### 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

• 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% **A**ariculture **Oil Sands** 8.0% Waste 6.9% U.S. 3.2% Solvent & Other 18% Product Use **European Union** 0.0% 13% Industrial Processes Other Oil & Gas 7.4% 15.2% Japan 4% China Canada 24% 2% India 6% Australia/New Zealand 1% Other Energy -Energy Transport Stationary 28.0% Russian 31.2% Other Federation GHG emissions from oil sands: 26% 6% just over 1/1000th of global GHG emissions 6.9% of Canada's GHG emissions 26% reduction in intensity from 1990

C

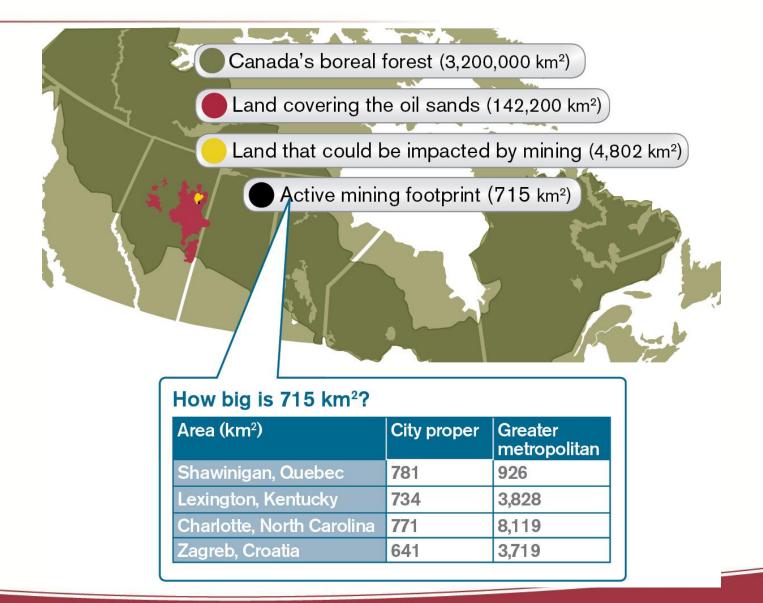
•Sources:

•1. United Nations Statistics Division (2008 Data)

•2. Environment Canada (2010 Data)

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### Land Use and Reclamation





# 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):

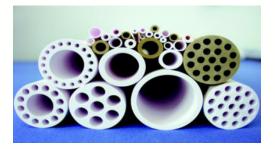
- Cogeneration steam and electric power
- Solvent / steam injection
- Alternative well configurations for SAGD
- Reduce water temperature 80 to 35 degrees Celsius
- Electro-thermal technology
- Carbon Capture & Storage

# • 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





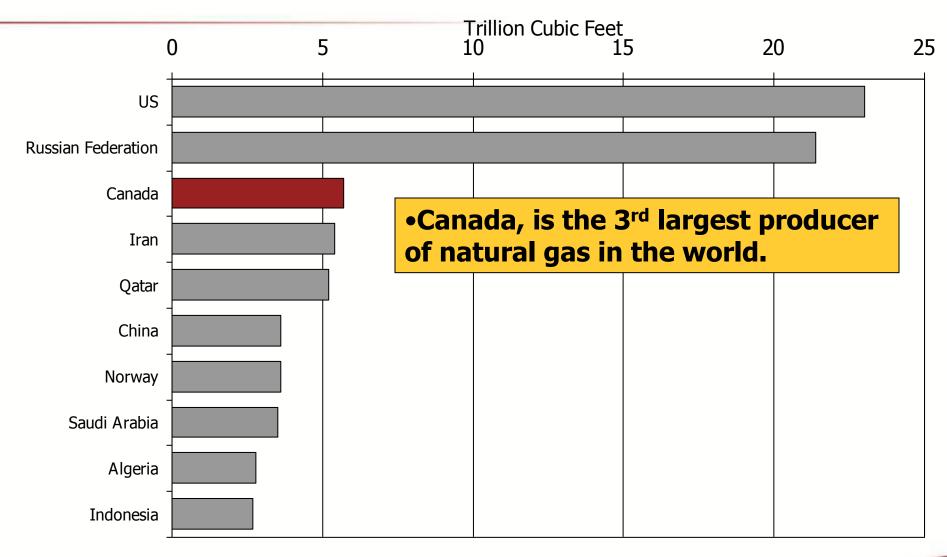
# N.A. Natural Gas Supply – The Opportunity

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





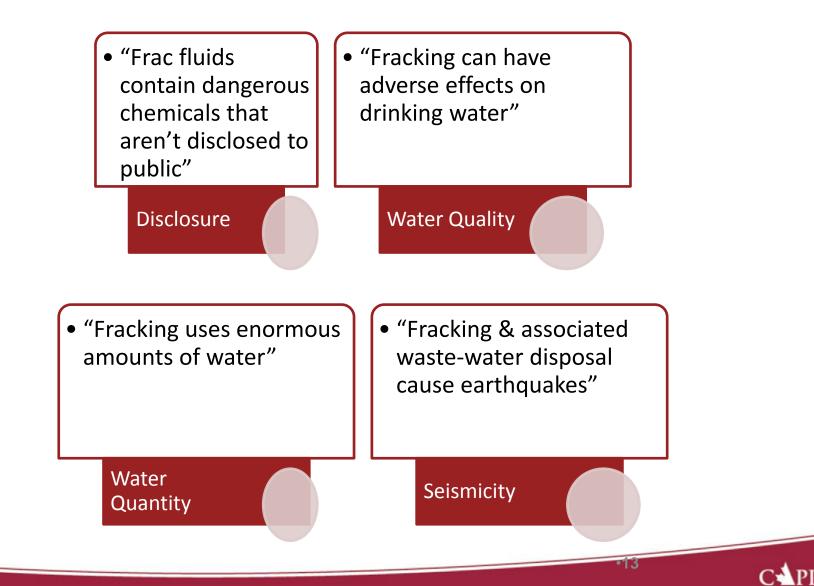
## **Top 10 World Natural Gas Producers in 2011**



• Source: BP Statistical Review 2012



# **Public Perceptions About Shale Gas Development**



# **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.



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



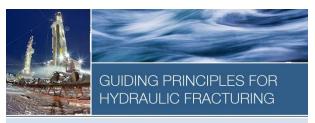
We will support the development of fracturing fluid additives with the least environmental risks.



We will support the disclosure of fracturing fluid additives.



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:





### **Operating Practices for Hydraulic Fracturing**

CAPP Hydraulic Fracturing Opers

FRACTURING FLUID ADDITIVE DISCLOSURE

CAPP Hydraulic Fracturing Operating Practice: FRACTURING FLUID ADDITIVE RISK ASSESSMENT AND MANAGEMENT

To support CAPP's Guiding Principles for Hydraulic Fractur OVERVIEW collaboration with CAPP member companies. The mitment to continuous performance improvement in shale 6

CAPP Hydraulic Fracturing Operating Practice: BASELINE GROUNDWATER

TESTING

OVERVIEW

The Fracturing Fluid Additive Risk Assessm Practice supports the Guiding Principles: "We of fracturing fluid additives with the least will continue to advance, collaborate on and best practices that reduce the pote hydraulic fracturing."

WHAT DOES THIS PRACTICE CAPP and its member companies are com additives in fracturing fluids. Hydraulic fracturing fl small amount of chemical additives. This practice and manage the potential health and environme fracturing fluids with lower risk profiles can be s

hese advances in technol pliaboration is the key to the

#### THIS WORK HOW WILL

· Defining oper

The Fracturing Fluid Additive Disclosure the cucing Principle: "We will support th DOES THIS PRACTICE MEAN

OVERVIEW

CAPP Hydraulic Fracturing Operating Practic WATER SOURCING, MEASUREMENT AND REUSE

#### OVERVIEW To support CAPP's Guiding Prin

#### Guide development.

- Expected practice, but not mandated by CAPP.
- Inform / complement regulations.
- Contribute to safe, responsible operations.

#### CAPP Hydraulic Fracturing Operating Practice: WELLBORE CONSTRUCTION AND QUALITY ASSURANCE

CAPP Hydraulic Fracturing Operating Practice: FLUID TRANSPORT, HANDLING, STORAGE AND DISPOSAL

OVERVIEW these Operating Practices noort CAPP's Guiding Vitaboration with CAPP member of evement in shale gas and tight gas

The Wellbore Construction and Quality Assurance Operating F the Guiding Principles: "We will safeguard the quality and qu surface and groundwater resources, through sound wellbo practices, sourcing fresh water alternatives where appro water for reuse as much as practical"; and "We will cont collaborate on and communicate technologies and bes reduce the potential environmental risks of hydraulic

CAPP Hydraulic Fracturing Operating Practice. ANOMALOUS INDUCED SEISMICITY: ASSESSMENT, MONITORING, MITIGATION AND RESPONSE OVERVIEW

Coupport CAPP's Guiding Principles for Hydraulic Fracturing, seven Operating Practices have been non-university in white range mean her management them. Consisting Practices estendition indi-To approved CAPP's Guiding Prince/blast for Hydrariic Fracturing, several Operating Practices have been experienced in collaboration with CAPP member companies. These C-parating Practices strangthen industry's experience and the second several eloped in collaboration with CAPP member companies. These Operating Practices strengthen indus Institute to continuous performance improvement in shaki gas, light gas and tyth cil development. The Anomalous Induced Seismoity: Assessment, Monitoring, Response and Migation Operating Practice supports the Guiding Principle: wingeaton operating machae supports the output introduce with will continue to advance, collaborate on and communicate

vere win continue to auvarice, consummer on and continuences echnologies and best practices that reduce the potential environmental

#### THIS PRACTICE MEAN?

#### es support and encourage greater transparency in industry development. ee support and encourage greater transparency in Roustly development. Sade application of hydraulic fracturing technology, the process courses + names the revise but two surveys technologies and the process courses and the surveys technologies and the surveys a opproation or monitor traction in technicasty, one president of the potential for anomabus induced selemicity and, where selection and, where it is a selection of the sele so are potential rule anomatous induced second in a way when proceedures, and proceedures to mitpate and respond ale gas, tight gas and tight oil development areas. NORK? The second secon There we access on provide the provided for another and another accession of the unique geologies where hydraulic facturing takes place. seven me unit we work we write write instrume instrume to the proce. In boation requires a tailored approached that drave from this practic seismicity using available engineering, geologic and

employing sound wellbore construction iomalous induced seismicity exists:

ling design to account for geologic conditions

ablishing procedules and preparedness for the possibility micity during hydraulic fracturing operations spond to anomalous induced seismicity.



## **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.





# C→ PP RESPONSIBLE CANADIAN ENERGY™

