



YPAC

CONNECTING PIPELINERS

Pipeline Regulatory Framework in Alberta



**Alberta
Energy
Regulator**



YPAC

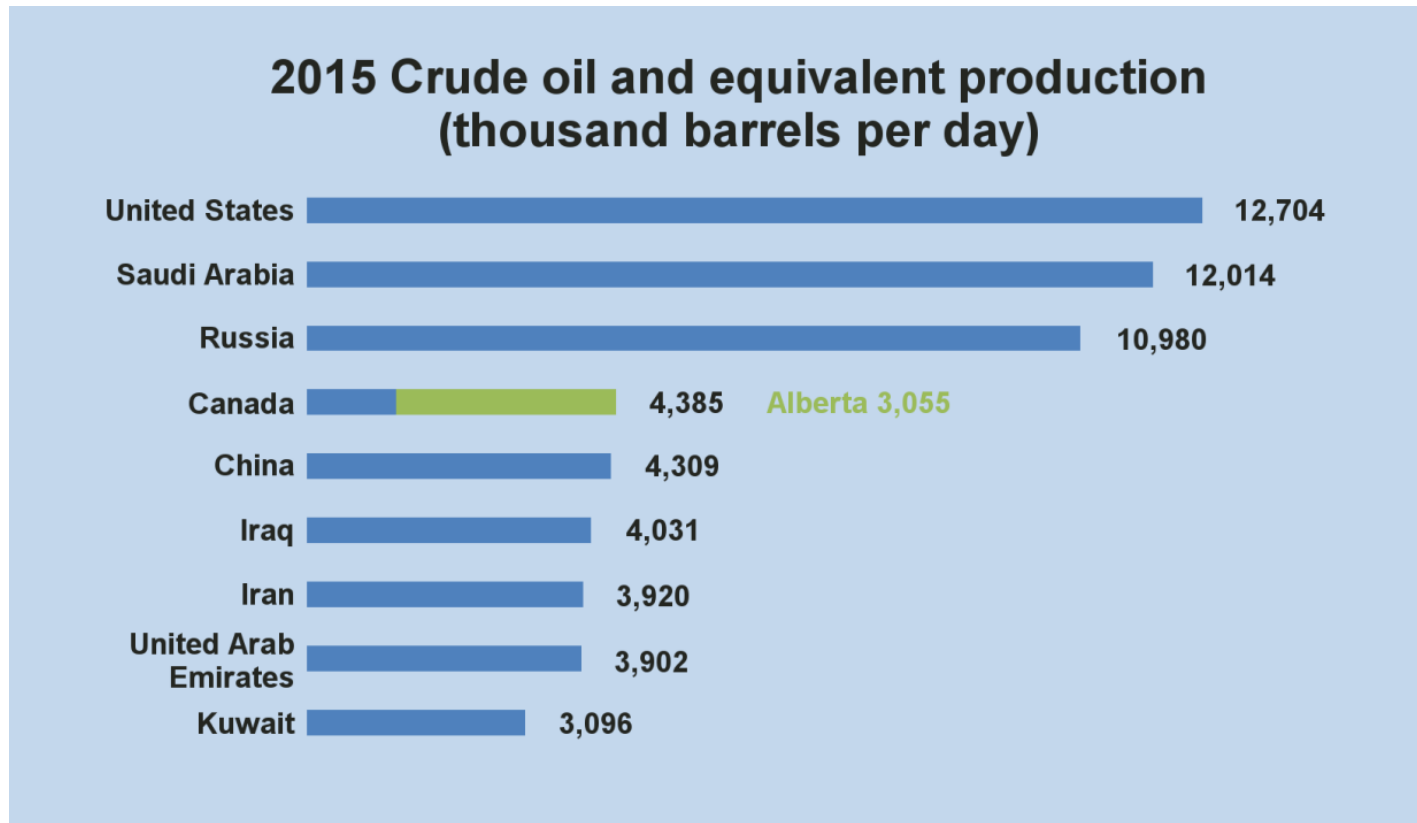
YOUNG PIPELINERS ASSOCIATION OF CANADA

Outline

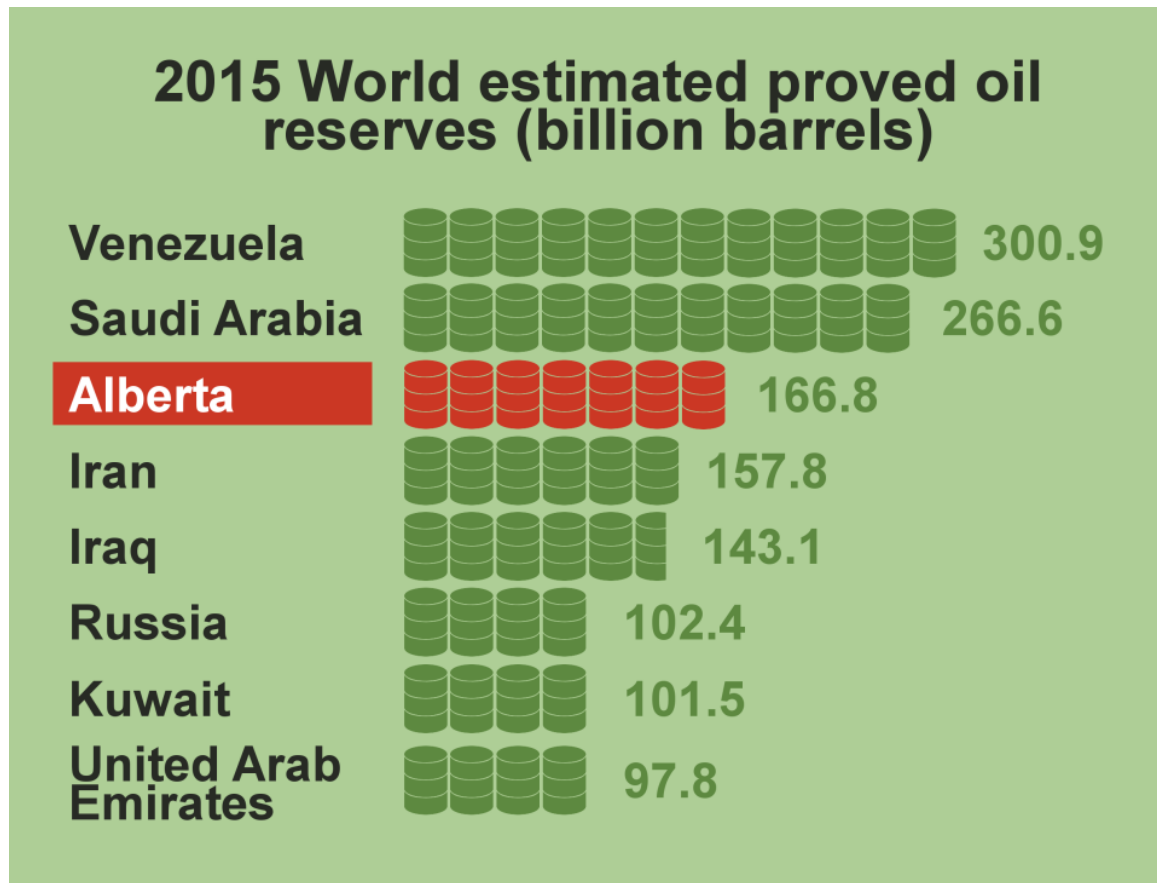
- › Energy Context
- › Regulatory Jurisdiction
- › About the Alberta Energy Regulator (AER)
- › AER Initiatives



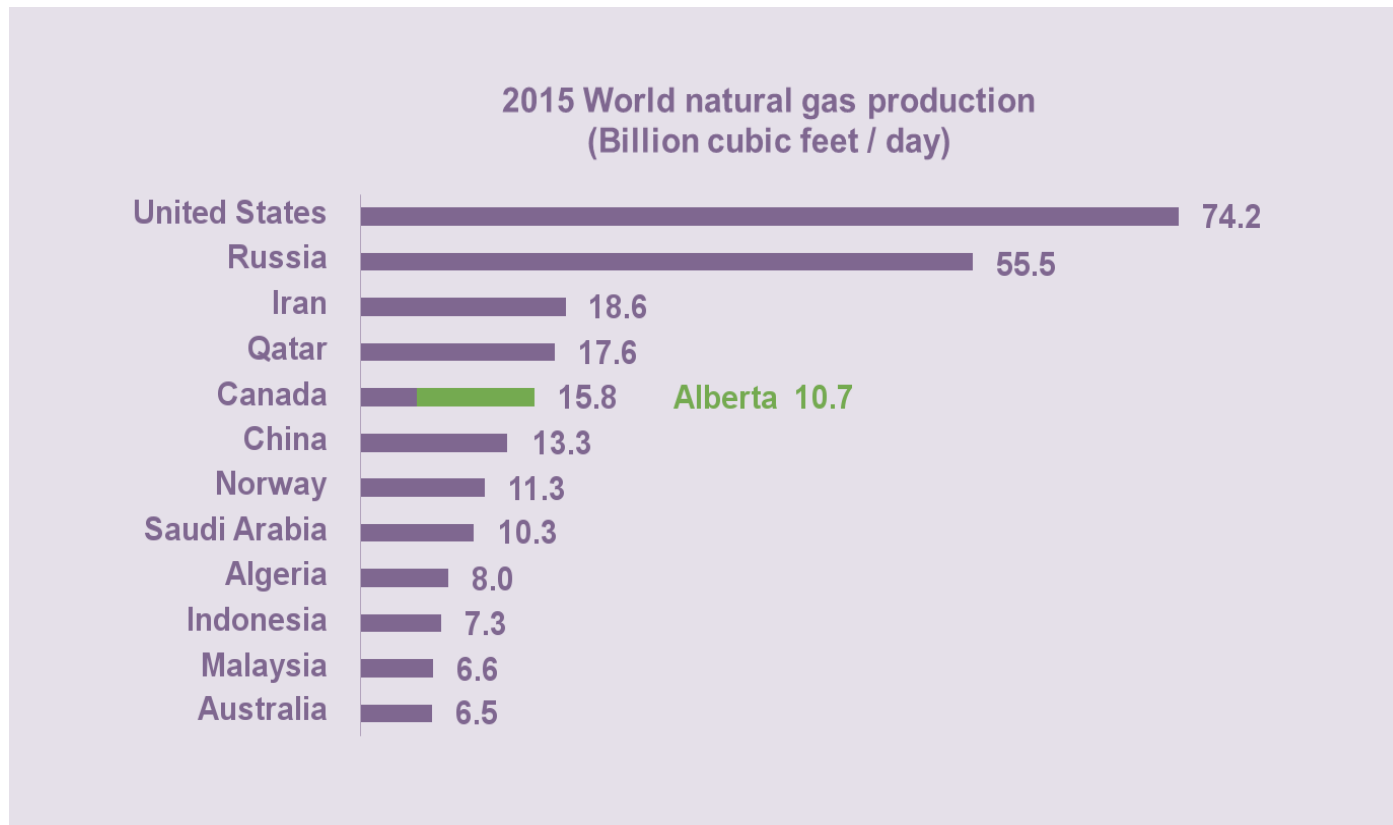
Canada In World Context



Canada In World Context cont'd



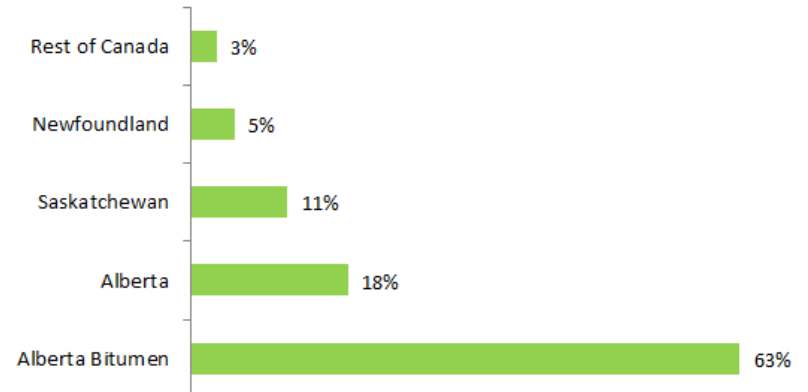
Canada In World Context cont'd



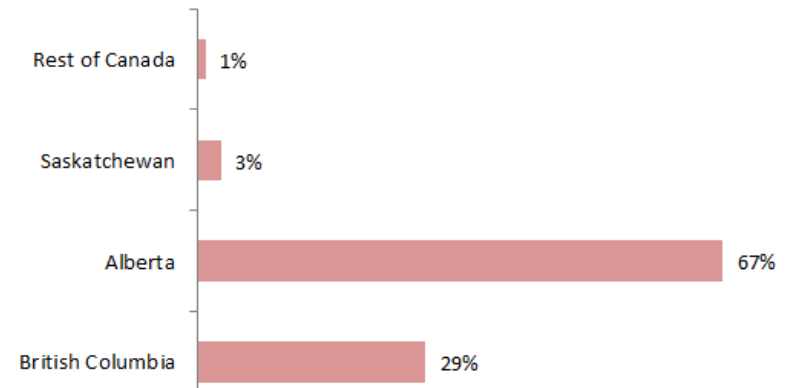
Alberta in Canadian Context



Oil & Equivalent Percentage of Production - Canada



Marketable Natural Gas Percentage of Production - Canada



Government Jurisdiction

Provincial Government

- Ownership of energy resources
- Steward of energy and mineral resources and development
- Development of energy policy
- Royalties and taxes
- Energy regulation

Federal Government

- Interprovincial/international pipelines (National Energy Board)
- Navigable waters/frontier lands
- Species at risk/fisheries/
- Federal energy and environment issues
- First Nation lands

Pipeline Regulators

› National Energy Board

- Interprovincial or international pipelines
- Majority transmission pipelines (large diameter and high pressure)



› Alberta Utilities Board

- Low-pressure gas distribution networks (<700 kPa)



› Alberta Energy Regulator

- Pipelines related to oil and gas development within province
- Majority small diameter gathering pipelines



Pipeline Inventory (2017)

Pipeline length

- 422,682 km total length
- 311,537 km operating
- 61001 km discontinued
- 50144 km abandoned

Pipeline diameter (op)

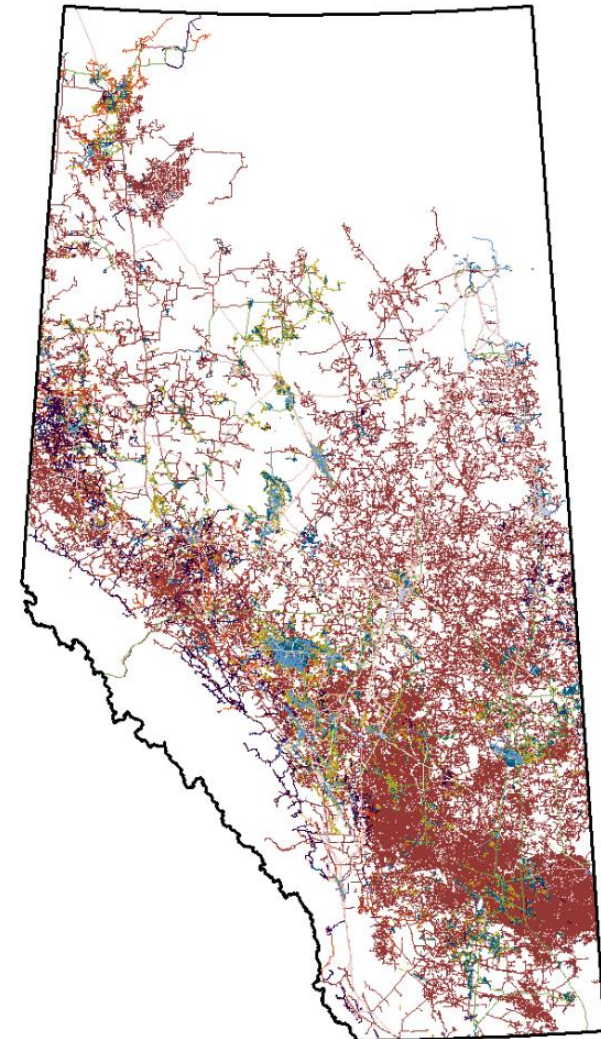
- 64% < 168.3 mm
- 28% 168.3 to 273.1 mm
- 8% > 273.1 mm

Pipeline material (op)

- 84% Steel
- 9% Polyethylene
- 3% Composite
- 2% Aluminum
- 1.8% fiberglass

Pipeline licensed product (op)

- 62% Natural gas
- 12% Oil effluent
- 5% sour gas
- 5% fuel gas
- 4.7% crude oil
- 3.5% saltwater



The Alberta Energy Regulator

Mandate:

- › To ensure the safe, efficient, orderly, and environmentally responsible development of hydrocarbon resources over their entire life cycle.
- › This includes allocating and conserving water resources, managing public lands, and protecting the environment while providing economic benefits for all Albertans.



Pipeline Enactments

» *Pipeline Act*

» *Pipeline Rules*

» *Pipeline Rules*

- *Canadian Standards Association Z662*
- *Directive 077*
- *Directive 056*

» *Water Act*

» *Environmental Protection and Enhancement Act*

» *Public Lands Act*

CSA Z662

› Canadian Standards Association (CSA Group)

- Provider of testing, inspection, certification services and standards development.

› Z662-15: Oil and Gas Pipeline Systems

- Standard covers design, construction, operation, maintenance, deactivation, and abandonment of oil and gas industry pipelines that convey liquid hydrocarbon, oilfield water, gas.

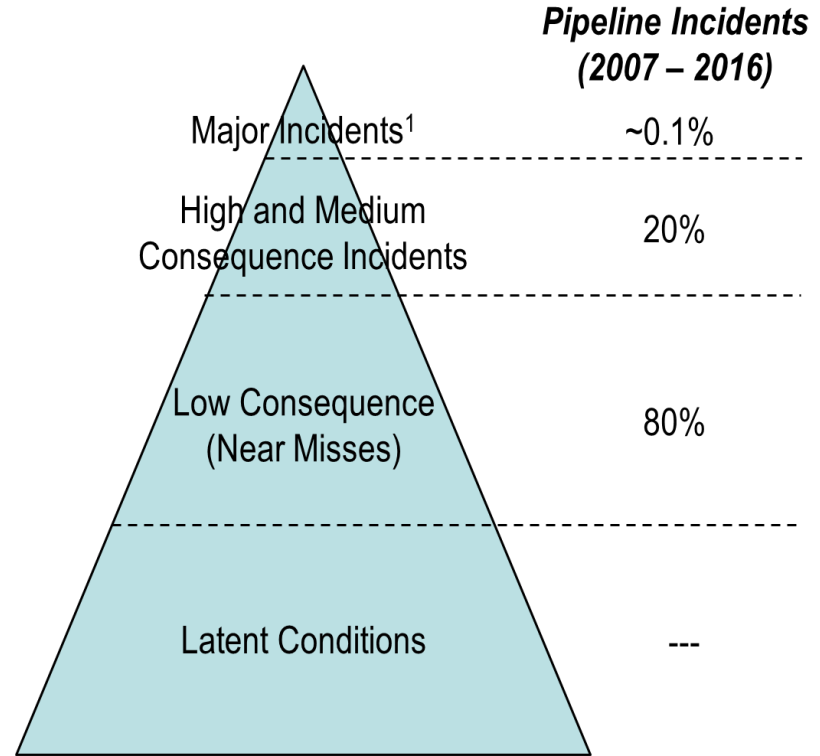
› Safety and Loss Management System (SLMS)

› Integrity Management Program (IMP)



Safety and Loss Management System

» Is a systematic, comprehensive, and proactive process for the management of safety and loss control associated with activities throughout the life cycle of a pipelines.



¹ Approximate as "Major Incidents" not defined...

Safety and Loss Management System

» Elements include:

- Clearly articulated policy and leadership commitment
- Organizational structure w/ well defined responsibilities
- Process for management of resources
- Int/ext communication process
- Document and records management process
- Operational controls
- Process for management of change
- Process of continual improvement

Surveillance and Enforcement

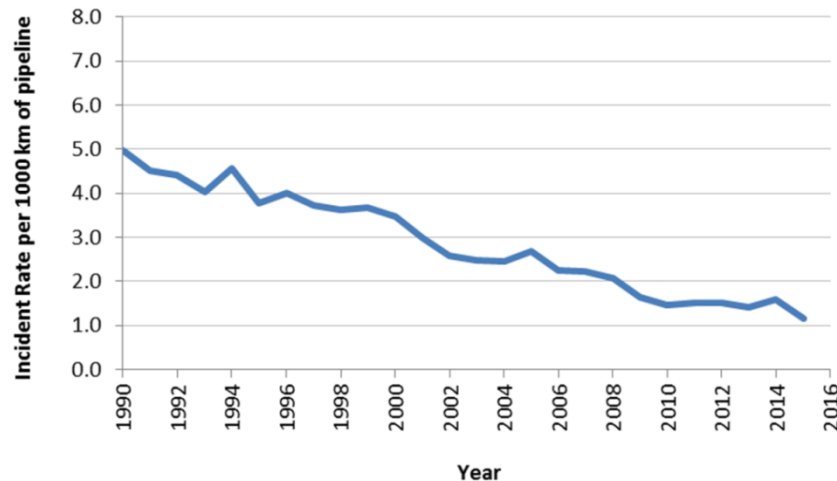
- › Inspections and audits
- › Detailed operations & construction inspections (proactive)
- › Incident inspections & reviews (reactive)
- › Manual 005: Pipeline
- › Notice of noncompliance
- › Noncompliance triage
- › assessment process
- › Investigation process
- › Enforcement tools

Pipeline Performance

- » *Pipeline Performance Report (issued February 2017)*
- » *Report 2013-B: Pipelines Performance in Alberta 1990-2012*
- » *Report 2007-A: Pipeline Performance in Alberta 1990-2005*

Pipeline Incident Rate for 1990 - 2015

(hits, leaks and ruptures, excludes pressure tests)



Regulatory Campaigns

» **AER Bulletin 2015-34**

- Described amendment to pipeline licence transfer application process to require written confirmation records have been transferred.
- Lessons learned from investigations/inspection findings (contributing factor).
- Intended to ensure transfer of records occurs before transfer approved.
- Outcome based as onus on industry to follow rules and manage risks.

Regulatory Campaigns cont'd

» **AER Bulletin 2016-22**

- Described importance of developing and maintaining an effective leak detection program.
- Lessons learned from investigations/inspection findings (contributing factor).
- AER recommended increase focus on pipeline systems monitoring and training.

Regulatory Campaigns cont'd

» **AER Bulletin 2017-08**

- Described implementation of AER's program to evaluate the effectiveness of SLMS.
- Lessons learned from investigations/inspection findings (contributing factor)
- Under program selected licences asked to complete self-assessment and declaration form to assist the AER in its evaluation of licensee's SLMS.

Integrated Decision Approach

- › The AER is building an integrated and risk-informed approach to energy development and regulation.
- › As part of this approach, the AER has implementing a new online process for pipeline licence applications.
- › More information about the AER's integrated decision approach can be found on AER.ca.

Pipeline Information

› **Product Catalogue**

- Base Plan Maps (GIS shape files)
- Reportable releases/pipelines hits data

› ***ST96: Pipeline Approval and Disposition Daily List***

› ***ST100: Pipeline Construction Notification List***

› **Compliance Dashboard**

- Incidents
- Investigations
- Compliance and enforcement