Natural Gas:
Staying Competitive in Changing Times

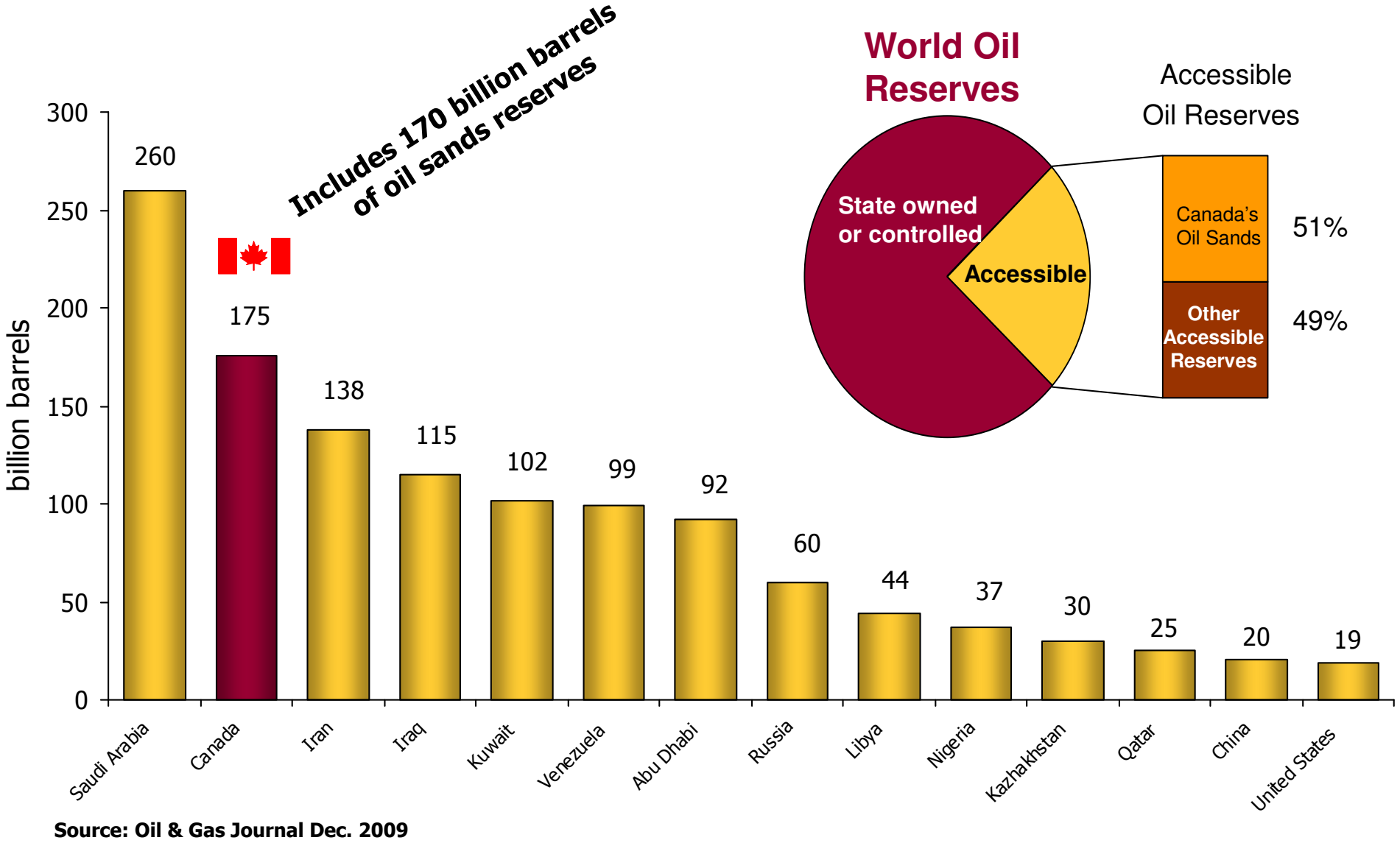
GPAC / PJVA Conference
Calgary – November 3, 2010

Dave Collyer - President, CAPP

The External Environment

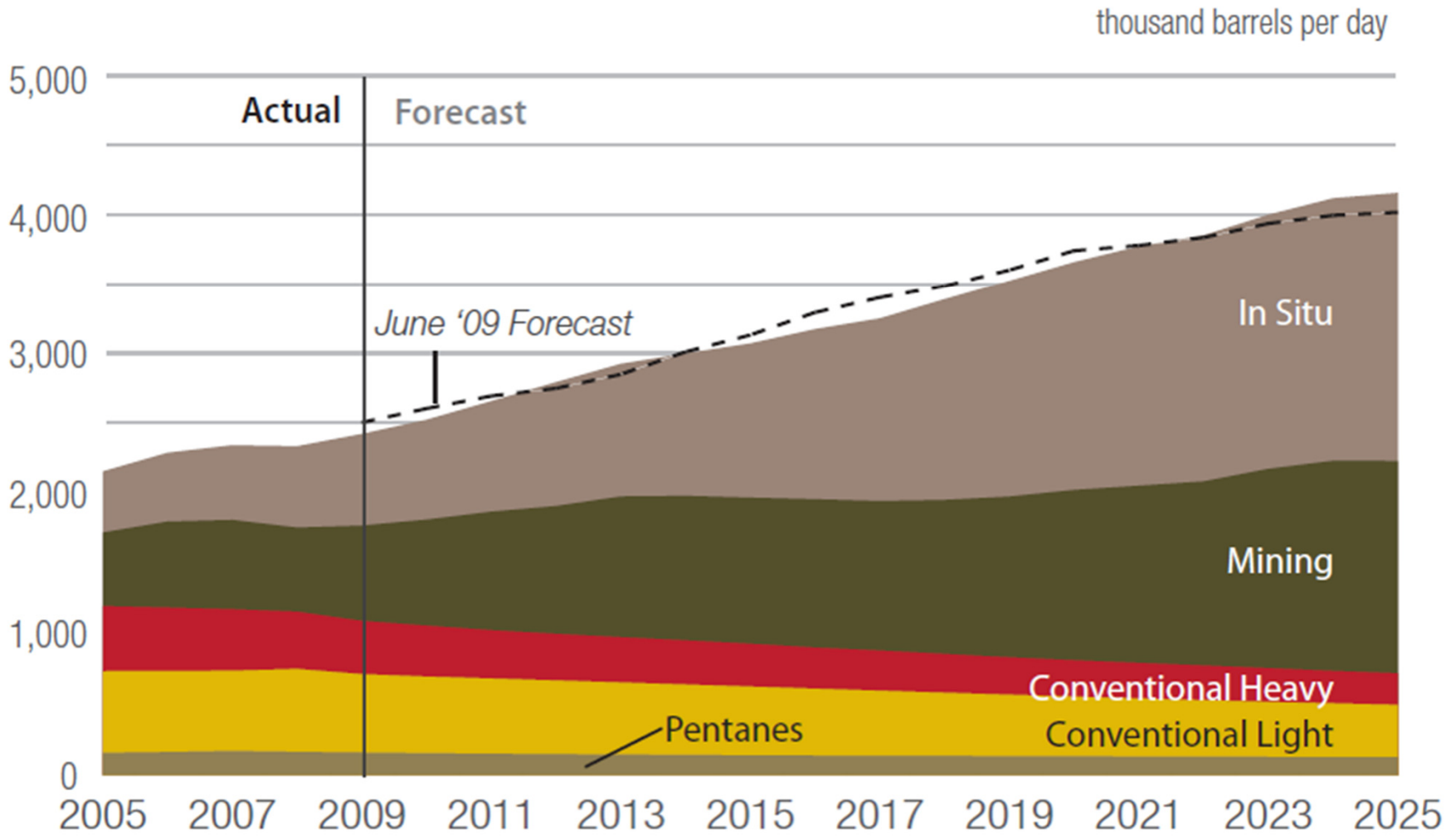
- **Economy**
  - Stabilized….but jobs are a key issue and U.S. recovery remains very tenuous.
- **Markets**
  - Financial markets stabilized….but access to & cost of capital can be a challenge.
  - Crude oil market more stable….but light/heavy differential remains narrow.
  - Natural gas market very challenging.
- **Public**
  - Primary focus is on jobs/economy.
  - Expect demonstrated improvement in oil & gas environmental & social performance ("proof points").
  - ENGOs remain very engaged in "off hydrocarbons" activism.
- **Political**
  - Unsettled, difficult to advance policy @ federal level (Canada & U.S.).
  - AB, BC, Sask generally supportive of oil & gas sector.
  - Generally focused on economy, but environment remains a high priority for some key decision-makers & influencers.
  - GoM event, Enbridge p/l spills, California natural gas incident have raised profile on energy & environment.

Canadian Opportunity: Oil Sands



Source: Oil & Gas Journal Dec. 2009

W. Canadian Oil Sands & Conventional Oil Production Outlook



May 2010

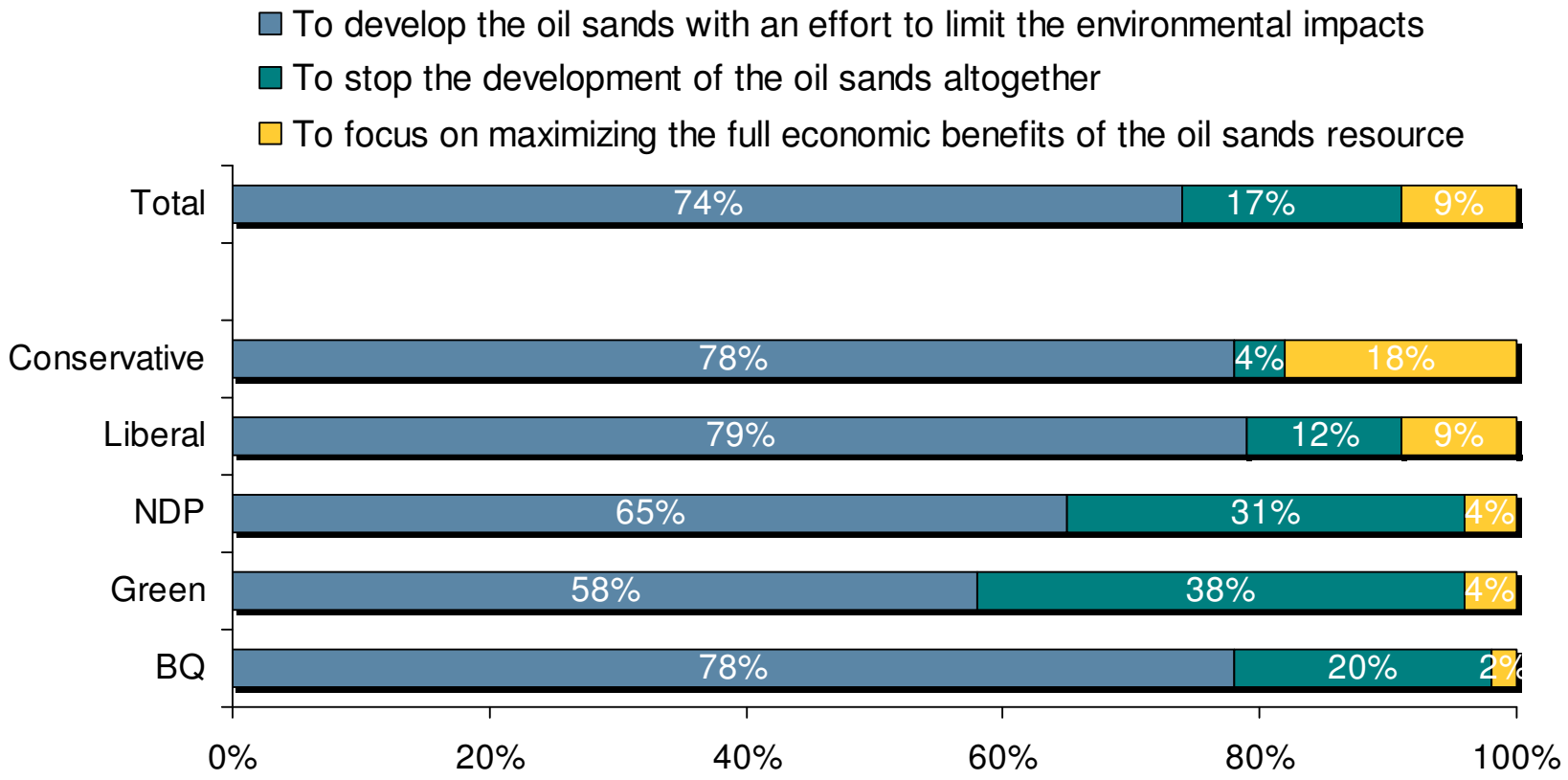
Reputation and Oil Sands

- **Reputation = Performance + Communication**

- **Key concerns expressed regarding oil sands development:**
  - Local / regional environmental & social impacts
  - Global climate change
  - Role of fossil fuels in future energy system.

Public Opinion

Which is the best goal when it comes to the oil sands?



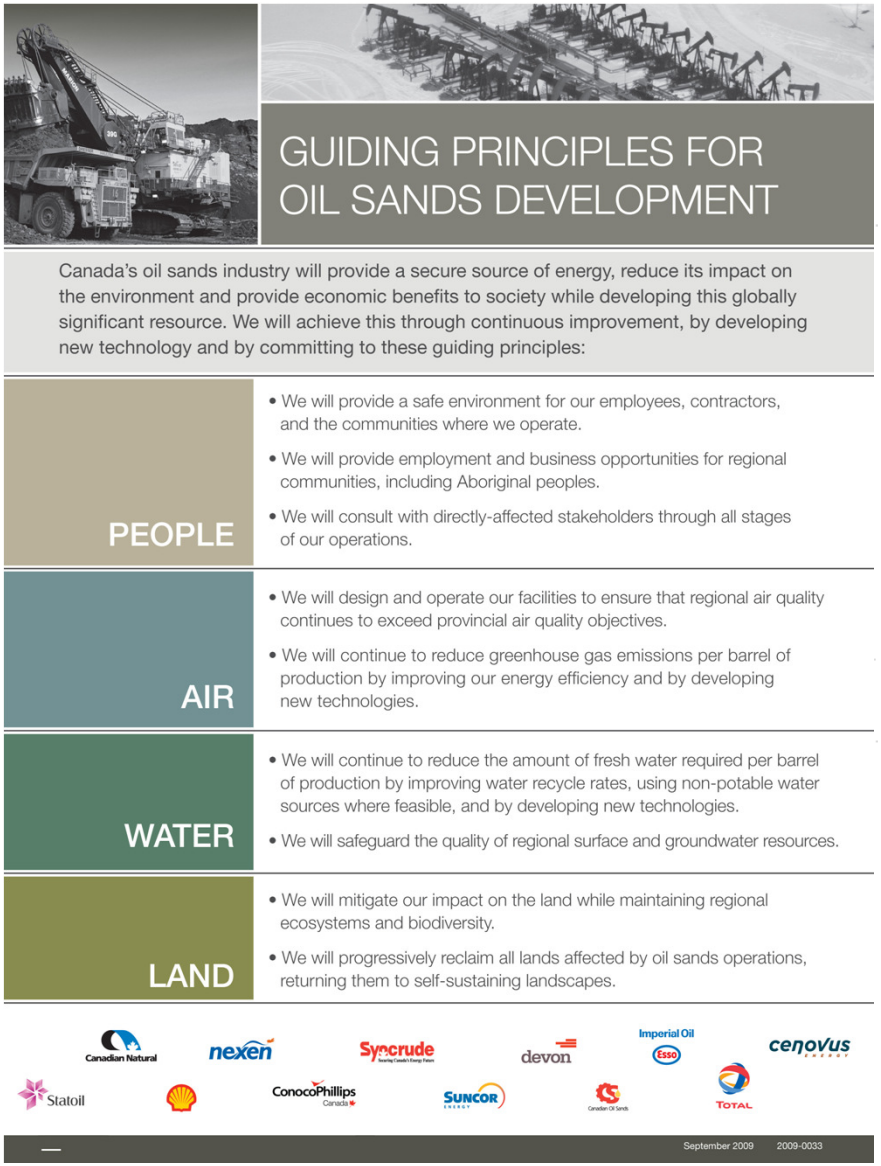
Communicating with the Public

The show that industry takes these issues seriously and to demonstrate what is being done by real people to address them

Environmental & Social Performance

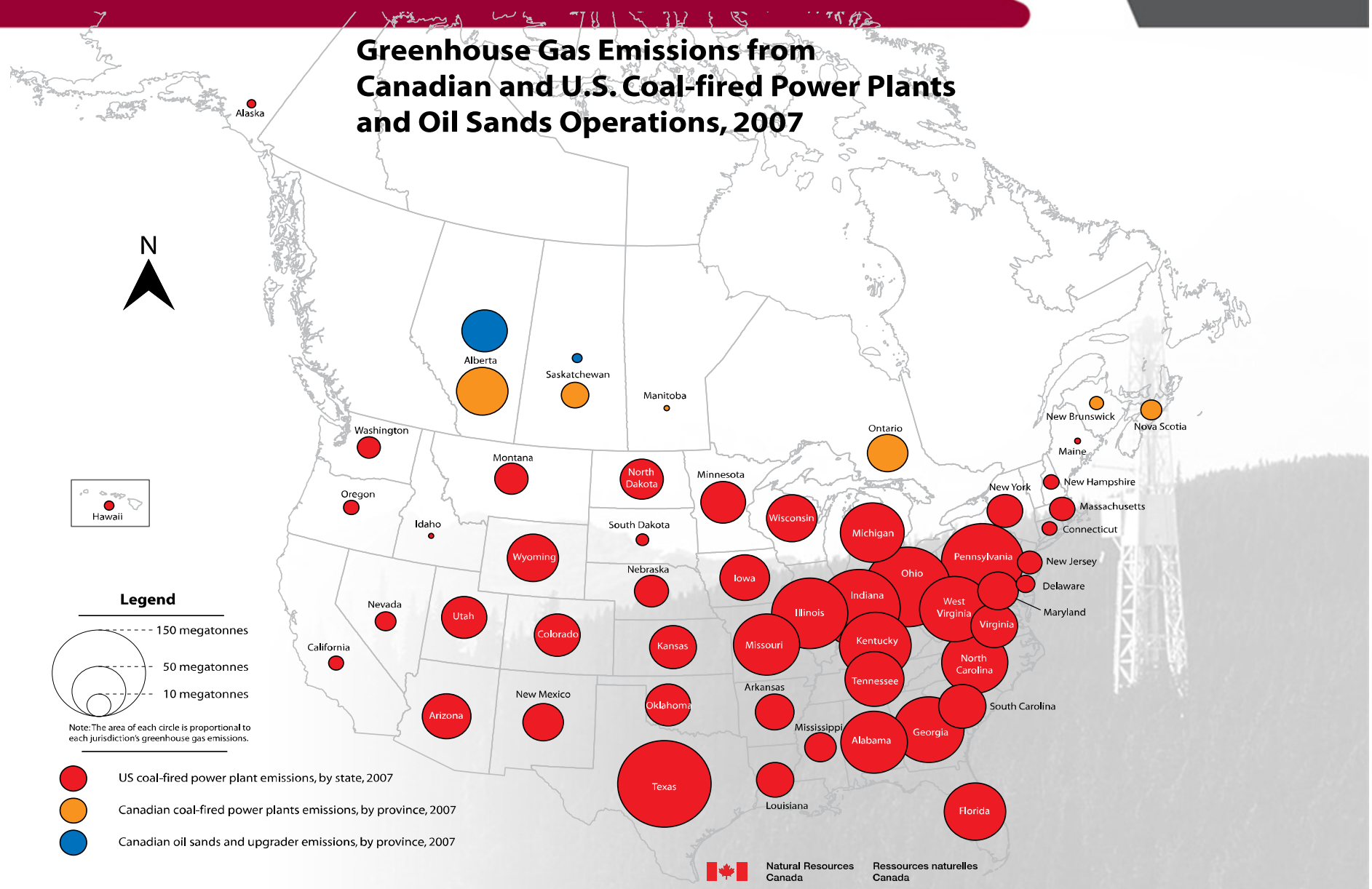
Guiding Principles for Oil Sands Development

- People
- Air
- Water
- Land



North American GHG Emissions – Oil Sands and Coal

Greenhouse Gas Emissions from Canadian and U.S. Coal-fired Power Plants and Oil Sands Operations, 2007



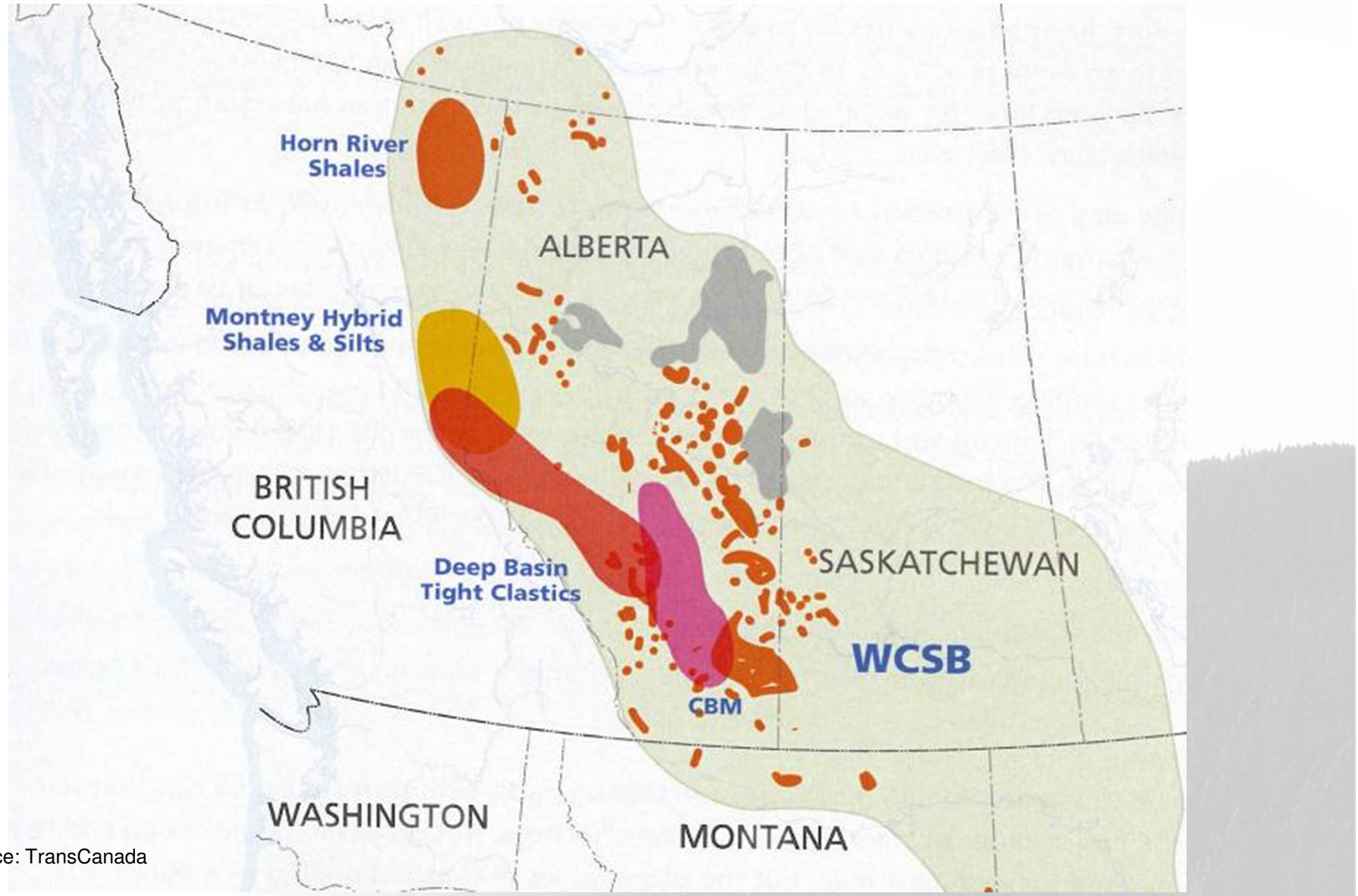
North American Natural Gas – Supply Outlook

- Shale gas supply a game-changer
- Technology breakthroughs
- New producing regions
- Emerging stakeholder environmental concerns (footprint, water)
- Shifting S/D dynamic

Canadian Opportunity: Natural Gas

- **Abundant, high quality resource.**
- **Improved fiscal regimes.**
- **Improving regulatory system.**
- **“Open for business” approach.**
- **Established infrastructure**
- **Well-established skills and capacity.**

Western Canada – Resource Plays



Source: TransCanada

Key Characteristics – Canadian & U.S. Shales

	Barnett	Haynesville	Marcellus	Horn River	Montney
Depth (ft.)	6,500 – 9,000	10,500 – 13,500	3,000 – 8,500	6,500 – 13,000	5,000 – 10,000
Thickness of Shale (ft.)	100 – 500	200 – 300	50 – 250	300 – 600	300 – 500
Total Organic Content (%)	3.0 – 7.0	3.0 – 5.0	3.0 – 12.0	3.0 – 10.0	2.5 – 6.0
Original Gas in Place (Bcf / Section)	50 – 200	150 – 250	50 – 150	130 – 320	60 – 150
Recovery Factor (%)	20 – 40	20 – 40	20 – 40	20 – 40	20 – 40
Est. Ultimate Recovery (Bcf / Well)	1.0 – 4.0	4.5 – 8.5	2.2 – 4.1	3.0 – 9.0	2.0 – 6.0

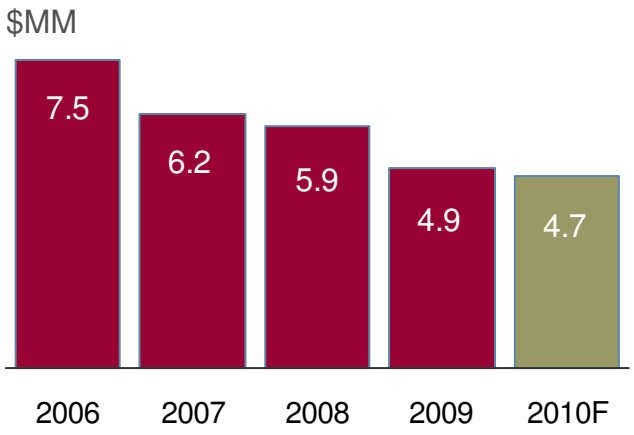
By any measure involving purely geological reservoir parameters, the Horn River and the Montney resource plays compare very favourably to their U.S. counterparts.

Source: TransCanada

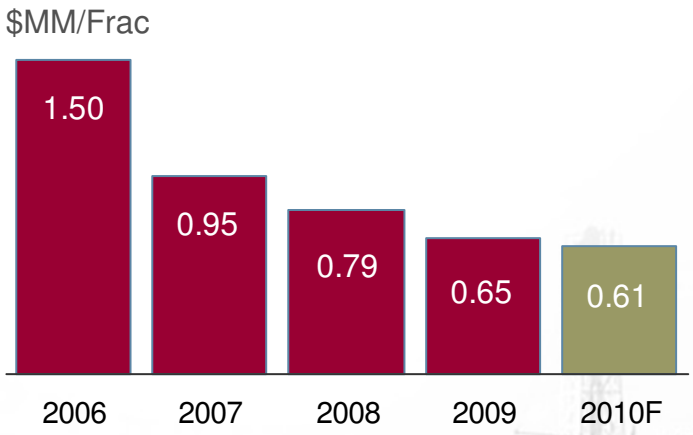
Canadian Resource Plays - Continuing Operational Improvements

Well Cost Evolution ($C)

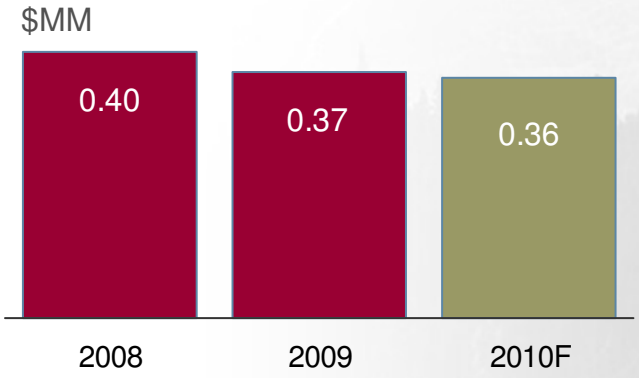
Alberta Deep Basin – (vertical wells)



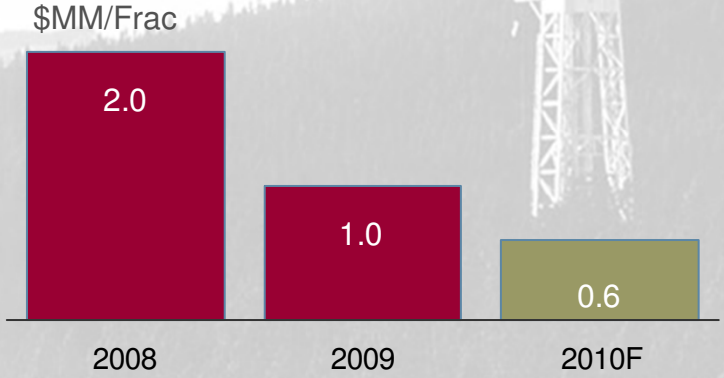
Montney - Per Interval



CBM – Well costs ($MM)

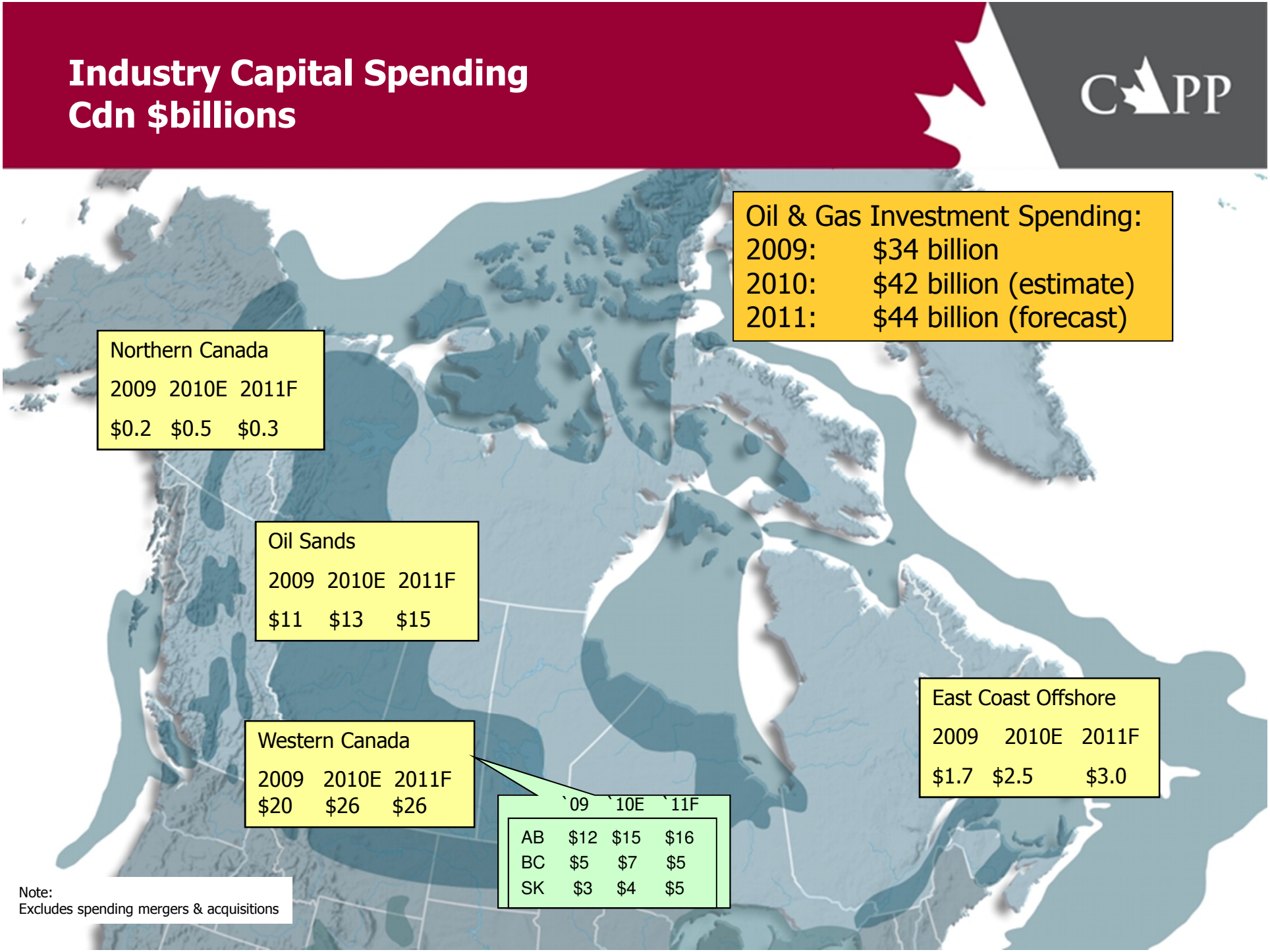


Horn River – Per Interval



Source: Encana

Industry Capital Spending
Cdn $billions



Oil & Gas Investment Spending:
2009: $34 billion
2010: $42 billion (estimate)
2011: $44 billion (forecast)

Northern Canada

2009	2010E	2011F
$0.2	$0.5	$0.3

Oil Sands

2009	2010E	2011F
$11	$13	$15

Western Canada

2009	2010E	2011F
$20	$26	$26

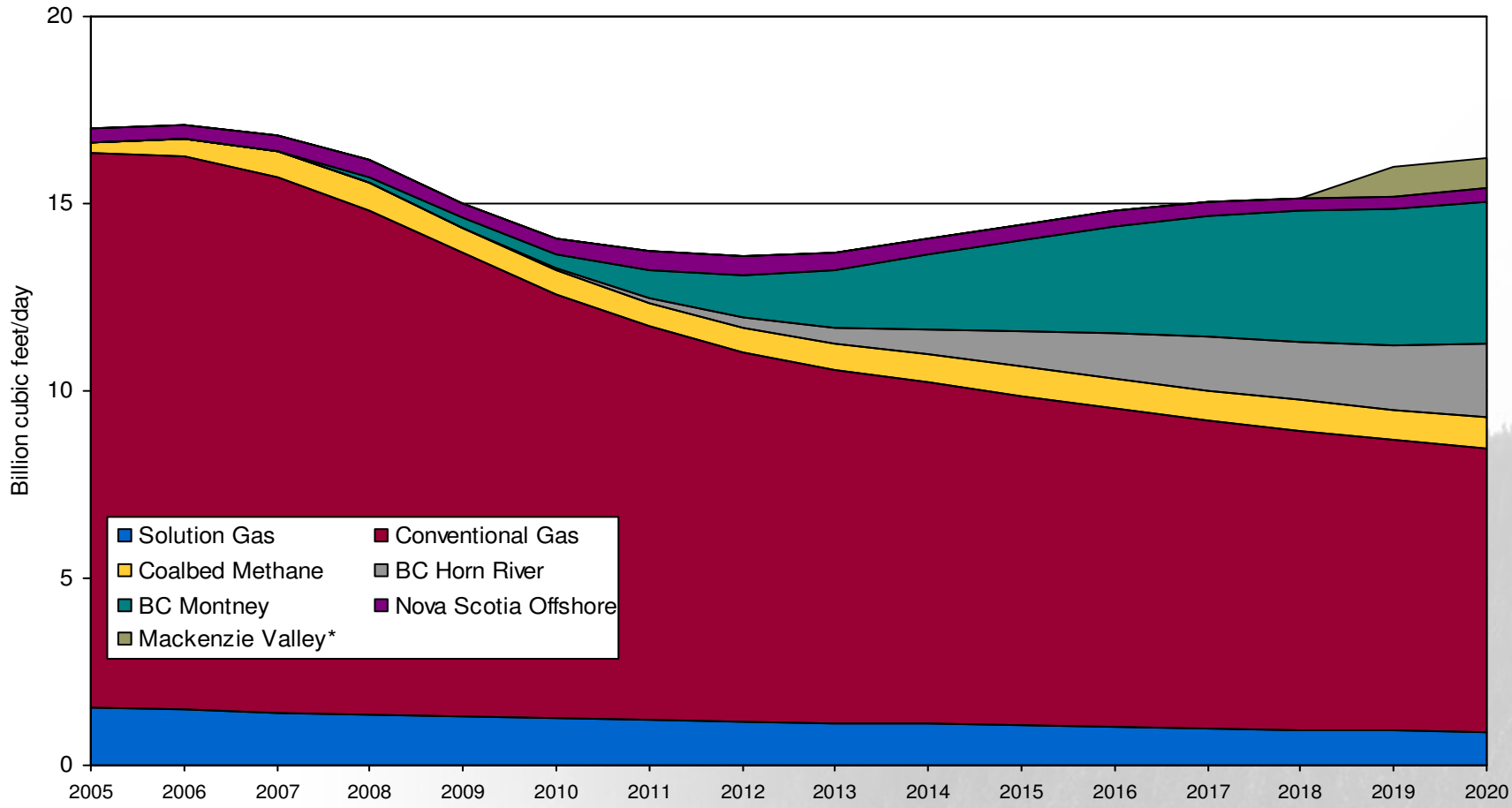
	`09	`10E	`11F
AB	$12	$15	$16
BC	$5	$7	$5
SK	$3	$4	$5

East Coast Offshore

2009	2010E	2011F
$1.7	$2.5	$3.0

Note:
Excludes spending mergers & acquisitions

Cdn. Natural Gas Production Forecast

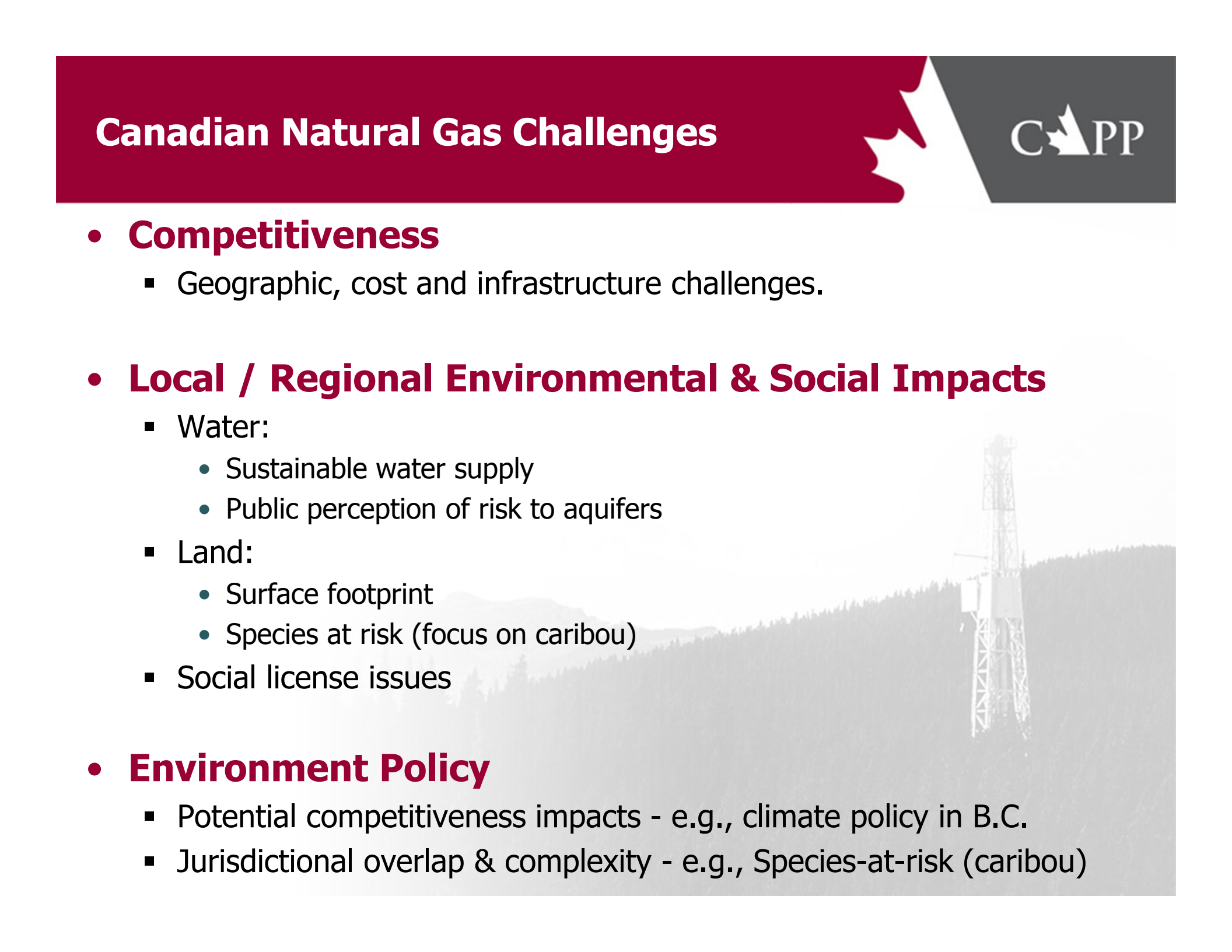


Assumes a price that renders production economic
* Subject to commercial and regulatory approval
Sources: CAPP

Canadian Natural Gas Challenges

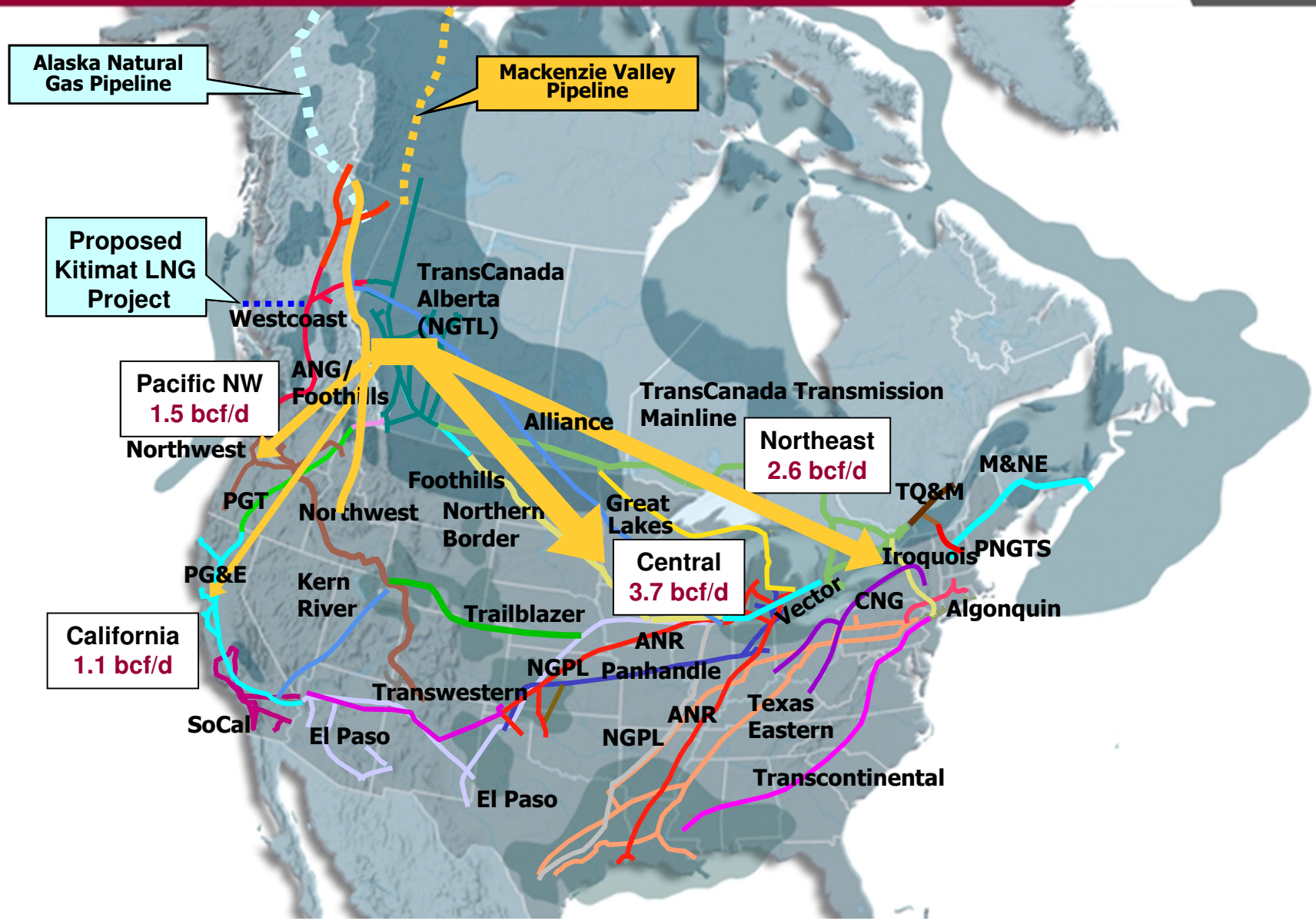
- **Competitiveness**
  - Geographic, cost and infrastructure challenges.

- **Local / Regional Environmental & Social Impacts**
  - Water:
    - Sustainable water supply
    - Public perception of risk to aquifers
  - Land:
    - Surface footprint
    - Species at risk (focus on caribou)
  - Social license issues

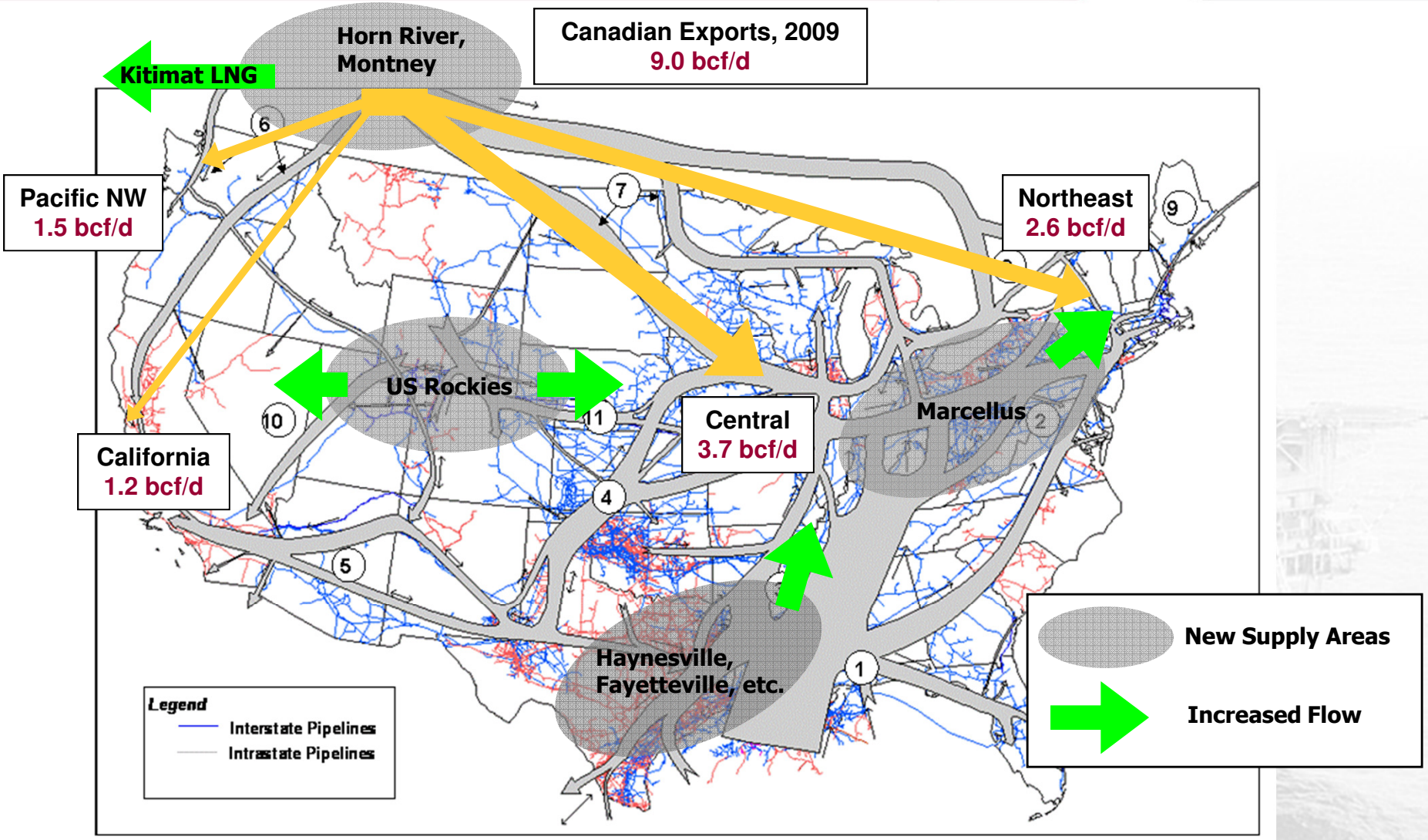


- **Environment Policy**
  - Potential competitiveness impacts - e.g., climate policy in B.C.
  - Jurisdictional overlap & complexity - e.g., Species-at-risk (caribou)

N.A. Natural Gas Pipelines & 2009 Cdn. Exports to U.S. (bcf/d)



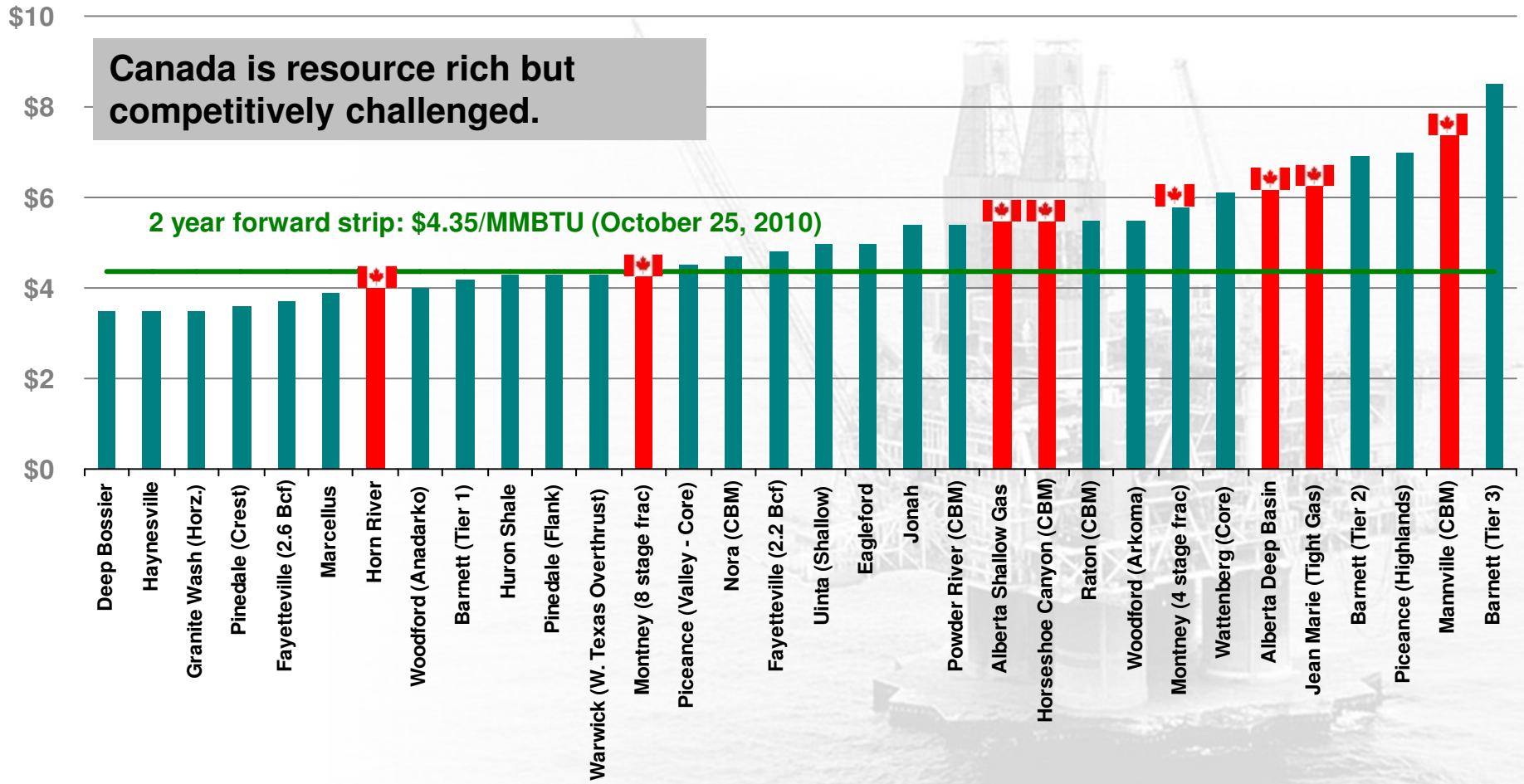
Potential Impacts of New Shale Gas Basins on N.A. Gas Flow



Source: Energy Information Administration, Office of Oil and Gas, Natural Gas Division, GasTran Gas Transportation Information System.

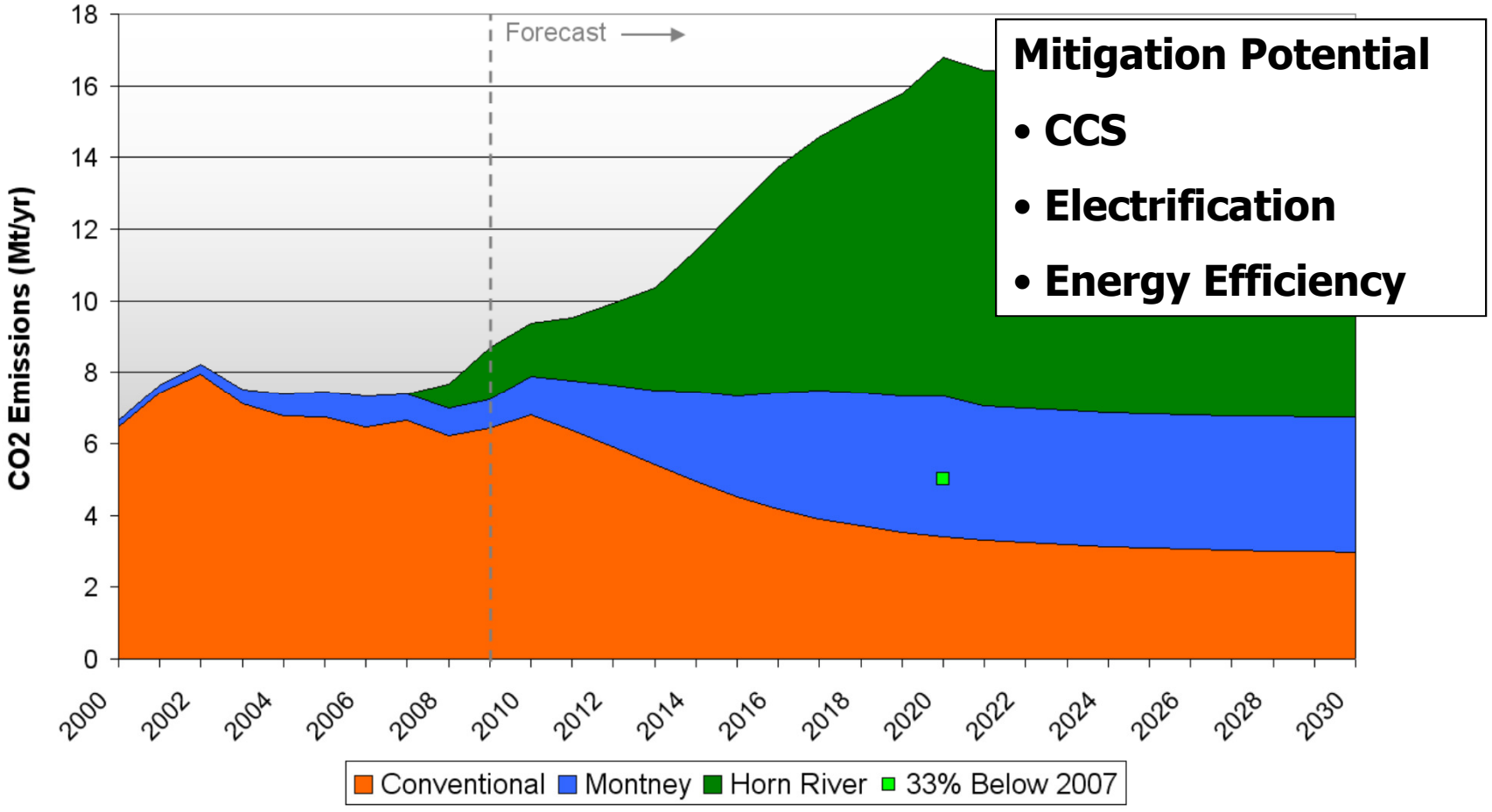
Natural Gas Supply Costs

Required NYMEX Natural Gas Strip for 10% IRR



Source: Morgan Stanley September 14, 2009

B.C. GHG Emissions Forecast - BAU



Canadian Natural Gas Initiative ("CNGI")

- **Who: CAPP, CGA, CEPA, CNGVA, CSUG**

Canadian Natural Gas
Smart energy.
Gaz naturel canadien
L'énergie intelligente.

- **What is it?**
  - **Education**
  - **Communications**
  - **Policy Advocacy**

- **Policy Priorities:**
  - **Establish natural gas as a priority in energy policy dialogue – a "foundation", not a "bridge".**
  - **Enable upstream development and transmission (e.g., regulatory reform)**
  - **Broaden use – focus on natural gas use in power generation and medium / heavy duty vehicles.**
  - **Competitiveness, technology investment, alignment key principles for climate policy.**
  - **Underpinned by fiscal competitiveness, regulatory reform, technology & innovation.**

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