

**Commission for Environmental Cooperation  
Joint Public Advisory Panel  
Public Forum on  
Greening North America's Energy Economy**

***Earning & Maintaining Social License for  
the Upstream Oil and Gas Sector***

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# Introduction

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- **A brief diatribe...**

# Canadian Association of Petroleum Producers

## Mission Statement:

- To enhance the economic sustainability of the Canadian upstream petroleum industry in a safe and environmentally and socially responsible manner, through constructive engagement and communication with governments, the public and stakeholders in the communities in which we operate.
- Balancing the “3 ‘E’s” – Advancing environmental performance, economic growth, and energy and reliability to achieve balanced outcomes

# Industry Key Success Factors

- **Key success factors:**
  - Attract investment capital (supply & infrastructure)
  - Maintain / enhance support from stakeholders & public
- **Competitiveness**
  - Fiscal Process
  - Regulatory Process
  - Trade and Market Access
  - Workforce Availability
- **Social License = Performance + Communications**
  - Building trust with Communities and Stakeholders

# Industry Reputation / Social License – Framing the Issues

- **Local / Regional:**

- Environment (air, land, water, biodiversity impacts)
- Social (noise, dust, activity levels, impact on local services, infrastructure & wages, local benefits, employment, etc.)

*.....The primary focus of landowners, communities, many Aboriginal peoples, many in public.*

- **National / Global (first oil sands, now shale gas):**

- Global climate change
- Oil and gas infrastructure
- Role of fossil fuels in future energy system

*.....The primary focus of most ENGOs, some in the public.*

# Industry Reputation / Social License – Key Elements

## *Performance + Communication*

### ● **Performance**

- Continuous environmental & social performance improvement (across the value chain).....including monitoring, timely & transparent reporting:
  - Technology is the key lever.
  - Industry operating practices.....to raise bar on industry performance.
- Solutions-oriented advocacy for balanced policy.
- Robust & credible regulatory framework.
- Science-based monitoring, 3<sup>rd</sup> party validation, transparent reporting.

### ● **Communications & Outreach:**

- Messaging – balanced, fact-based, emotive, solutions – oriented, “high road”.
- Delivery – diversity of mediums, approaches, spokespersons.
- Strong focus on outreach / engagement – local / regional / national.
- Grounded in performance improvement.

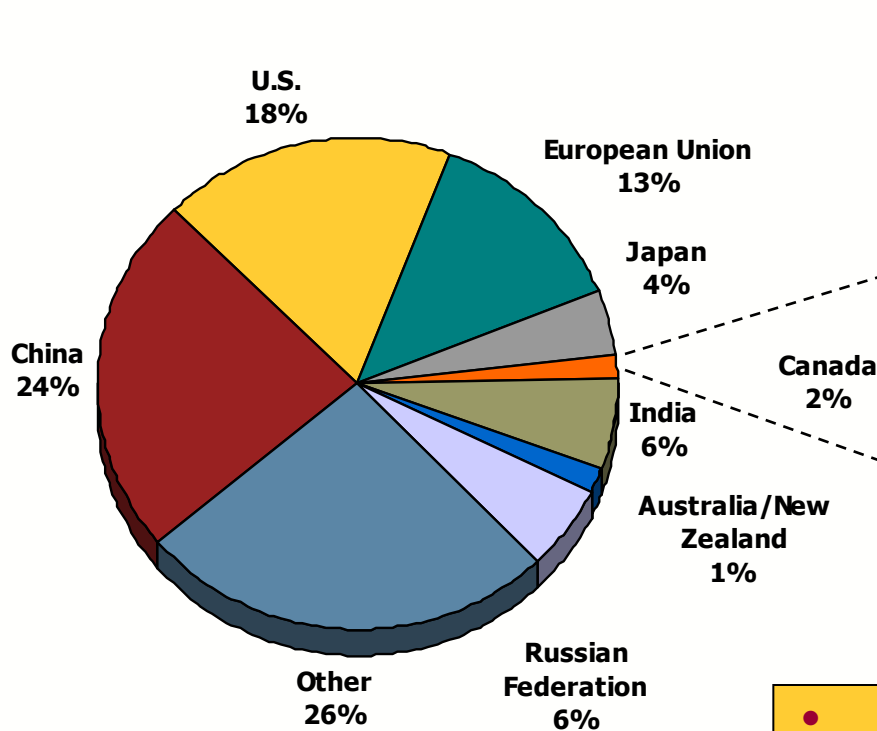
# Responsible Canadian Energy Program

- **Responsible Canadian Energy represents a collective commitment by CAPP's members to:**
  - Measure our performance
  - Find new and innovative approaches to reduce our environmental footprint
  - Ensure every worker returns home safely every day
  - Continue to improve the ways in which we communicate and engage the public and other stakeholders;Resulting in continuous performance improvement

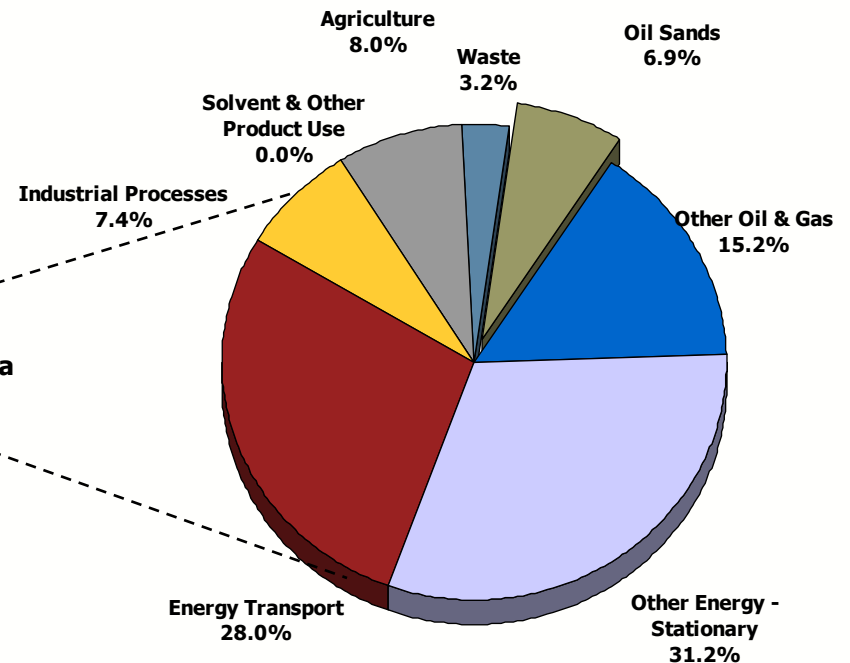


# Global GHG Emissions

## Global Emissions



## Canada's 2%

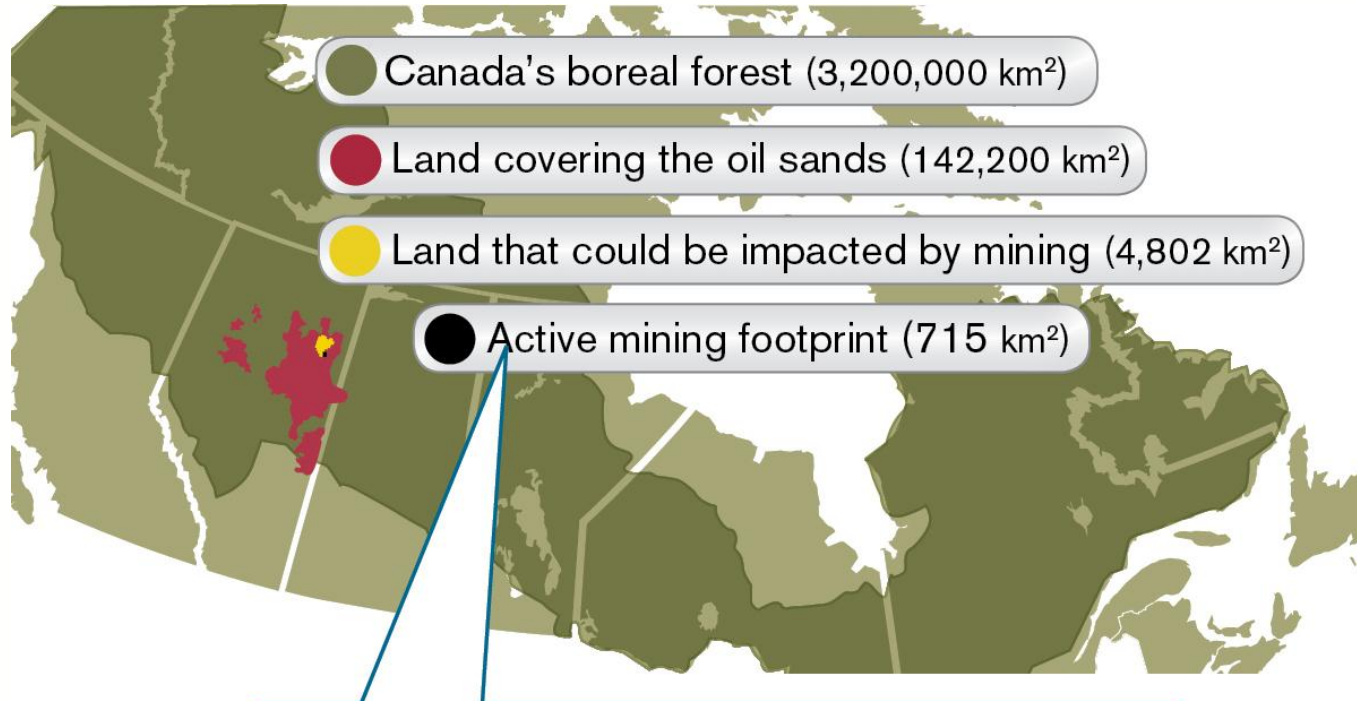


- GHG emissions from oil sands:**
  - just over 1/1000th of global GHG emissions
  - 6.9% of Canada's GHG emissions
  - 26% reduction in intensity from 1990

•Sources:  
 •1. United Nations Statistics Division (2008 Data)  
 •2. Environment Canada (2010 Data)



# •Land Use and Reclamation



## How big is 715 km<sup>2</sup>?

Area (km <sup>2</sup> )	City proper	Greater metropolitan
Shawinigan, Quebec	781	926
Lexington, Kentucky	734	3,828
Charlotte, North Carolina	771	8,119
Zagreb, Croatia	641	3,719

# Leveraging Technology and Innovation

- **Accelerating environmental technology & innovation in the oil sands:**

- Canadian Oil Sands Innovation Alliance (COSIA)
- Focus on water, tailings, land, GHGs

- **Alternatives to reduce the need for both water and energy (steam):**

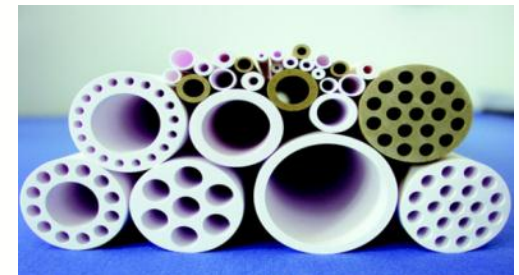
- Cogeneration – steam and electric power
- Solvent / steam injection
- Alternative well configurations for SAGD
- Reduce water temperature 80 to 35 degrees Celsius
- Electro-thermal technology
- Carbon Capture & Storage

- **Reducing water use, increasing water recycle:**

- Use of saline (non-fresh) water for steam
- Faster waste water recycle
- Water technology development centre



•Ceramic membranes for water treatment

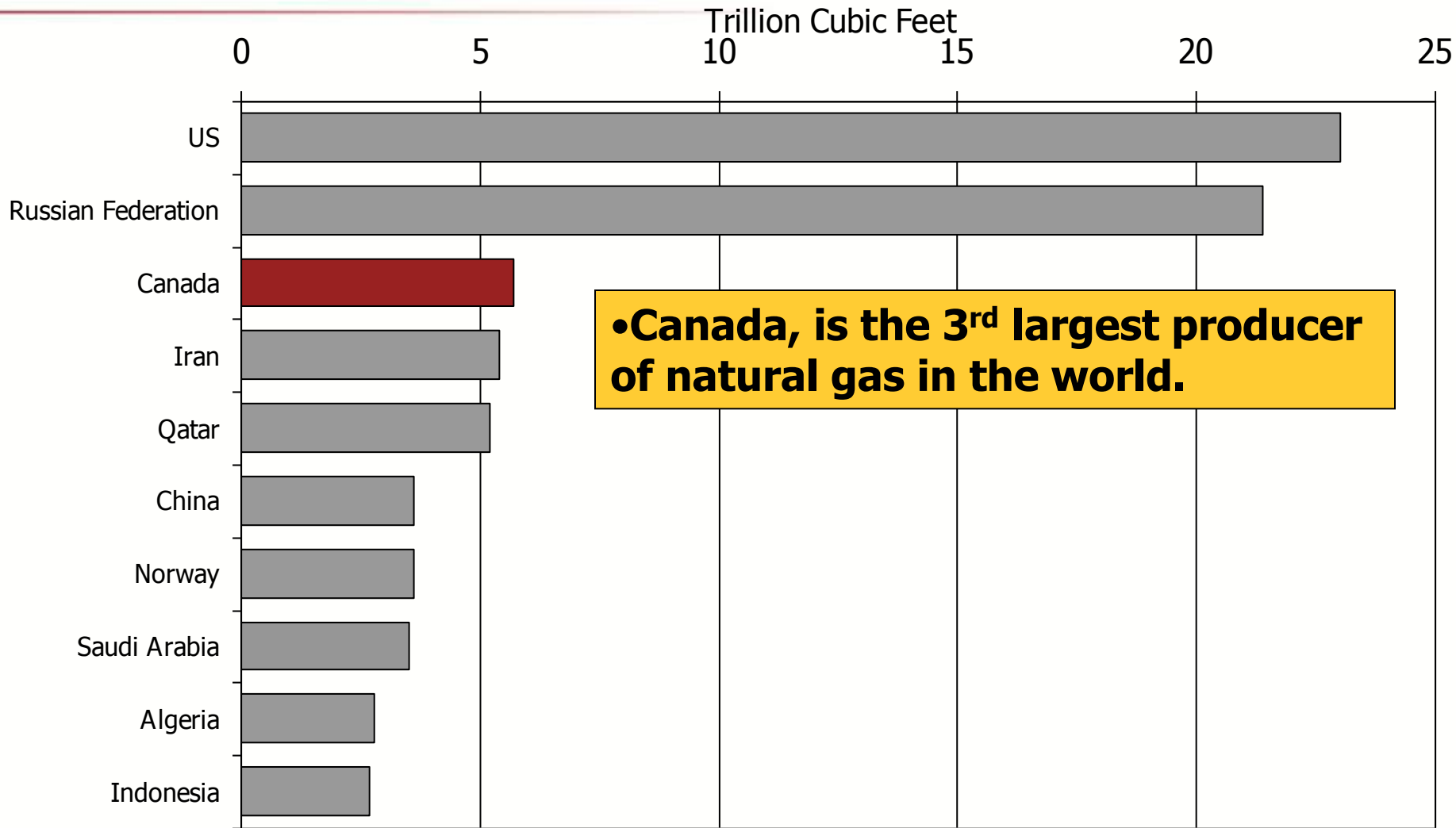


# N.A. Natural Gas Supply – The Opportunity

- Shale gas supply a game-changer.
- Technology breakthroughs.
- New producing regions.
- 100 years + supply.
- Market growth opportunities (power generation, transportation, LNG exports).



# Top 10 World Natural Gas Producers in 2011



• Source: BP Statistical Review 2012

# Public Perceptions About Shale Gas Development

- “Frac fluids contain dangerous chemicals that aren’t disclosed to public”

Disclosure

- “Fracking can have adverse effects on drinking water”

Water Quality

- “Fracking uses enormous amounts of water”

Water  
Quantity

- “Fracking & associated waste-water disposal cause earthquakes”

Seismicity



# Public Concerns About Shale Gas

- **People**
  - Health effects of hydraulic fracturing chemicals.
- **Land**
  - Surface footprint.
  - Induced seismicity.
  - Wildlife disruption.
- **Air**
  - Air quality during extraction, processing, delivery and end-use.
- **Water**
  - Groundwater contamination – migration of methane gases and fracturing chemicals.
  - Volumes of water used.
  - Handling and disposal of fluids.
- **GHGs**
  - Emissions from production & processing.



# CAPP Guiding Principles for Hydraulic Fracturing

1

***We will safeguard the quality and quantity of regional surface and groundwater resources, through sound wellbore construction practices, sourcing fresh water alternatives where appropriate, and recycling water for reuse as much as practical.***

2

***We will measure and disclose our water use with the goal of continuing to reduce our effect on the environment.***

3

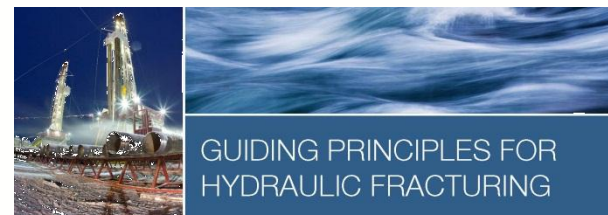
***We will support the development of fracturing fluid additives with the least environmental risks.***

4

***We will support the disclosure of fracturing fluid additives.***

5

***We will continue to advance, collaborate on and communicate technologies and best practices that reduce the potential environmental risks of hydraulic fracturing.***



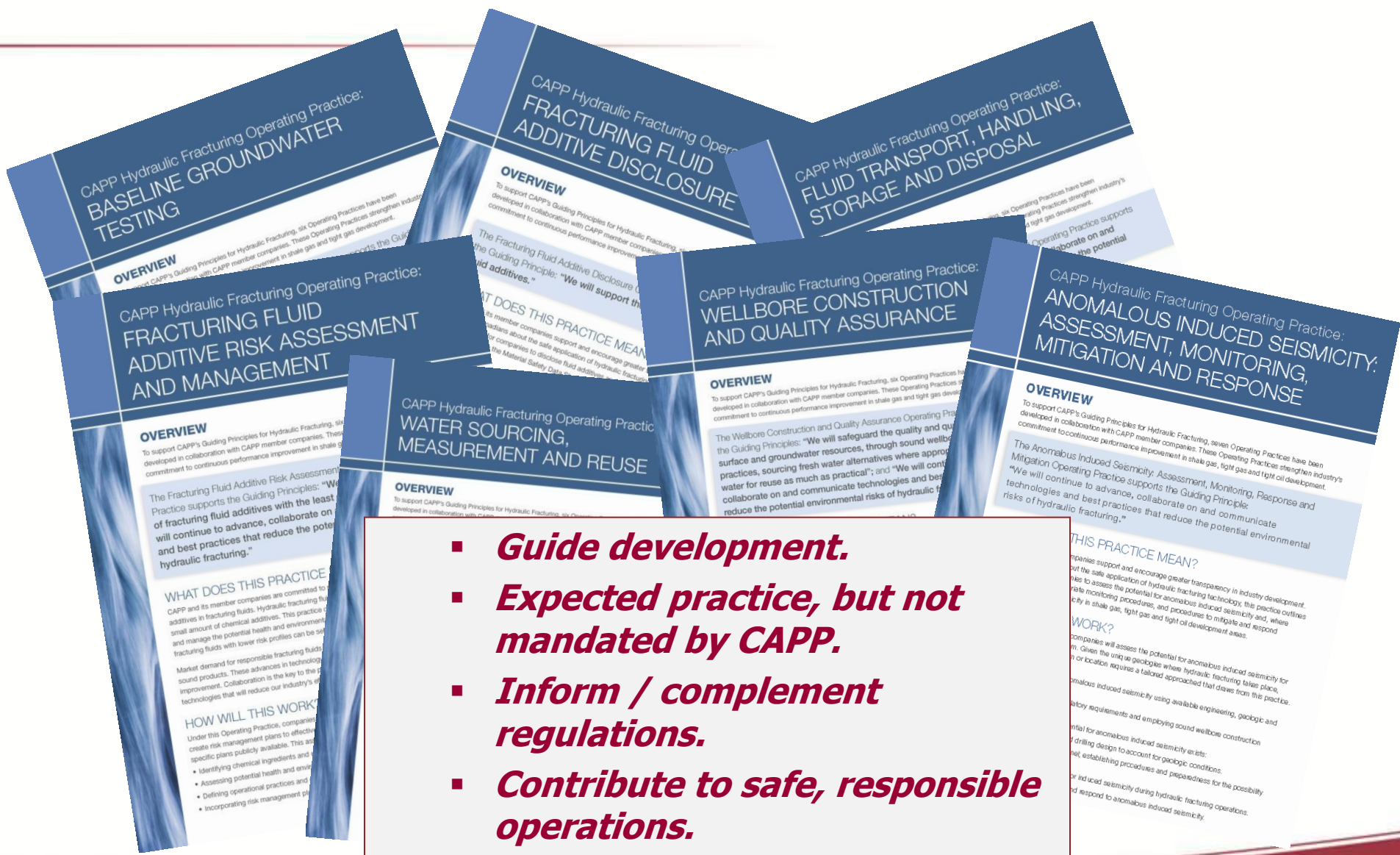
Canada's shale gas and tight gas industry supports a responsible approach to water management and is committed to continuous performance improvement. Protecting water resources during sourcing, use and handling is a key priority for our industry. We support and abide by all regulations governing hydraulic fracturing operations, water use and water protection. In addition, we commit to following these guiding principles:

- 1 We will safeguard the quality and quantity of regional surface and groundwater resources, through sound wellbore construction practices, sourcing fresh water alternatives where appropriate, and recycling water for reuse as much as practical.
- 2 We will measure and disclose our water use with the goal of continuing to reduce our effect on the environment.
- 3 We will support the development of fracturing fluid additives with the least environmental risks.
- 4 We will support the disclosure of fracturing fluid additives.
- 5 We will continue to advance, collaborate on and communicate technologies and best practices that reduce the potential environmental risks of hydraulic fracturing.

Shale gas and tight gas, for the purpose of these principles, refers to unconventional gas resources from low permeability reservoirs being developed using horizontal wells with multi-stage hydraulic fracturing.



# Operating Practices for Hydraulic Fracturing





# Implementation Status of Operating Practices

- **Expansion of Practices to Include Tight Oil**
  - Completed December 2012
- **Mandatory reporting of fracturing fluid additives in BC and AB**
- **Reporting on Member Conformance with Practices**
  - Conformance with first six Practices will be reported through CAPP's Responsible Canadian Energy Program in 2013
- **Additional seismic monitors being added in NE BC**
- **Many supporting studies ongoing**



# In Summary

- **Oil Sands and Shale gas extremely important for North American energy security**
- **Key success factors:**
  - Competitiveness
  - Social License
- **Social License = Performance + Communications**
- **Highly regulated industry**
  - Leading regulators
  - CAPP's Operating Principles and Practices – progressive initiative complementing regulations
- **Industry commitment to responsible energy development**
  - Excellent track record
  - Environmental performance improvement
  - Increasing transparency
  - Consulting with our stakeholders
- **Strong industry commitment to communications & outreach.....for the longer term.**



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