corridor Policy Framework need to entail and consider?

Establish a policy framework for the linear and logical planning of regional energy corridors that address:

i. the location and co-location of infrastructure in these corridors;
ii. a coordinated Regional approach for safety and emergency response planning;
iii. minimization and mitigation of land use conflicts; and,
iv. risk management.

- There is often talk of the need for multiple use corridors. The Lower Athabasca Regional Plan, for example discussed the need for Corridors. However it did not designate a corridor.
- Will a designated corridor facilitate routing approvals or will alternate routes need to be reviewed and studied for the regulators?
- If the CRB were to consider a corridor it would need to be clear on the future use of that land and support future energy infrastructure in that corridor when development comes. One lesson learned from the TUC was that residents and Municipal councillors often challenged the end use of the Corridors. Are the TUCs greenspace or energy corridors?
- Development restrictions can be used to ensure that land is not set out in conflict for a linear corridor.
- Regional Land Use Plans guide project decisions through the Electrical Utilities Act.
- Standardization of regulations – setbacks are an issue.
- It has to be taken to a point where we have an action plan and actual actions. Without actions this is all words. The need for corridors is a pressing issue. We need to relate this to the individual municipalities.
- High level considerations, create policy.
- The CRB should be involved because of the different municipalities. There is a need for an integrated approach with the petrochemical flow out and the by-products. This is more than a one off activity, this is about integration.
- Routing is very well defined, follow existing linear disturbances. There are problems in the TUC – pinch points where there is interference, conflicts with moving people – can’t cross under piles, we need to weigh value with the environment and our ability to get around.

General comments

- Today, municipalities and counties are in a tough spot. They need to recognize not only the above ground infrastructure but also what they don’t see and that is the pipeline infrastructure. They are all not at the table to the same extent. Strathcona County is very active talking to industry. They understand the revenues and importance of the pipeline infrastructure to their county.
- It is a stretch to think buying a corridor will take place. Planning is a mechanism where the issues can be identified early but we need processes to be in place where the potential issue can be acted upon.
- General comments – Time is the key, change from an engineering perspective impacts the client. Costly delays increases the net costs to the project which impacts the producer.
- We see today that there is a potential to get dragged down in the process and never get your approval. We also see that the regulatory approval process has been used by special interest groups to highjack the process.
- Whenever planning a pipeline we use Abadata which gives us the information about what is there and we try and follow existing alignments. Planners need to know what is there and recognize it.
The corridor concept allows the ability to gather resident information as well as helps with costing and addressing the annoyance of bothering people.

Taxes are a big concern – we have site and linear taxes – be wary of pushing industry away because of tax.

A corridor provides a means to control the separation of industry types while providing a stable environment for linear development and clarity. It will help to improve the regulatory process.

The idea of further developing corridors is long overdue, they need to persevere. Education is significant - policy needs to be sold – you need a vision and keep on the path.

We have pressure points that need addressing but we need to look beyond that. We can’t let the dollars limit our creativity or we will never get this done.

Not everyone is coming from the same place, but they are probably going to the same place. Planners see the faces of the locals but they don’t see the face of business. There needs to be a forum to tell the public about pipelines. A corridor eliminates the public impact on routing – the definition is there and it helps great.

THE SRB IS NOT ALIGNED WITH BASIC PLANNING PRINCIPLES – wasting land.

Problem – when you declare a regional corridor –what does it do to land values? Does it create a land grab issue?

Coordination of the use of our land is a must. How we connect into the markets and other areas is just as important. Corridor needs to be tied to an overall plan. Being proactive is a key – there are lessons learned from the oil sands (Tying up land where infrastructure is needed – shape of leases). How corridors fit with development, needs to be addressed.

Need to recognize that the energy industry is vital to our growth.

The fact that this study will bring education to some is a major benefit and a step forward.

Defined corridors eliminate the competition for linear space – this also helps to build the case for other entries into the corridor concept.

Viable corridors do provide positive growth and help build our communities – tax is very beneficial.

People have to understand that pipelines are a reality as we are a resource province. They need to look at a refinery as 1500 people, all with children, needing schools, doctors etc.
Appendix 5: Regulatory Approval Requirements for Energy Corridors

A tabular summary of Regulatory Approval Requirements is provided in the following Table.
<table>
<thead>
<tr>
<th>Stakeholder</th>
<th>Key Authorities</th>
<th>General Role and Mandate/ Specific Regulatory Role Influencing Energy Corridors in the CRB</th>
<th>Process</th>
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<tbody>
<tr>
<td><strong>Regulator Pipeline</strong></td>
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<tr>
<td>National Energy Board</td>
<td>National Energy Board Act</td>
<td>The National Energy Board (NEB) promotes safety and security, environmental protection</td>
<td>License Application to NEB</td>
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<td>and efficient energy infrastructure and markets in the Canadian public interest. The NEB</td>
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<td>regulates the construction and operation of inter-provincial and international oil and</td>
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<td>gas pipelines, international power lines, and designated inter-provincial power lines.</td>
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<td>Its mandate is also defined by the Canadian Environmental Assessment Act.</td>
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<tr>
<td>Alberta Energy Regulator</td>
<td>Responsible Energy Development Act. 2012 Chapter R- 17.3</td>
<td>Establishes the mandate and role of the Alberta Energy Regulator (Board) covering all</td>
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<td>energy except hydro energy to provide for responsible energy development and regulate</td>
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<td>the disposition of public lands, protection of environment and conservation and</td>
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<td>management of water.</td>
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<td>Alberta Pipeline Act</td>
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<td>14. The Regulator, in a licence or an amendment of a licence, may (a) prescribe the</td>
<td>License Application to AER</td>
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<td>location and route of the pipeline as precisely as it considers suitable, and (b)</td>
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<td>prescribe the location of the right of way of the pipeline and the relationship of its</td>
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<td>boundaries to the pipeline or any part of the pipeline.</td>
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<td>38. No pipeline may be constructed on, across, over or under a highway without the</td>
<td>Permit Application to</td>
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<td>approval of the Minister of Transportation. (2) An application for approval under</td>
<td>Transportation Minister and</td>
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<td>subsection (1) shall be accompanied with a plan and profile of the portion of the</td>
<td>AER</td>
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<td>highway affected. (3) The land in which an interest is required for a pipeline</td>
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<td>parallel to a highway shall not be located nearer than (a) 30 metres from the</td>
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<td>boundary of the highway, in the case of a highway other than a freeway under the</td>
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<td>Highways Development and Protection Act or 115 metres from the centre line of such a</td>
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<td>freeway, without the approval of the Minister of Transportation, or</td>
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<tr>
<td>Stakeholder</td>
<td>Key Authorities</td>
<td>General Role and Mandate/ Specific Regulatory Role Influencing Energy Corridors in the CRB</td>
<td>Process</td>
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<td>(b) any greater distance from the boundary or centre line that the Regulator stipulates.</td>
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<td>(4) If a pipeline crosses a highway, no bend shall be permitted in that part of the pipeline that is</td>
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<td>(a) within the boundaries of the highway without the approval of the Minister of Transportation, or</td>
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<td>(b) within</td>
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<td>(i) 30 metres from the boundary of the highway, in the case of a highway other than a freeway under the Highways Development and</td>
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<td>Protection Act, or 115 metres from the centre line of such a freeway, without the approval of</td>
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<td>the Minister of Transportation, or</td>
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<td>(ii) any greater distance from the boundary or centre line that the Regulator stipulates.</td>
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<td><strong>Power Transmission</strong></td>
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<tr>
<td>Alberta Utilities Commission</td>
<td>Electrical Utilities Act</td>
<td>To provide an efficient Alberta electric industry structure including independent, separate corporations to carry out the responsibilities of the Independent System Operator and the Balancing Pool, and to set out the powers and duties of those corporations.</td>
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<tr>
<td>Alberta Electricity System</td>
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<td>Operator</td>
<td>Electrical Statutes Amendment Act</td>
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<td><strong>Province</strong></td>
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<td>Alberta Land Stewardship</td>
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<td>To provide a means to plan for the future, recognizing the need to manage activity to meet the reasonably foreseeable need of current and future generations of Albertans.</td>
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<td>Act</td>
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<td>Municipal Affairs</td>
<td>Municipal Government Act</td>
<td>(MDP requirement)</td>
<td>Plan Authority</td>
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<td>(Land Use Bylaw Requirement)</td>
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<tr>
<td>Subdivision and Development</td>
<td>Subdivision setbacks for development permits related</td>
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<td>Subdivision Authority</td>
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<td>Regulation</td>
<td>to AEUB/ AER/ AUC setback requirements.</td>
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<td>Land Assembly Project Area Act. SA 2011 (not proclaimed)</td>
<td>Statute has not come into force (as at December 03, 2013). Proposes a more clear process for property owners when government is planning for land assembly projects.</td>
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<td>Land Assembly Project Area Act. Statutes of Alberta, 2009 Chapter L-25</td>
<td>Act enables the Governor in Council to plan, designate and assemble land, consult and compensate landowners for large scale infrastructure projects including utility corridors.</td>
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<td>Municipal Government Act. Capital Board Regulation (AR 38/2012)</td>
<td>The Capital Region Board (CRB) Regulation establishes the CRB, its mandate and powers, including duties for the Capital Region Growth Plan and approval of municipal statutory plans.</td>
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<td>Capital Board Regulation (AR 17/2010) Regional Evaluation Framework. Ministerial Order No L:270/10</td>
<td>The purpose of the Regional Evaluation Framework (REF) is to provide criteria to allow the Board to evaluate municipal statutory plans and statutory plan amendments to ensure consistency with the long-term interests identified in the Capital Region Growth Plan, and the Capital Region Board Regulation. Municipalities must submit proposed IDPs, MDPs, ARPs and any proposed amendments to the Board for review and evaluation based on identified criteria.</td>
<td>EF evaluation of municipal statutory plans</td>
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<td>Government Organization Act. The</td>
<td>Regulations define the ‘Sherwood Park West Restricted Development Area’ and the Minister’s role in approving uses within that area.</td>
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| Sherwood Park West Restricted Development Area Regulation. 45/174. Amendments Alberta Regulation 68/2008. | MIACC is a non-profit, multi-stakeholder organization, focusing on the wide spectrum of prevention, preparedness and response (PPR) activities relating to the manufacture, storage, distribution, transportation, handling and disposal of hazardous substances. MIACC is the national focus and leader for cooperative action to reduce the frequency and severity of major industrial accidents involving hazardous substances. Risk assessment must become an integral part of land use planning and control, and this requires a co-ordinated effort of industry and all levels of government and recommends that:  
• the provincial governments review existing planning legislation, regulations and guidelines with a view to including more specific powers concerning risk assessment;  
• provincial and municipal governments require risk assessments as part of their land use planning and control tools;  
• the proposed guidelines for acceptable levels of risk be used as a starting point for public discussion of such levels with a view to their inclusion by provincial and local governments in official plans, standards and regulations and impact assessment procedures; and  
• industry representatives work with provincial and local governments to favour the inclusion of risk assessment in land use planning and control at all levels. | | |
<p>| Major Industrial Accidents Council of Canada (MIACC) | | | |
| Municipal | | | |</p>
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<td>Municipality/County</td>
<td>Land Use Bylaws</td>
<td>By-law requirements for managing land use along Utility corridors, pipelines and transmission lines</td>
<td>Development Applications, Development Authority</td>
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<td>Area Structure Plans</td>
<td>The five municipal members of the AIHA, Fort Saskatchewan, Lamont County, Strathcona County, Sturgeon County and the City of Edmonton have created complimentary Areas Structure Plan By-laws that set out land use zoning designations, concepts and implementation for each area to ensure that land use planning and growth throughout the Heartland region would occur in a coordinated and responsible manner.</td>
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<tr>
<td>Lamont County</td>
<td>LUB 6.8</td>
<td>Any development involving pipeline and/or power line rights-of-way shall be sited to comply with all relevant Federal and Provincial legislation and regulations. Setbacks from pipelines and other utility corridors shall be in accordance with appropriate Provincial legislation and regulations and any regulations established by the Alberta Energy and Utilities Board or pursuant to the Alberta Industrial Heartland Area Structure Plan.</td>
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</table>
| Leduc County | LUB 6.11 | 6.11.1 Development setbacks from pipeline rights-of-way, oil and gas installations and other utility corridors shall meet or exceed the requirements of the Province.  
6.11.2 Notwithstanding 6.11.1, for the following uses, the minimum setback from the right-of-way of pipeline with a maximum licenced operating pressure of 3447.5KPa or greater is:  
(a) 1.0 m (3.3 ft.) for an accessory building  
(b) 15.0 m (50 ft.) for a principal residential, commercial or industrial building; and  
(c) 200 m (656 ft.) for a principal building for community recreation services, private education, public education, spectator entertainment, exhibition and convention facilities, major health services, religious assemblies, or spectator sports.  
6.11.3 The minimum setback from a pipeline with a maximum licensed operating pressure less than 3447.5KPa is 5.0 m (16 ft.) for all principal buildings. | |
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<td>6.11.4 Notwithstanding anything else in this Section, minimum setbacks from pipelines in Urban Growth Areas may be reduced by the Development Authority. Bylaw 18-09</td>
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<td>6.11.5 In Urban Growth Areas, where pipelines and/or energy related facilities or infrastructure are located within or adjacent to a proposed subdivision, the applicant shall contact the facility or infrastructure operator in writing to inform it of the nature of the proposed project. Bylaw 18-09</td>
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<td>Strathcona County</td>
<td>LUB 6.7</td>
<td>LUB 6.7 A minimum setback from the right of way of a petroleum products pipeline with a maximum licensed operating pressure of 3447.5 kPa or greater shall be provided for the following uses: (a)(i) Urban Service Area: 15.0 m for a principal residential, commercial, or industrial building. For residential development only, and subject to the approval of the Development Officer, the pipeline setback may be reduced to 7.5 m if the applicant for development permanently fences the property line adjacent to the pipeline right of way before the construction of abutting development. Prior to any construction, a plan shall be provided to the Development Officer that accurately indicates the location of the pipeline right of way. Within the Urban Service Area, any proposed development in the AD Future Development, RC Country Residential or RA Rural Residential/Agriculture district shall adhere to Section 6.7.1 (a)(ii). (Bylaw 24-2002) (ii) Hamlets and Rural Areas: 15.0 m for a principal residential, commercial, or industrial building, provided it is clearly marked with identification posts and flags from a surveyed pipeline right of way. Prior to any construction, a plan shall be provided to the Development Officer that accurately indicates the location of the pipeline right of way. (Bylaw 24-2002) (b) 1.0 m for an accessory residential, commercial, or industrial building, and (c) 200 m for a principal building for community recreation services, private education, public education, emergency services, spectator entertainment, exhibition and convention</td>
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<td>facilities, major health services, religious assemblies, or spectator sports.</td>
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<td>6.7.2 A minimum setback of 5.0 m shall be provided from a pipeline right of way with a</td>
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<td>maximum licensed operating pressure of less than 3447.5 kPa for all principal buildings.</td>
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<td>6.7.3 Subject to the approval of the Development Officer, petrochemical plant sites may be exempt from the pipeline setback requirements of Sections 6.7.1 and 6.7.2. (Bylaw 24-2002)</td>
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<tr>
<td>Sturgeon County</td>
<td>LUB 6.4</td>
<td>Any development involving pipeline and/or power line transmission rights-of-way shall be sited to comply with all relevant Federal and Provincial legislation. Setbacks from pipelines and other utility corridors shall be in accordance with appropriate Provincial Regulations or Acts and any regulations or directives established by the Energy Utilities Board (EUB).</td>
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