



National Energy
Board



Office national
de l'énergie

Energy Data Management at the National Energy Board

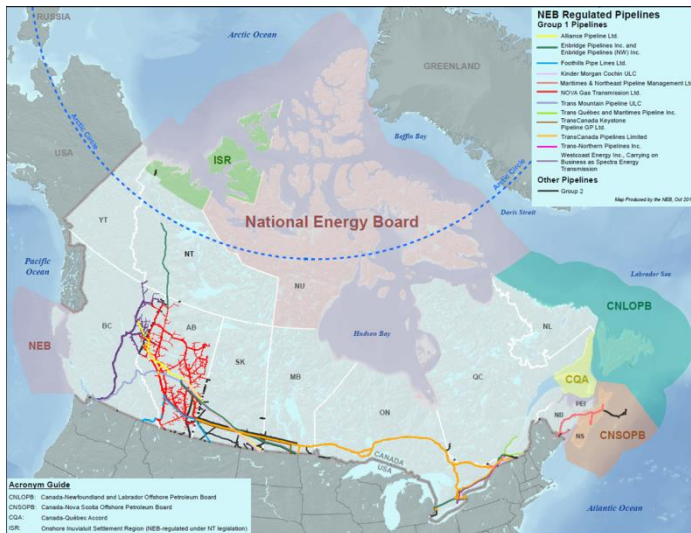
Presentation for:
Workshop on Energy Databases
June 17/18, 2015

Matthew Hansen
Market Analyst, Strategy and Analysis
Matthew.Hansen@neb-one.gc.ca

About the National Energy Board

An independent quasi-judicial regulatory tribunal established in 1959.

Regulates pipelines, power lines, energy development, and energy trade in the Canadian public interest



NEB regulated pipelines



The NEB's office in Calgary, Alberta



National Energy Board

Office national de l'énergie

Canada

What data does the NEB collect?

Energy Market Statistics

- Imports
- Exports
- Other Trade Data

Regulatory & Operational Statistics

- Pipeline Incidents
- Non-compliance
- Information on regulatory applications

Frontier Statistics

- Production
- Exploration (Drilling and Seismic Activity)



In Canada, energy statistics come from a variety of sources

Federal

Statistics Canada

Other Government
Departments

National Energy
Board

Provinces and Territories

Government Energy
Departments

Other Government
Departments

Provincial
Regulators

Other

Energy Industry

Other Institutions

International
Sources



National Energy
Board

Office national
de l'énergie

Canada

What does the NEB do with the data?

- Publish statistics and reports on its website
- Uses them internally for operational purposes
- Support the NEB's strategic priorities:

Taking action
on pipeline
safety and
environmental
protection

Engaging with
Canadians

Leading
regulatory
excellence



National Energy
Board

Office national
de l'énergie

Canada

Safety Performance Portal

Interactive Incident Map shows incident location by year, type

Dashboard highlights key incident statistics and charts

Figure 1: Total Number of Events Resulting in Reportable Incidents 2008 - Jan-Mar 2015

Year	Total Number of Events
2008	90
2009	78
2010	110
2011	99
2012	155
2013	131
2014	75
Jan-Mar 2015	17

Figure 2: Total Number of Events Resulting in Reportable Incidents 2015

Incident Type	Number of Incidents
A - Gas Releases	43
B - Fires	9
C - Explosions	16
D - Spill/Leaks	3
E - High-Pressure Release	0
F - Effects on the Environment	2
G - Radiation	0
H - Liquid Releases	7
I - Operation Beyond Design Limits (OBDL)	4
Jan-Mar 2015	17

Figure 3: Number of Serious Injuries 2008 - Jan-Mar 2015

Year	Number of Serious Injuries
2008	3
2009	5
2010	1
2011	1
2012	9
2013	2
2014	2
Jan-Mar 2015	0

Figure 4: Number of Fatalities, 2008 - Jan-Mar 2015

Year	Number of Fatalities
2008	2
2009	0
2010	0
2011	3
2012	0
2013	1
2014	0
Jan-Mar 2015	0



National Energy Board

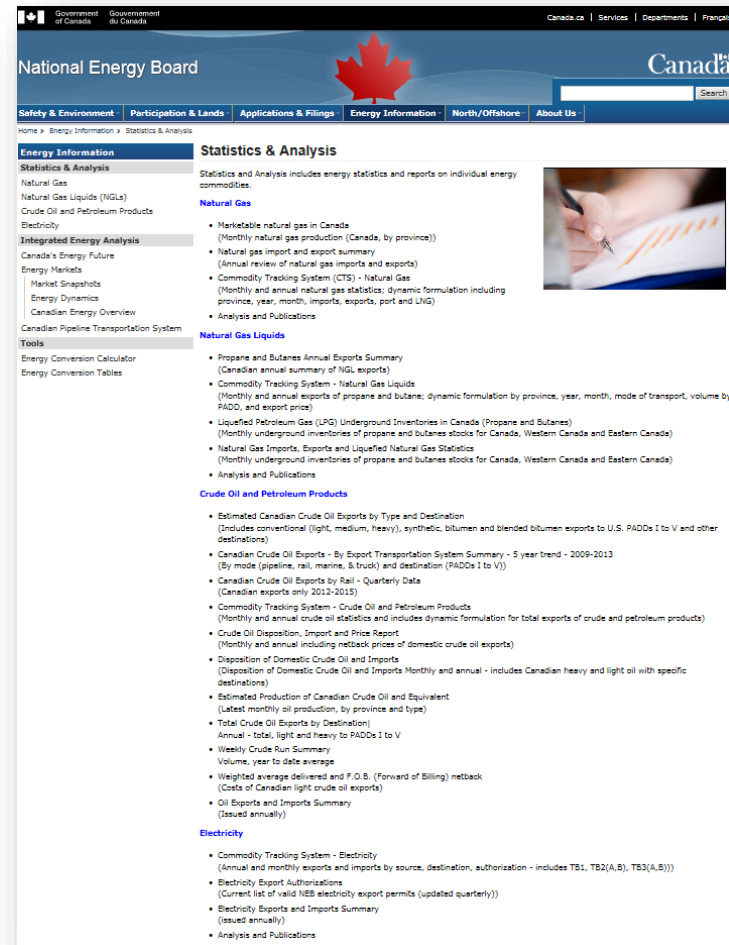
Office national de l'énergie



Statistical Tables

Data tables on key statistics can be downloaded from the website

- By energy commodity:
 - Natural gas
 - Natural gas liquids
 - Crude oil and Petroleum Products
 - Electricity
- Available in a variety of formats
 - HTML
 - PDF
 - Excel



The screenshot shows the National Energy Board website's 'Statistics & Analysis' page. The page is organized into several sections with bullet points listing various data tables and reports available for download. The sections include:

- Natural Gas**
 - Marketable natural gas in Canada (Monthly natural gas production (Canada, by province))
 - Natural gas import and export summary (Annual review of natural gas imports and exports)
 - Commodity Tracking System (CTS) - Natural Gas (Monthly and annual natural gas statistics; dynamic formulation including province, year, month, imports, exports, port and LNG)
 - Analysis and Publications
- Natural Gas Liquids**
 - Propane and Butanes Annual Exports Summary (Canadian annual summary of NGL exports)
 - Commodity Tracking System - Natural Gas Liquids (Monthly and annual exports of propane and butane; dynamic formulation by province, year, month, mode of transport, volume by PADD, and export price)
 - Liquefied Petroleum Gas (LPG) Underground Inventories in Canada (Propane and Butanes) (Monthly underground inventories of propane and butanes stocks for Canada, Western Canada and Eastern Canada)
 - Natural Gas Imports, Exports and Liquefied Natural Gas Statistics (Monthly underground inventories of propane and butanes stocks for Canada, Western Canada and Eastern Canada)
 - Analysis and Publications
- Crude Oil and Petroleum Products**
 - Estimated Canadian Crude Oil Exports by Type and Destination (Includes conventional (light, medium, heavy), synthetic, bitumen and blended bitumen exports to U.S. PADDs I to V and other destinations)
 - Canadian Crude Oil Exports - By Export Transportation System Summary - 5 year trend - 2009-2013 (By mode (pipeline, rail, marine, & truck) and destination (PADDs I to V))
 - Canadian Crude Oil Exports by Rail - Quarterly Data (Canadian exports only 2012-2015)
 - Commodity Tracking System - Crude Oil and Petroleum Products (Monthly and annual crude oil statistics and includes dynamic formulation for total exports of crude and petroleum products)
 - Crude Oil Disposition, Import and Price Report (Monthly and annual including netback prices of domestic crude oil exports)
 - Disposition of Domestic Crude Oil and Imports (Disposition of Domestic Crude Oil and Imports Monthly and annual - includes Canadian heavy and light oil with specific destinations)
 - Estimated Production of Canadian Crude Oil and Equivalent (Latest monthly oil production, by province and type)
 - Total Crude Oil Exports by Destination (Annual - total, light and heavy to PADDs I to V)
 - Weekly Crude Run Summary (Volume, year to date average)
 - Weighted average delivered and F.O.B. (Forward of Billing) netback (Costs of Canadian light crude oil exports)
 - Oil Exports and Imports Summary (Issued annually)
- Electricity**
 - Commodity Tracking System - Electricity (Annual and monthly reports and imports by source, destination, authorization - includes TB1, TB2(A,B), TB3(A,B))
 - Electricity Export Authorizations (Current list of valid NEB electricity export permits (updated quarterly))
 - Electricity Exports and Imports Summary (Issued annually)
 - Analysis and Publications



National Energy Board

Office national de l'énergie

Canada

Commodity Tracking System

- Electronic web portal to simplify completion of monthly reporting requirements
- Allows users to access statistical reports in a dynamic framework
 - Statistics available by energy type, desired statistic, year, output format, units

The screenshot shows the National Energy Board's website interface. At the top, there is a navigation bar with the Government of Canada logo and text in both English and French. Below this is the National Energy Board logo and a search bar. The main content area is titled "Commodity Statistics" and features a sidebar with navigation options such as "Energy Information", "Statistics & Analysis", "Integrated Energy Analysis", and "Tools". The main content area includes a section for selecting a commodity (Natural Gas and LNG, Crude Oil and Refined Petroleum Products, or Electricity) and a section for selecting a report to display (e.g., "Gas & LNG - Historical Chart of Volumes"). There are also input fields for "Start Year" (set to 2005) and "Format" (set to PDF), along with a "View" button. At the bottom, there is contact information for the Regulatory Information and Analysis Team and links to "Commodity Forms Help" and "First Time User Guide".



National Energy Board

Office national de l'énergie

Canada

Energy Information Products

- Cover a wide range of areas
 - Resource Assessments
 - Energy Market Overview
 - Projections
- Utilize statistics collected by the NEB, as well as others



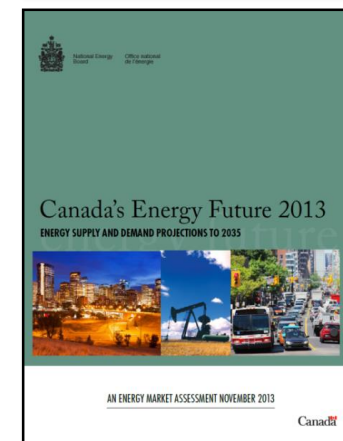
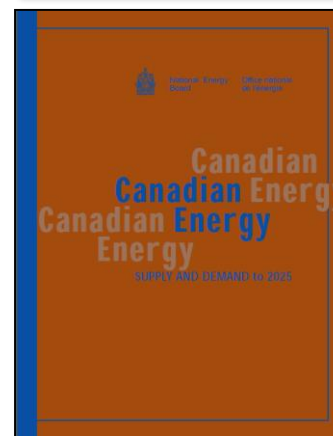
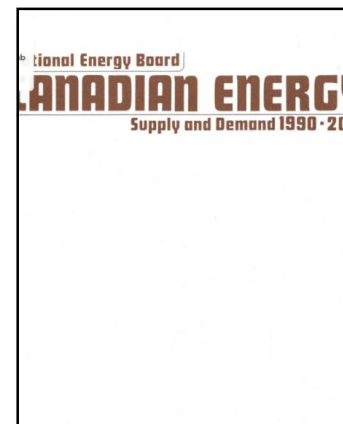
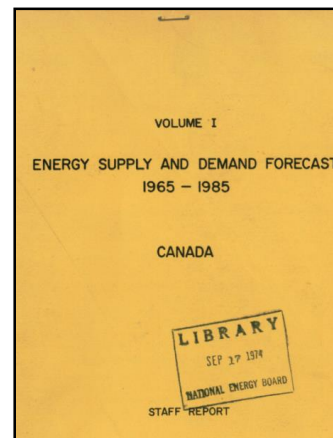
National Energy
Board

Office national
de l'énergie

Canada

Canada's Energy Future

- Flagship energy information product
- Long term projection of energy supply and demand for:
 - All provinces and territories
 - All energy commodities
 - All sectors
- Published since 1967, currently released every two years
- Includes a very large statistical appendix



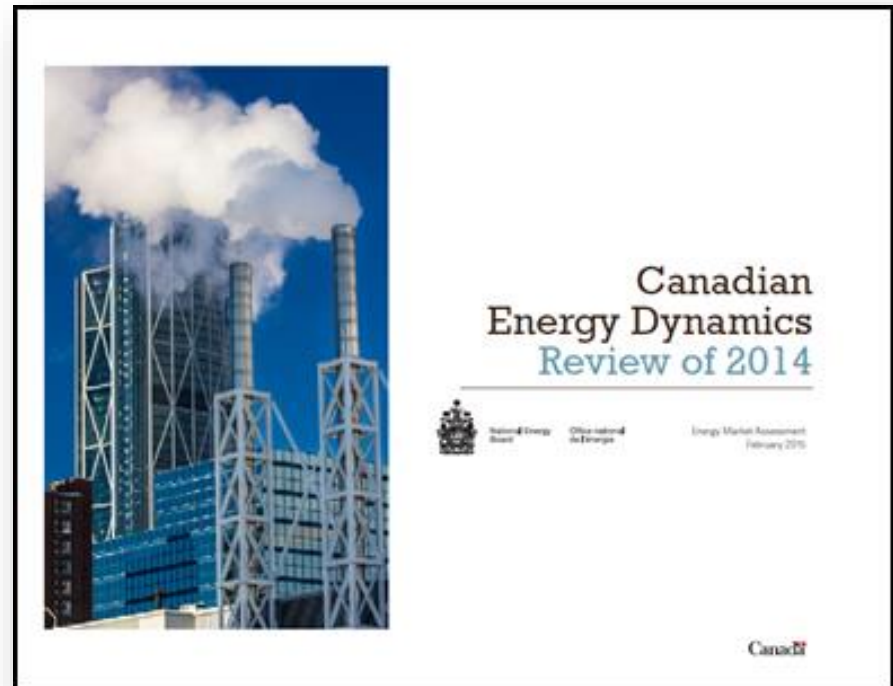
National Energy Board

Office national de l'énergie

Canada

Canadian Energy Dynamics

- Annual publication covering important trends in Canadian energy for the previous year
 - By energy type
 - By region
- Detailed data review found in the *Canadian Energy Overview*



National Energy
Board

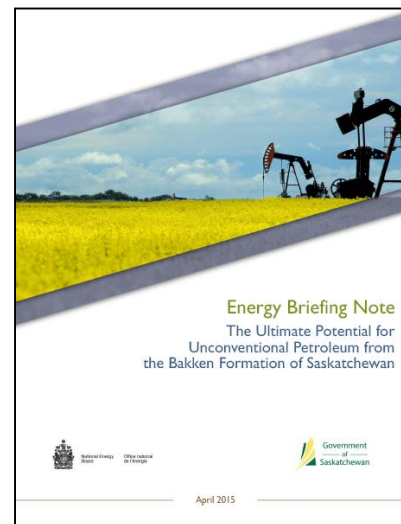
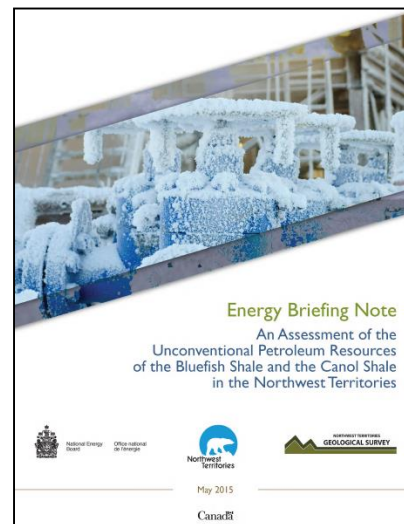
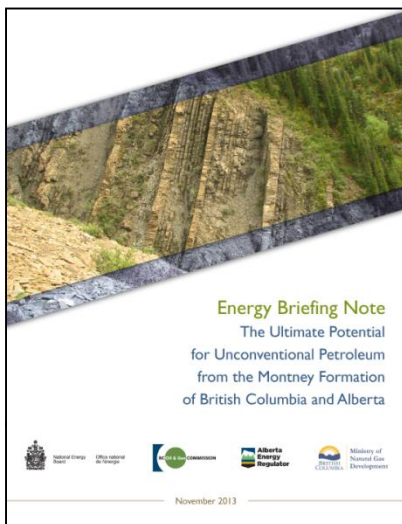
Office national
de l'énergie

Canada

Energy Supply Reports

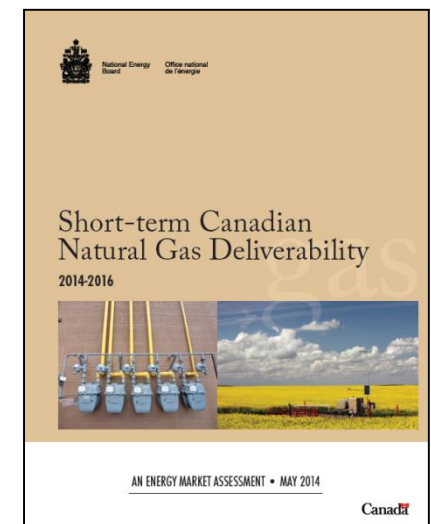
Resource Assessments

- Assessments of various resource plays
- Done in collaboration with Province/Territory governments/regulators



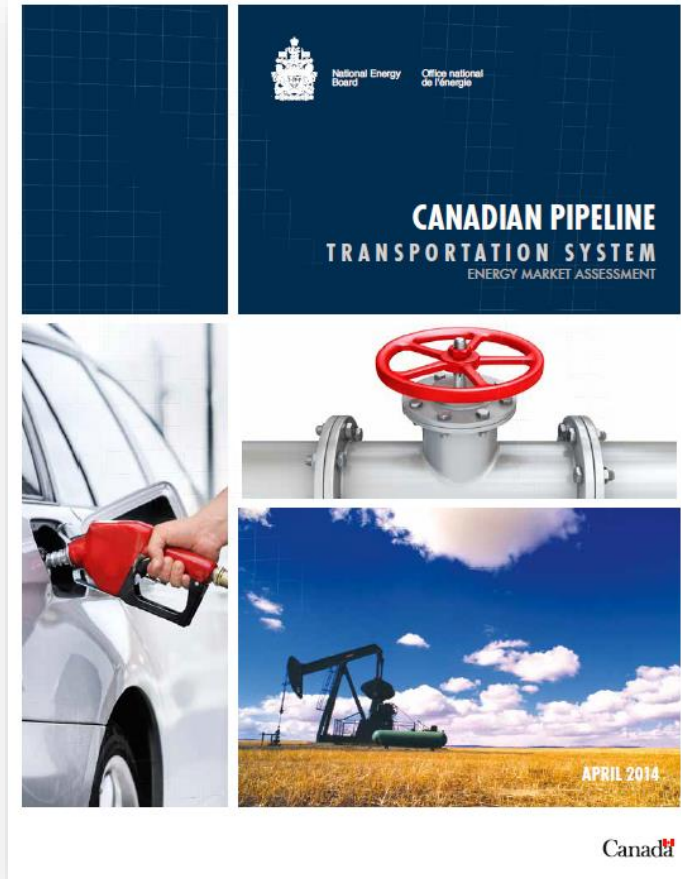
Deliverability Report

- Annual, short-term projections of natural gas production
- Oil Deliverability coming this year



Canadian Pipeline Transportation System Report

- Overview of NEB regulated pipelines at a specific point in time
 - Capacity
 - Utilization
 - Tolls
 - Settlements
 - Toll Proceedings
 - Complaints
 - Financial Integrity



National Energy Board

Office national de l'énergie

Canada

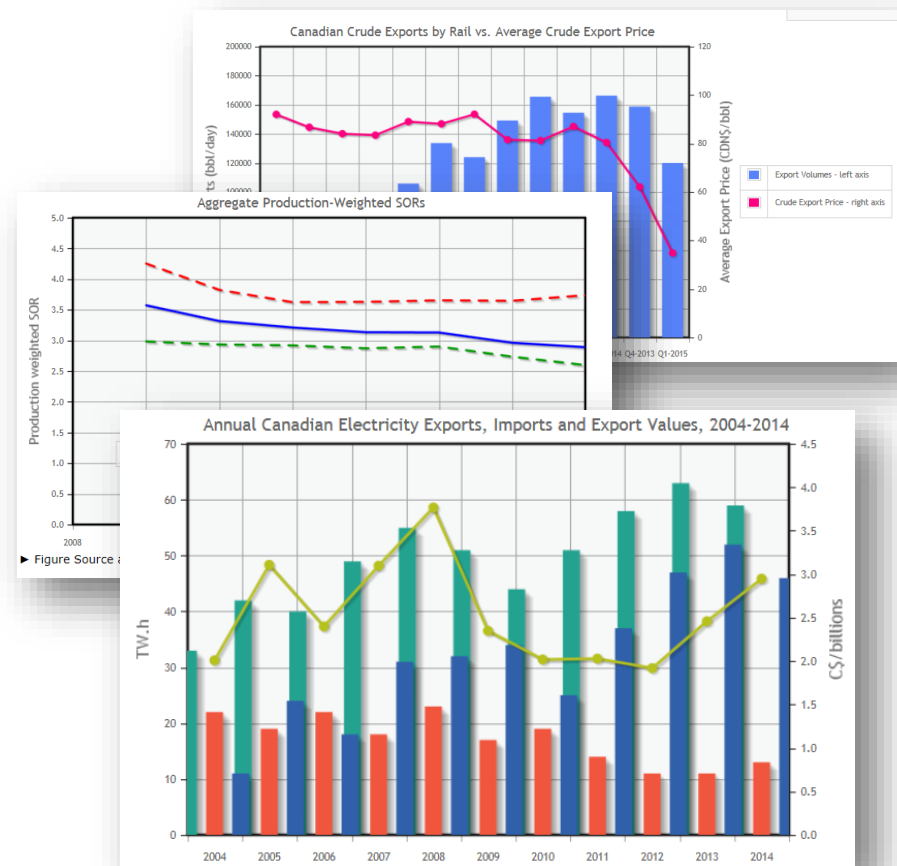
Market Snapshots

- Short overview of a given energy topic
- Provides topical energy information to Canadians
- Several snapshots highlight NEB-collected data



National Energy Board

Office national de l'énergie



Canada

How is the NEB improving its data?

Quantity

- Collect and publish new data
- Increasing demands for data to be made available faster

Quality

- Verification
- Collaboration with other statistical agencies

Consistency

- Definitions
- Data
- Within Canada and internationally



Regulatory Information Analysis Team

- Provides a centralized source of data related to the business of the Board and helps demonstrate how the NEB meets its goals.
- Provides efficient, accurate and consistent responses to requests for data and information.
- Conducts analysis of historical trends and patterns and generates reports that assist in business operations.
- Promoting transparency of information and data by making information available to the public using current technology.



National Energy
Board

Office national
de l'énergie

Canada 

Canada/U.S./Mexico Trilateral:

- Consultation and collaboration on North American energy information
- Four areas of cooperation:

Export/Import Data

- Comparing
- Validating
- Improving

Geospatial

- Sharing geospatial information on energy infrastructure

Projected Energy Flows

- Comparison of energy outlooks

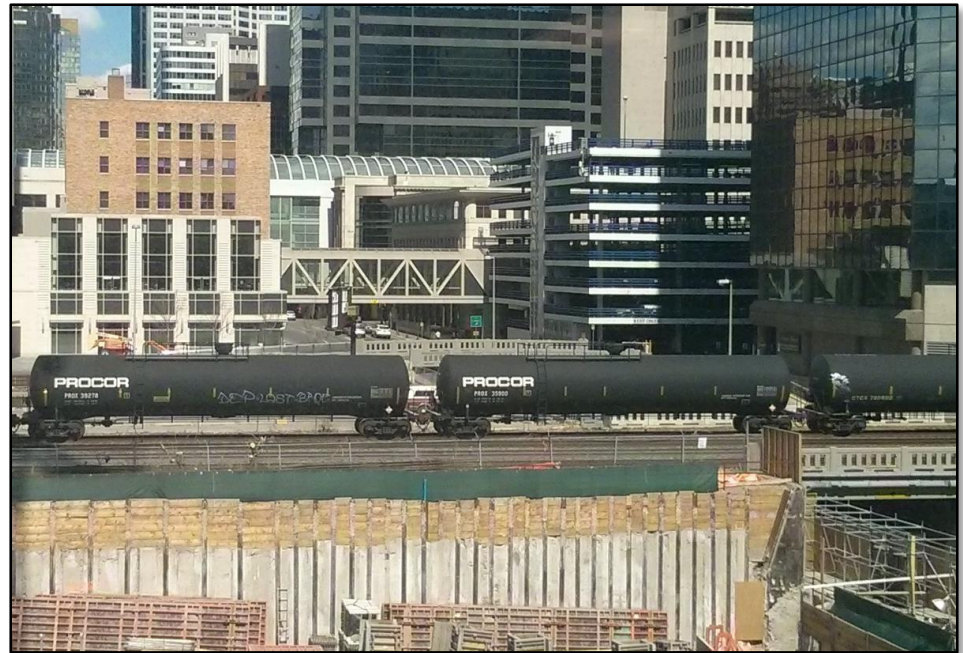
Energy Definitions

- Understand differences in definitions and concepts related to energy



Collaboration with U.S. Energy Information Administration

- Quarterly Conference Calls
 - Data
 - Information products
 - New releases
- Work together on data issues
 - For example, crude by rail



Rail cars carrying crude oil outside the NEB offices in Calgary



National Energy
Board

Office national
de l'énergie

Canada

Conclusion

- ✓ Energy data is important to the NEB, and has a big role to play in the future.
- ✓ There is room for improvement.
- ✓ Some of the improvements we are making are through participation in international forums such as this one.



National Energy
Board

Office national
de l'énergie

Canada