

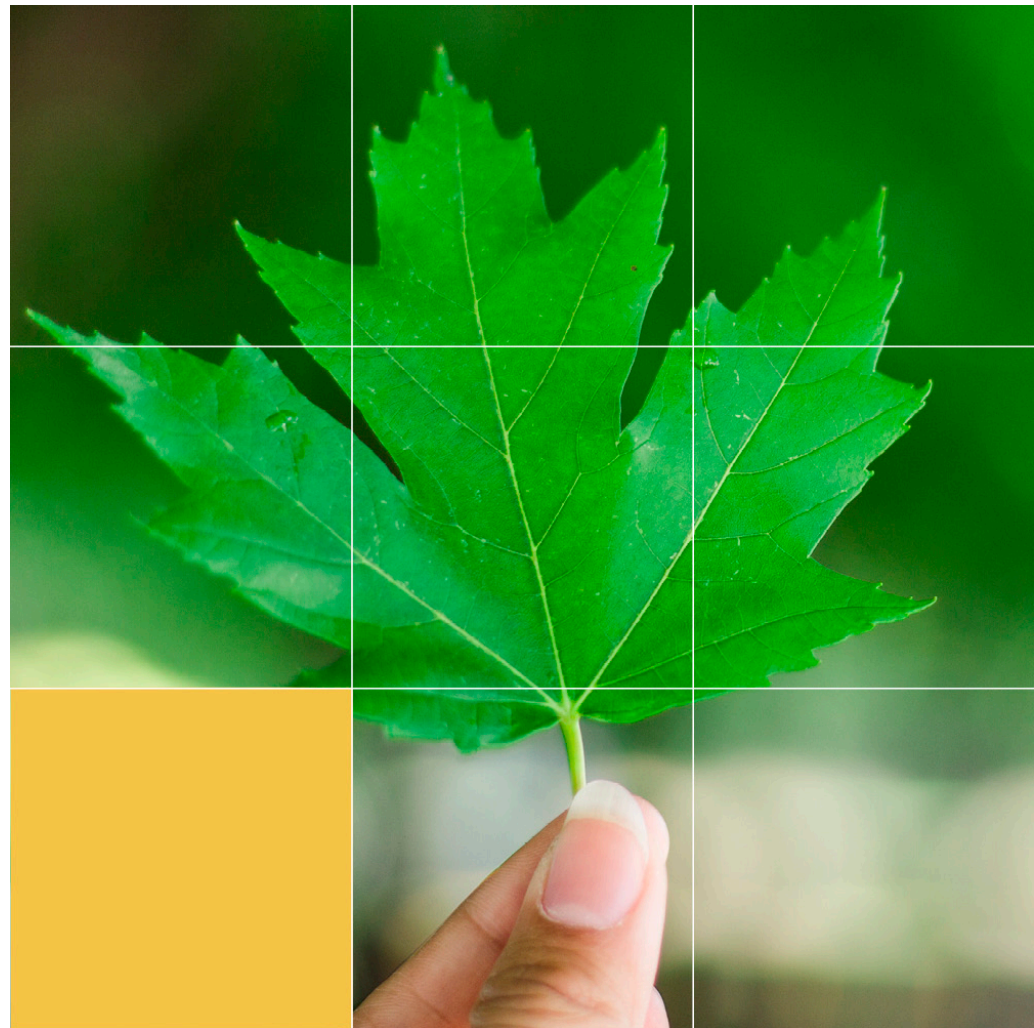


Canada Energy  
Regulator

Régie de l'énergie  
du Canada

# Using Modern Data Tools to Unlock the History of Pipelines in Canada

**Club des régulateurs  
November 2019**





# Background on the Canada Energy Regulator

We regulate pipelines, power lines, energy development and trade in a way that protects the public and the environment while supporting efficient markets.

Every year we hold oral hearings with hundreds of parties who file thousands of documents into our repository.

In 2018-19, in doing our oversight of existing pipelines, we

- Conducted 145 inspections
- Issued 187 Non-compliances
- Attended 20 emergency management exercises
- Initiated 7 audits
- Tracked 600 new conditions

Each of these activities outputs information, reports, filings, etc.



# Context

**+700** different hearings

**~28M** pages in boxes off-site

**~0.5 TB** transcripts & oral traditional evidence

**~7.5 TB** in the F&G drives and RDIMS

**~14,000** information requests per year

**~4000** faxes and letters per year

**~100,000** doc growth in repository per year

Ongoing oversight of **73,000 kilometres** of pipelines and  
**1,400 kilometres** of electrical power lines



# Challenges



## **More effective lifecycle oversight**

*Enhanced trend and incident analysis on pipeline systems*



## **Data driven decisions**

*On regulatory processes, but also in our day-to-day work*



## **Efficiencies and global competitiveness**

*More efficient regulatory processes, benefiting the Regulator, industry, and stakeholders*



## **Better information & enhanced engagement**

*Sharing open data in a way that is understandable and engaging*



# Key Commitments for Transition

Committing  
resources

Acquiring new  
skills

Thinking  
differently

# Unlocking environmental and socio-economic data

# Baseline data

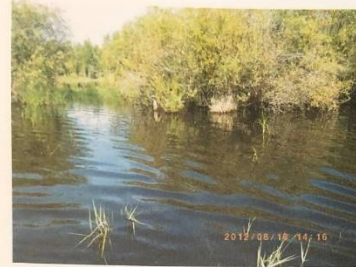
Environmental and Socio-economic Assessments are filed to the regulator in support of a facility application, in binders and pdfs



# Decomposing baseline data

2,424 Environmental and Socio-economic Assessments have been decomposed into, searchable, structured data can be more accessible for inspectors and scientists.

- 41,490 raw tables
- 35,028 images and maps



View north through centre of the proposed pipeline corridor (01-07-13).



View south through centre of the proposed pipeline corridor (01-07-13).



View east at centre of the proposed pipeline corridor (01-07-13).



View west at centre of the proposed pipeline corridor (01-07-13).

### Fish Habitat Potential

Species	Spawning	Rearing	Wintering	Migration
All	M	M	M	M

### Sampling Effort

Method	Time	Distance	Date
MT	37.5 hrs	n/a	16-08-2012
EF	524 s	100 m	01-07-2013

Restricted Activity Period:  
None



Classification: Wetland

Least Risk Window Proposed: Open

Navigability: See Wetland Evaluation  
Technical Report (Vol. 5C)

Mean Channel Width: n/a

Proximity to other watercourses: Unnamed Wetland, 2.3 km southwest from Little Brule Creek.  
Comment: Large impounded and flooded area. Half of the flooded area is shallow and vegetated (< 0.5 m) and the other half is deep (> 1.5 m) and encompasses a dugout. Three beaver dams with large drops that may need to be breached for construction.

Trans Mountain Expansion Project		Unnamed Wetland			
 ENVIRONMENTAL CONSULTANTS	 TRANSMOUNTAIN	TMEP Site ID:	AB-108	RK	170.9
		UTM Zone:	11 596774 E	5940564 N	NAD 83
		Legal Location:	SW 27-53-11 W5M		

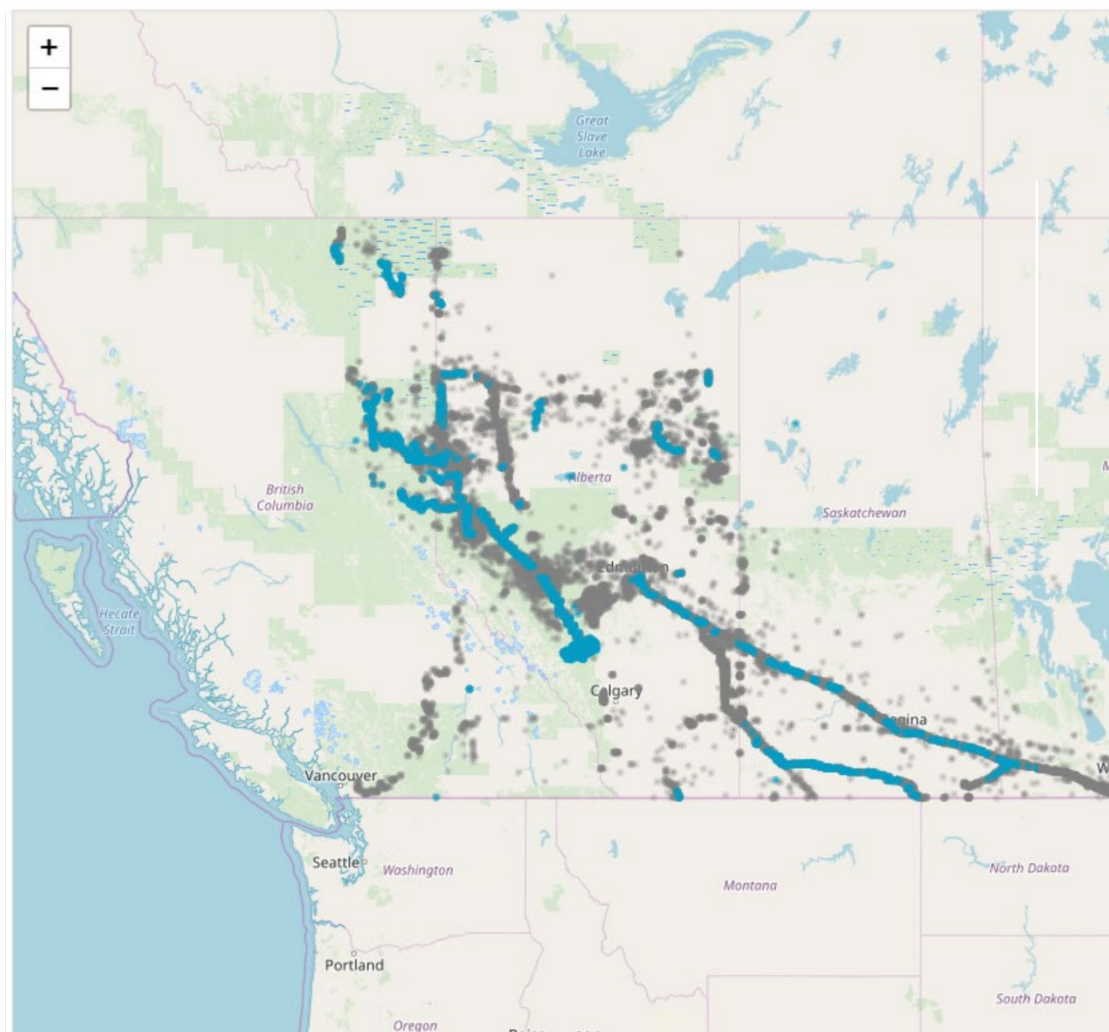




# Baseline data

Documents have been tagged with location and also topic modeled for 20 topics ex:

- Soil productivity
- Vegetation
- Water quality
- **Fish habitat**
- Wildlife
- Species at risk

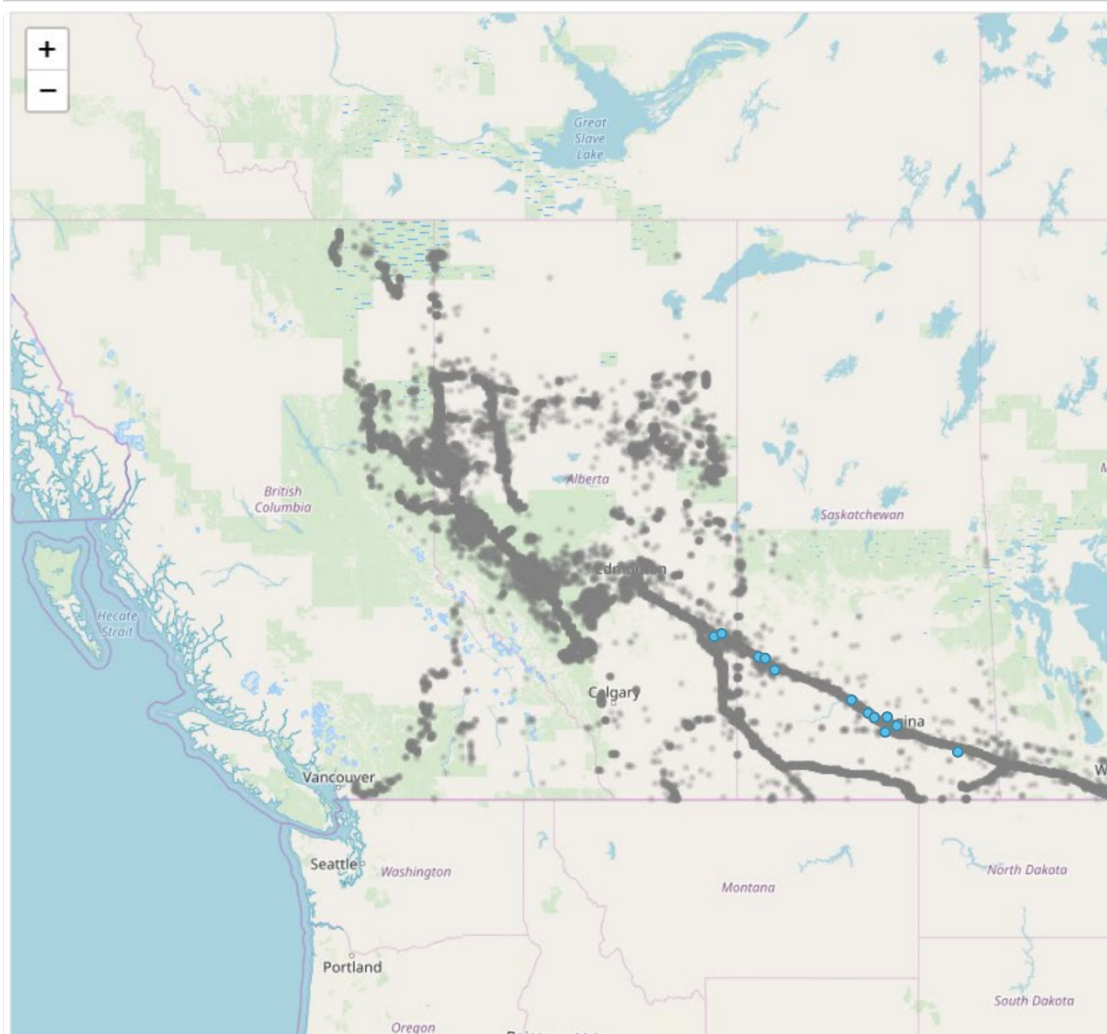




# Baseline data

Documents have been tagged with location and also topic modeled for 20 topics ex:


- Soil productivity
- Vegetation
- Water quality
- Fish habitat
- **Wildlife – baird sparrow**
- Species at risk



# Digitizing transcripts



# +6000 Hearing transcripts over history of CER

<p style="text-align: center;"><b>NATIONAL ENERGY BOARD</b> <b>OFFICE NATIONAL DE L'ÉNERGIE</b></p>  <p style="text-align: center;"><b>Hearing Order / Ordonnance d'audience</b> <b>MH-031-2017</b></p> <p style="text-align: center;"><b>NOVA Gas Transmission Ltd.</b> <b>North Montney Mainline Variance and</b> <b>Sunset Clause Extension Request</b></p> <p style="text-align: center;"><b>NOVA Gas Transmission Ltd.</b> <b>Projet de canalisation principale North Montney</b> <b>Demande de modification et de prorogation de la clause d'expiration</b></p> <p style="text-align: center;">VOLUME 7</p> <p style="text-align: center;">Hearing held at L'audience tenue à</p> <p style="text-align: center;">Stonebridge Hotel 500 Highway 2 Dawson Creek, British Columbia</p> <p style="text-align: center;">January 31, 2018 Le 31 janvier 2018</p> <p style="text-align: center;">International Reporting Inc. Ottawa, Ontario (613) 748-6043</p> <p style="text-align: center;"><b>Canada</b></p>	<p style="text-align: right;">Opening remarks Chairman</p> <p>--- Upon commencing at 9:03 a.m./L'audience débute à 9h03</p> <p>8544. <b>THE CHAIRMAN:</b> Well, good morning, all. We're seating the NGTL panel today. We'll get to that in a moment. We've got a few preliminary matters before we start that portion.</p> <p>8545. First of all, for those who are new to this proceeding, I'll introduce the Panel as well as staff, but before doing so I'll go through the security stuff I'm required to do.</p> <p>8546. Exits, should there be a fire alarm or other reason to vacate the room, are on wall to my left there; they lead directly outside. So you'll know you're outside as soon as you open the door. Washrooms are out that door down the hall.</p> <p>8547. And the staff we have with us today, Rachel Savoie is our Regulatory Officer; Carol Gagné, Board Counsel; Thea Wingert is the Hearing Manager; Jarrod Hildebrand, our IT support way at the back; Krista Wandler is our Socio-Ec Specialist; Dylan Adderley, otherwise known as Darren Adderley, is Environmental Specialist; and our Process Advisor, Marie McKenney, is over by the door.</p> <p>8548. To my right we have David Hamilton, Member of the Board, as well as Steve Kelly to my left, also Member of the Board.</p> <p>8549. If you're looking for any of our staff members, you'll identify them by the gold badge they're wearing. And that, I think, covers most of what we're doing.</p> <p>8550. We remind everybody that you're on a live audio feed -- and it is live today -- and so please speak clearly and remember to use your microphones as we go through.</p> <p>8551. I'm told that we should do a registration of appearances because we're in the second phase of this, so I'd like to go through and register the appearances of counsel today, if I may.</p> <p>8552. Mr. Duncanson.</p> <p>8553. <b>MR. DUNCANSON:</b> Good morning, Mr. Chairman and Panel Members. Sander Duncanson representing NGTL. With me is Mark Graham and</p> <p style="text-align: center;">Transcript MH-031-2017</p>	<p style="text-align: right;">Opening remarks Chairman</p> <p>Kevin Thrasher.</p> <p>8554. <b>MS. HUME:</b> Emma Hume, legal counsel for Blueberry River First Nations.</p> <p>8555. <b>MS. GAGNÉ:</b> Mr. Chair, I'm Carol Gagné, Board counsel.</p> <p>8556. I understand that we also have Michael Sawyer. He's not in the room currently, but will be here today. Registered electronically we have Kenji Tokawa and Naomi Owens for Saulteau First Nations. Also appearing later today will be Anne Muter from West Moberly First Nations. And Ms. Allison Rana was here yesterday representing Doig River First Nations. As well as Kate Gunn representing Wip Lultkudziiwus.</p> <p>8557. <b>THE CHAIRMAN:</b> Thank you.</p> <p>8558. Any other counsel? I wouldn't think so. Good. Okay.</p> <p>8559. I have one preliminary matter to deal with and that is ruling on the motion filed by Mr. Tokawa on behalf of the Saulteau First Nations. I'll read the ruling into the record.</p> <p>8560. We have a motion filed on behalf of the Saulteau First Nations on January 29<sup>th</sup>, 2018. The motion requests leave to file further evidence relating to the geotechnical effects of the natural gas production operations of Progress and the accommodations that may be required as a result thereof.</p> <p>8561. The Panel has considered the motion and it is denied. Counsel for Saulteau has provided no justification as to why this evidence could not have been submitted within the timelines established for this hearing, and because cross-examination has already begun, there would be significant prejudice to other parties were this new evidence to be allowed.</p> <p>8562. Furthermore, we note that the subject matter of the motion is not within the scope of NGTL's Application. Mr. Tokawa raised this issue on the 24<sup>th</sup> of January 2018 when the hearing was underway in Calgary. And at that time, the Panel noted that it is the B.C. regulator that has primary jurisdiction over the drilling operations of Progress, and the Panel remains of the view that the issue would be best addressed by that regulatory body.</p> <p style="text-align: center;">Transcript MH-031-2017</p>
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# Modeling

Each sentence of each transcript has been processed so that they may be searched by:

- Speaker
- Hearing type
- Year
- Organization
- Indigenous community
- Topic (73)

Topic 1:  
Cumulative  
effects

Topic 2:  
Caribou

Topic 1:  
Cumulative  
effects

9758. **MR. SAWYER:** And as a result of that, NGTL did not undertake any cumulative effects assessment for the new meter stations, and instead relied on the cumulative effects assessment that was filed as evidence at the original NMML applications; is that also not correct?

--- (A short pause/Courte pause)

9759. **MR. MacMICHAEL:** I'd have to disagree with you there, Mr. Sawyer. It was not as a result of specifically that one determination. Through the effects assessment process, as guided by the NEB Filing Manual, we looked at all the valued components to consider what residual effects were possible as a component of the project effects after applying those mitigations.

9760. When it comes to cumulative effects, that was one component of how we determined whether or not to proceed further down the cumulative effects assessment process as laid out in Section 5.6 of the ESA.

9761. **MR. SAWYER:** So let's just be clear here, Mr. MacMichael, and let's just talk about caribou or wildlife for the moment. Your conclusion was, A, that there was no residual impact; correct?

9762. **MR. MacMICHAEL:** No, that they were negligible and that they were not significant.

9763. **MR. SAWYER:** Okay. And then you from that decision went to making a decision about cumulative effects that because they were negligible cumulative effects -- conducting a cumulative effects assessment was not necessary. Is that not also correct?

9764. **MR. MacMICHAEL:** No.



# Visualizing data and building regulatory trust

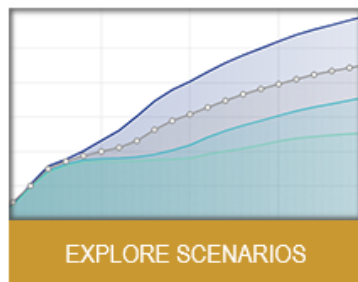
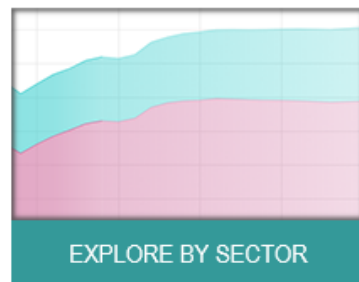
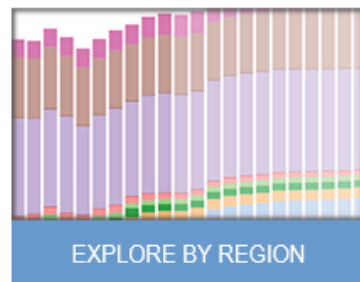
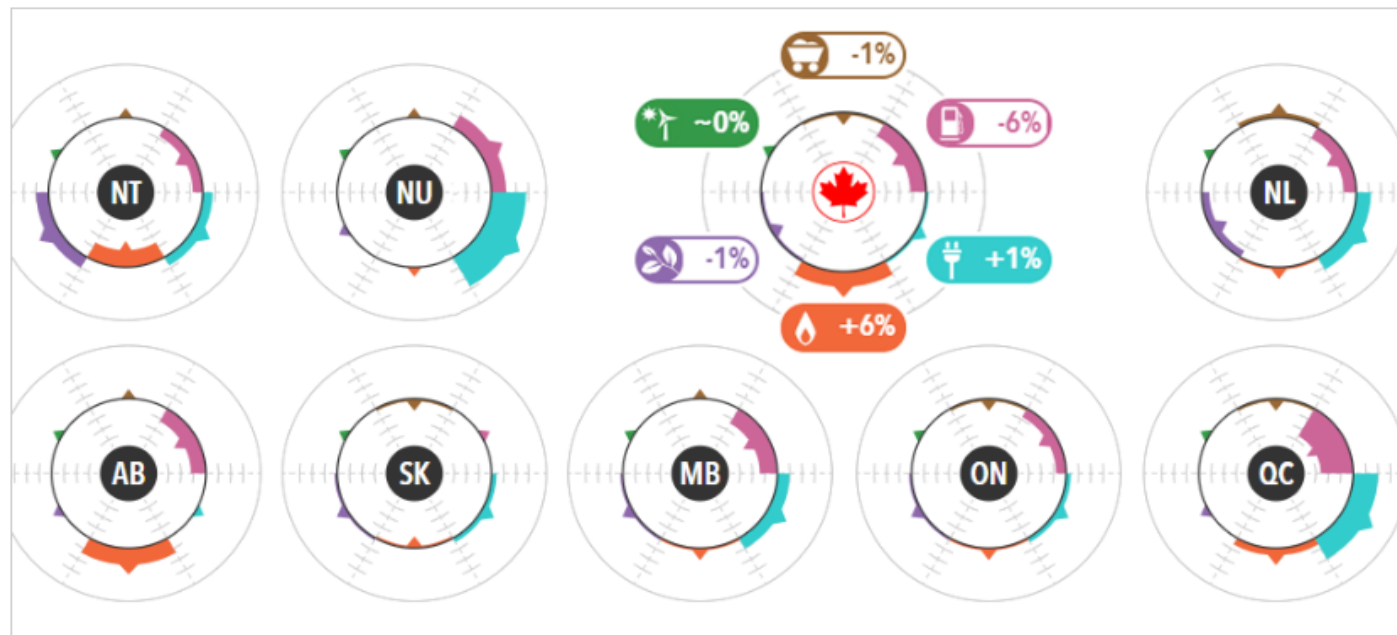
# EXPLORING CANADA'S ENERGY FUTURE

Energy is important to Canada. It heats our homes, fuels our vehicles, and is a key aspect of Canada's economy.

Based on data from our Energy Futures reports, this interactive tool allows you to explore energy production and consumption trends and forecast them into the future. You can explore the data from the most recent report, or refer to previous reports.

[Methodology](#)

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# Canada Energy Regulator

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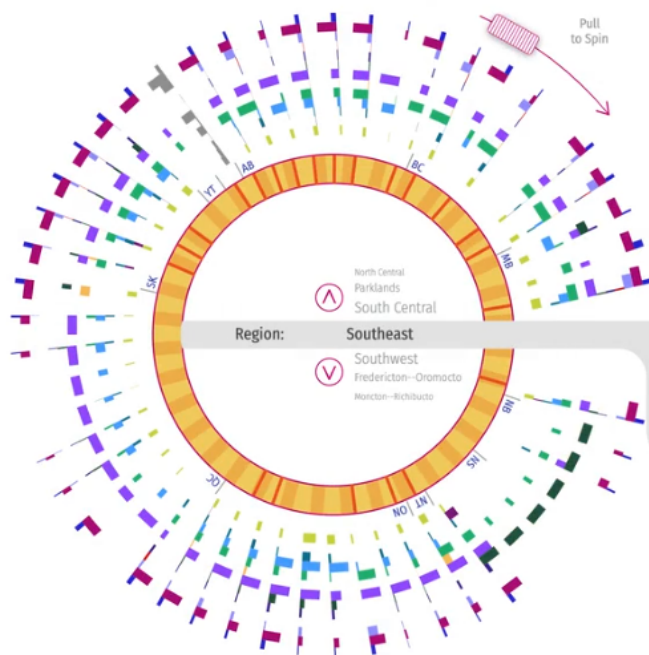
Home → Safety & Environment → Compliance and Enforcement → Conditions

Find Words  Filter

Showing In Progress projects from 2010 - 2019  
Highlighting conditions containing:  
**habitat**



Manitoba



Pull to Spin

Region: **Southeast**  
 North Central  
 Parklands  
 South Central  
 Southwest  
 Fredericton-Oromocto  
 Moncton-Richibucto

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Feature **Theme** ▾

- Administrative
- Damage Prevention
- Emergency Management
- Enforcement
- Environmental Protection
- Financial
- Integrity Management
- Management System
- Safety Management
- Security
- Socio-Economic
- Standard Condition
- Sunset Clause

Total Conditions for Selected Region



**Companies in Selected Region:**  
 Select a company and return to company wheel  
 Centra Transmission Holdings Inc.  
 TransCanada PipeLines Limited

**Conditions in Selected Region:**  
 5 Instruments    19 Conditions

- SG-C293-002-2012
- SG-T211-003-2013
- XG-T211-035-2015
- XG-T211-019-2016

Effective Date: 2016-07-15

Instrument #: [XG-T211-019-2016](#)  
 Condition #: 1

Text: TransCanada shall comply with all of the conditions contained in this Order unless the Board otherwise directs.



# Learnings to date

Committing  
resources

Acquiring new  
skills

Thinking  
differently



More effective lifecycle  
oversight



Data driven decisions



Efficiencies and global  
competitiveness



Better information &  
enhanced engagement



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