

Alberta's Resource Competitiveness

Alberto Benzo

Alberta Department of Energy

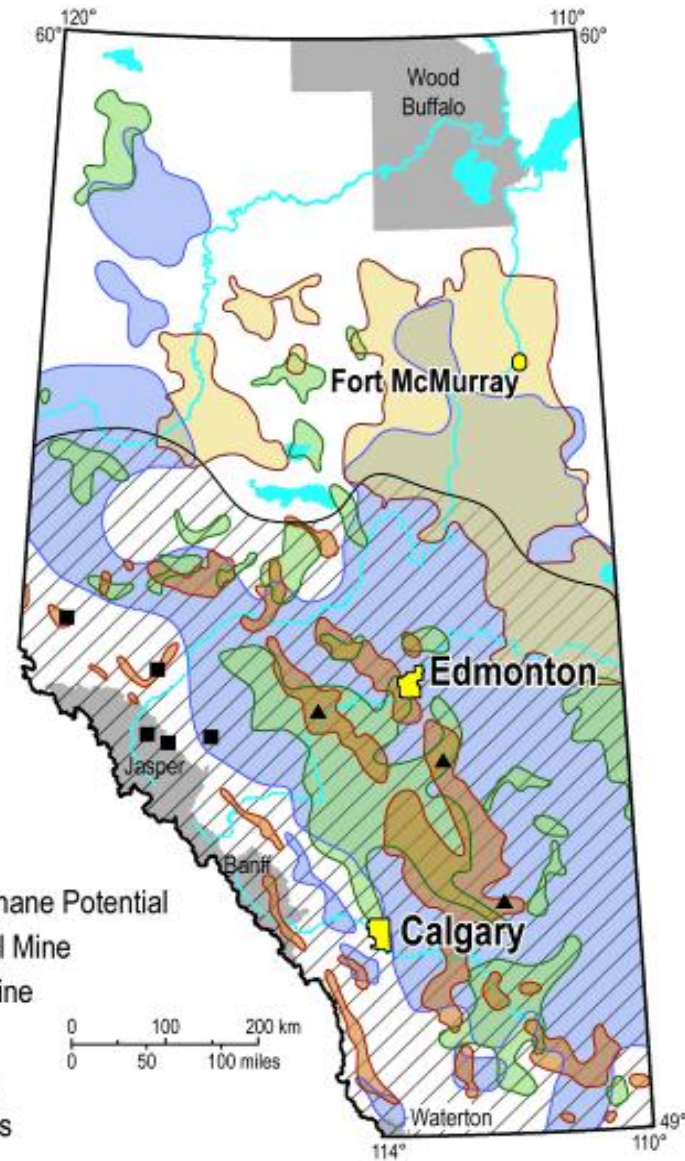
May 18, 2011

Overview of Alberta's Energy Industry

Energy in Alberta

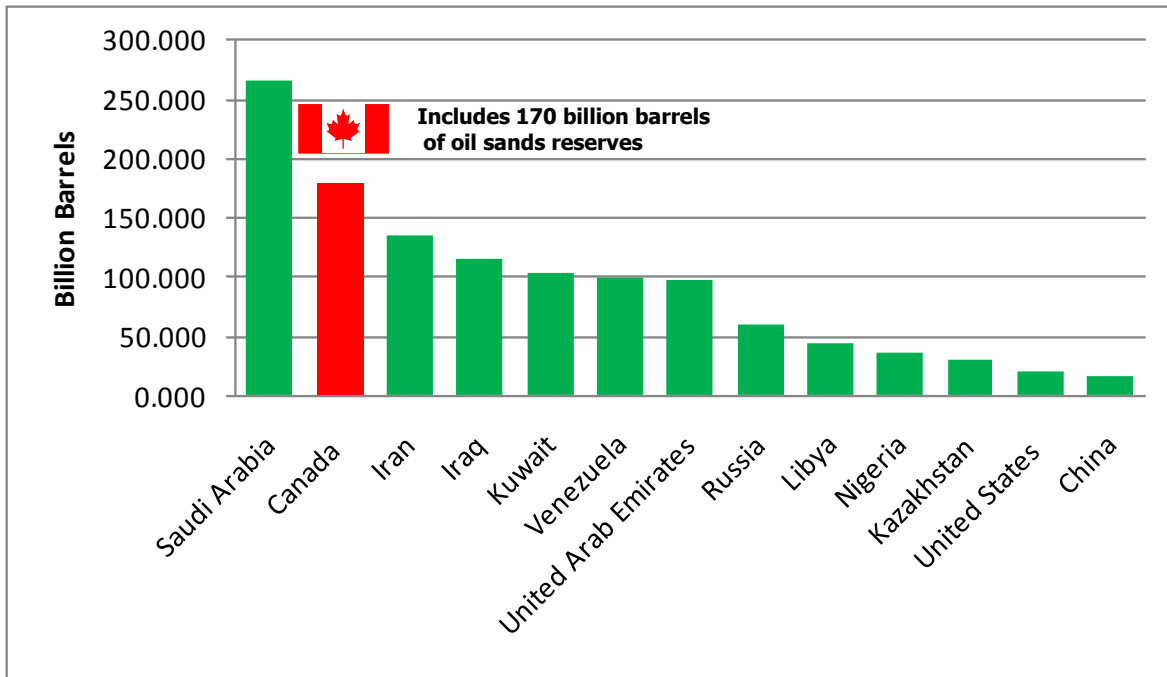


Generalized Areas of Hydrocarbon Resources



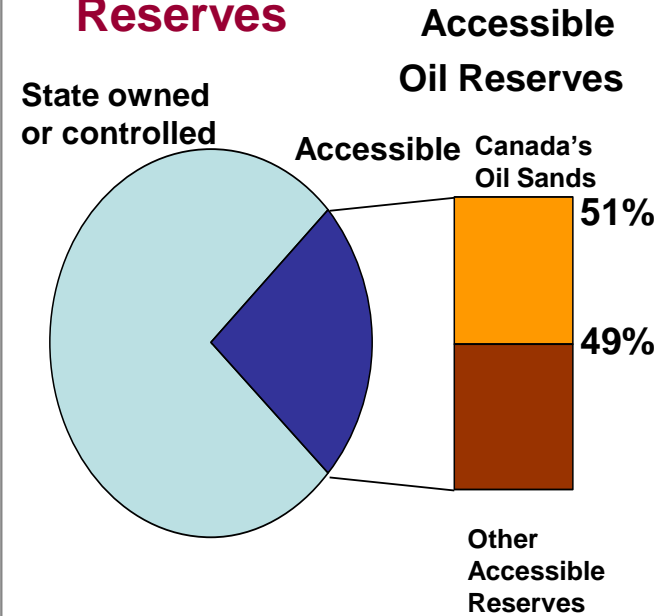
	Oil (B bbls)	Gas (Tcf)	Oil Sands (B bbls)	Coal (B tonnes)
Remaining Established	1.4	40	170	37
Ultimate Potential*	19.7	223	315	683

Crude Oil Proved Reserves

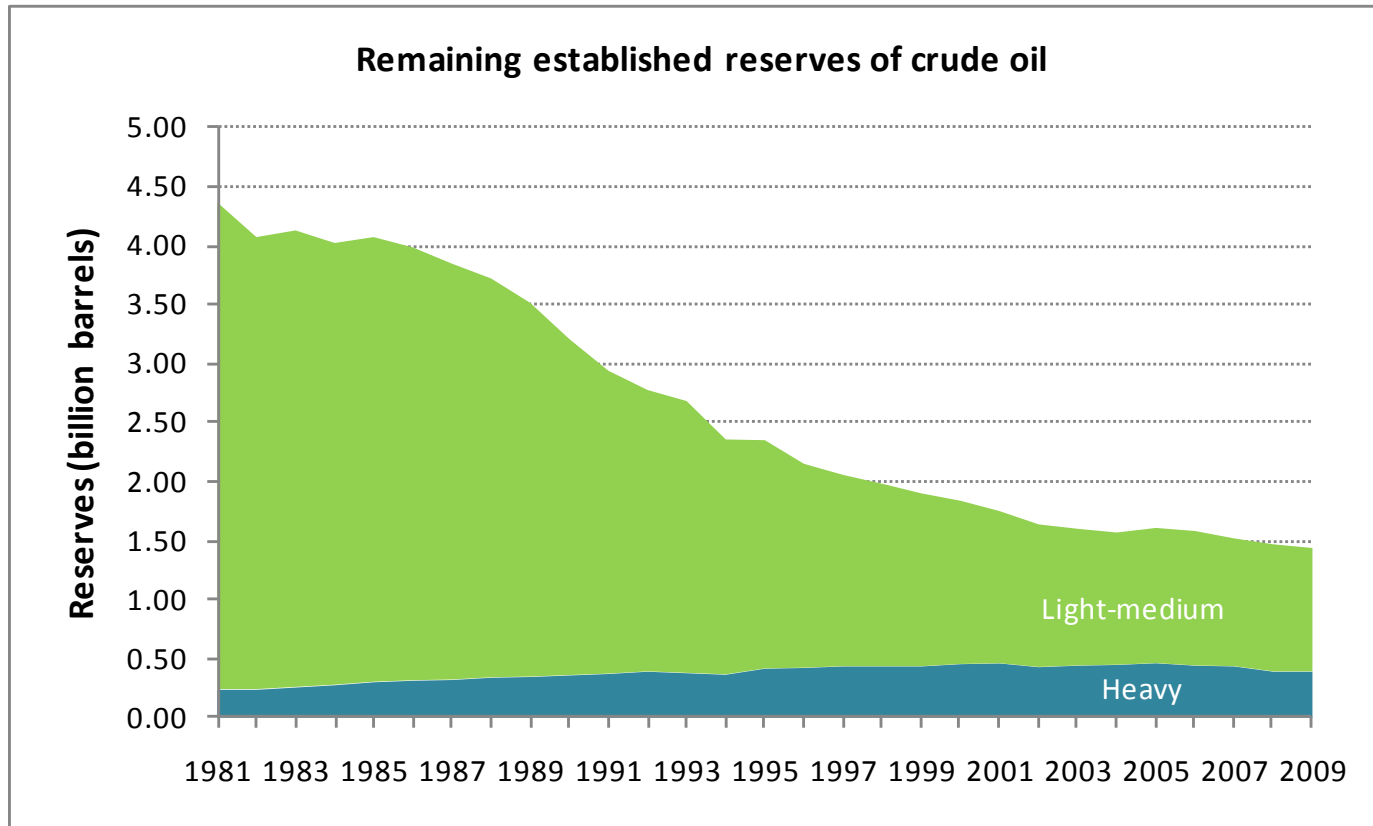


Source: Oil & Gas Journal. January 2009

World Oil Reserves

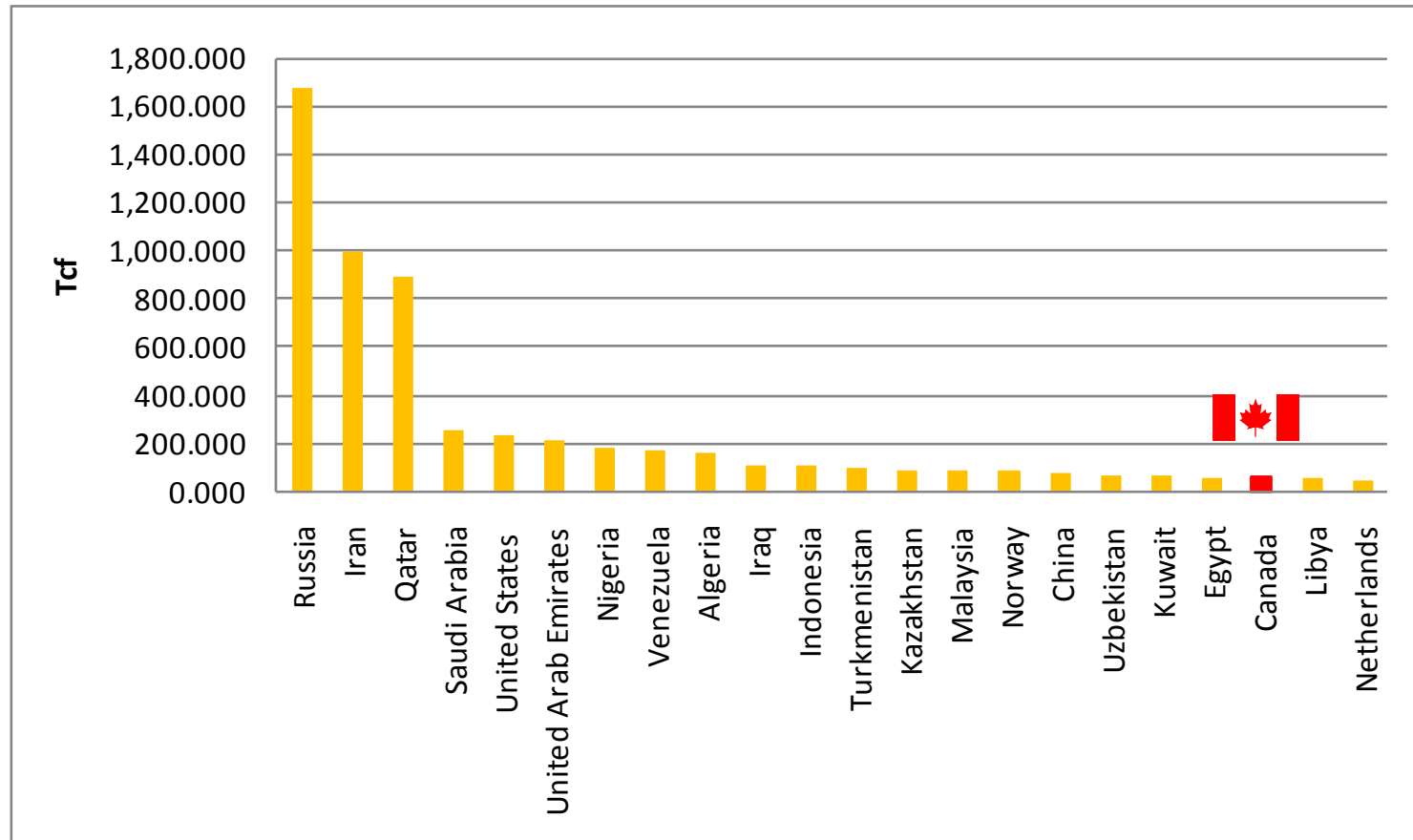


Alberta's Conventional Oil Resources



Source: Energy Resource Conservation Board, ST-98

Natural Gas Proved Reserves

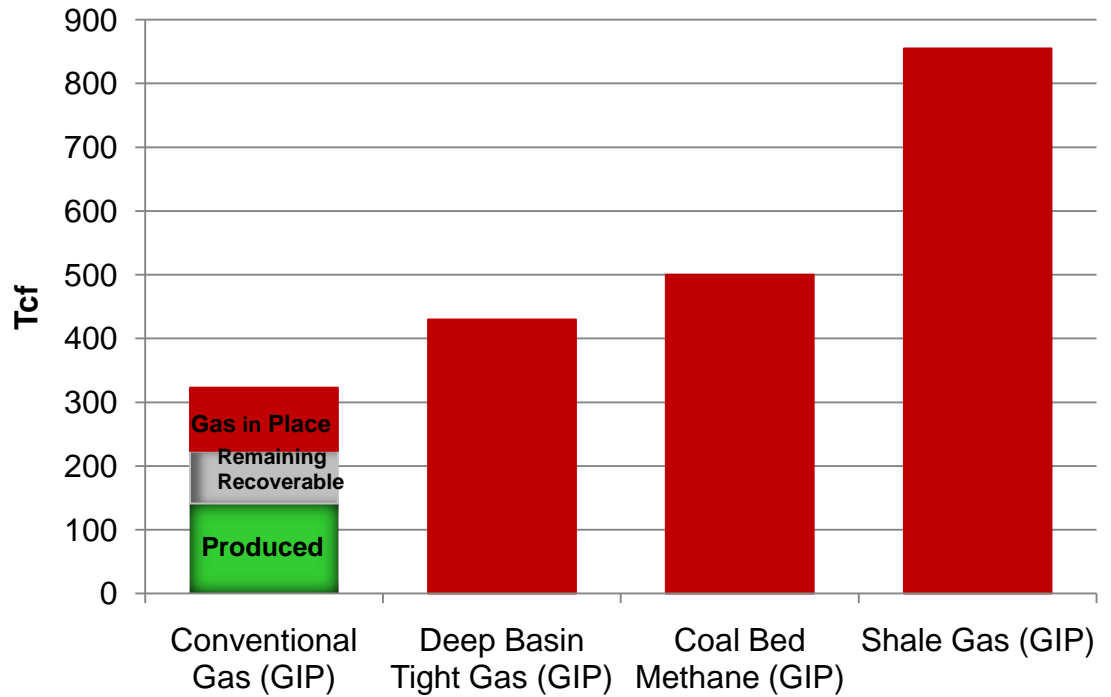


Source: Oil & Gas Journal. January 2009

Alberta's Natural Gas Resources

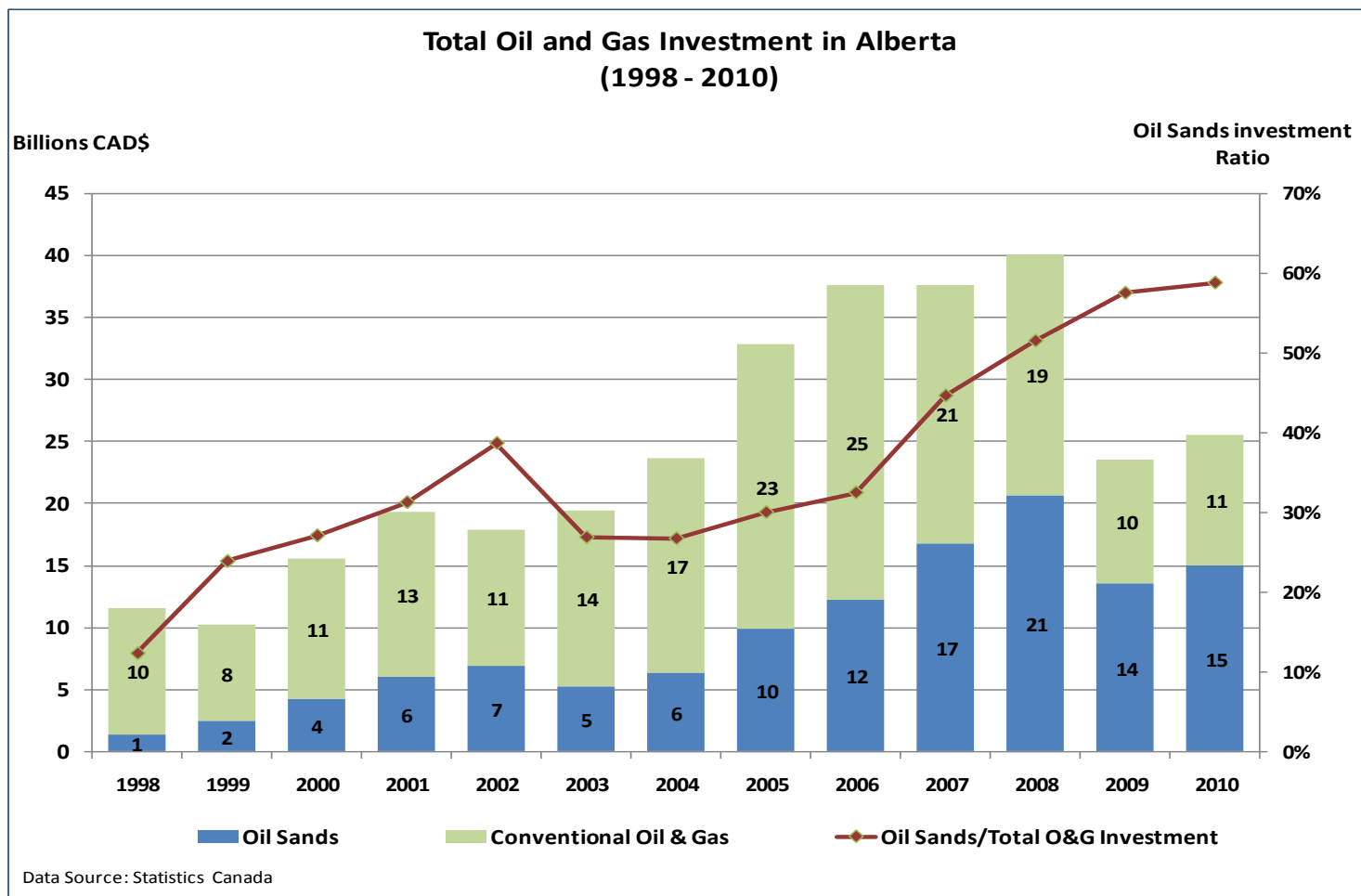


Source: Canadian Society for Unconventional Gas

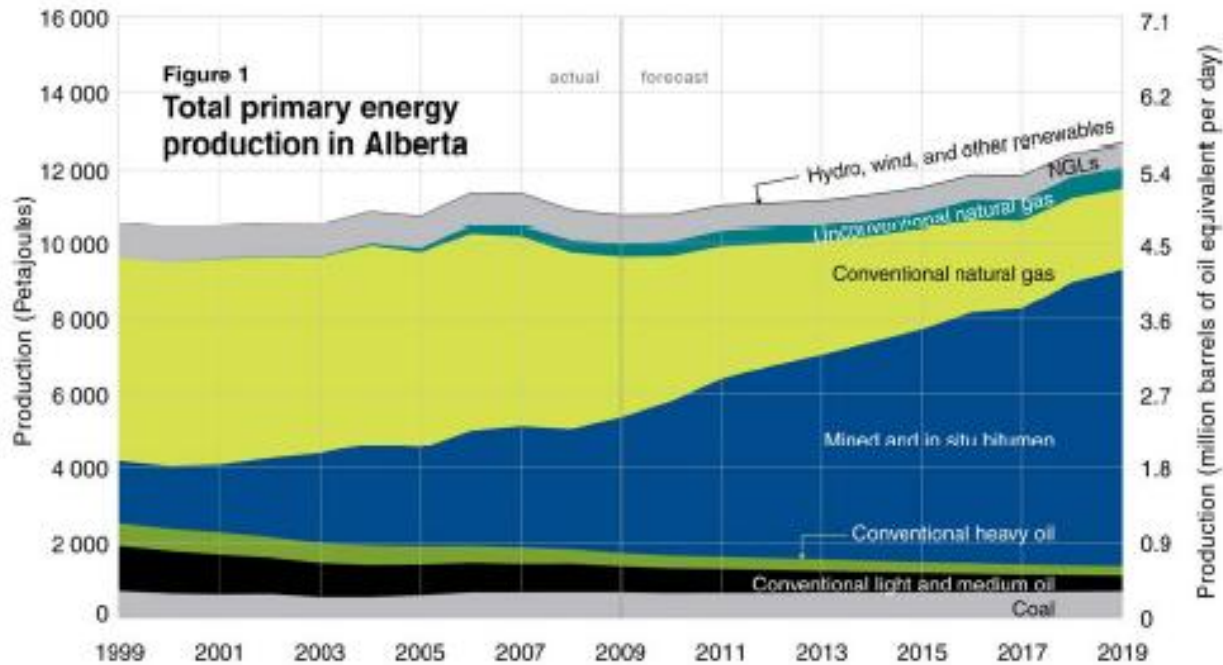


Source: Energy Resource Conservation Board, Petrel Robertson, GTI

Oil and Gas Investment in Alberta

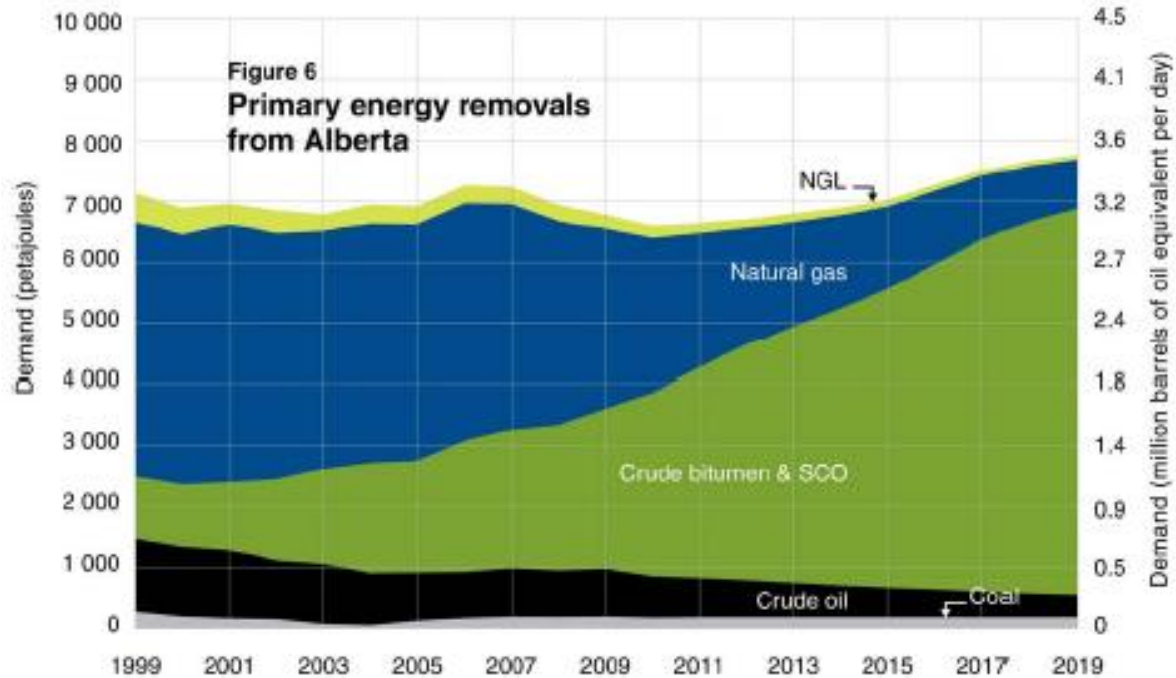


Alberta Energy Production



Source: Energy Resource Conservation Board

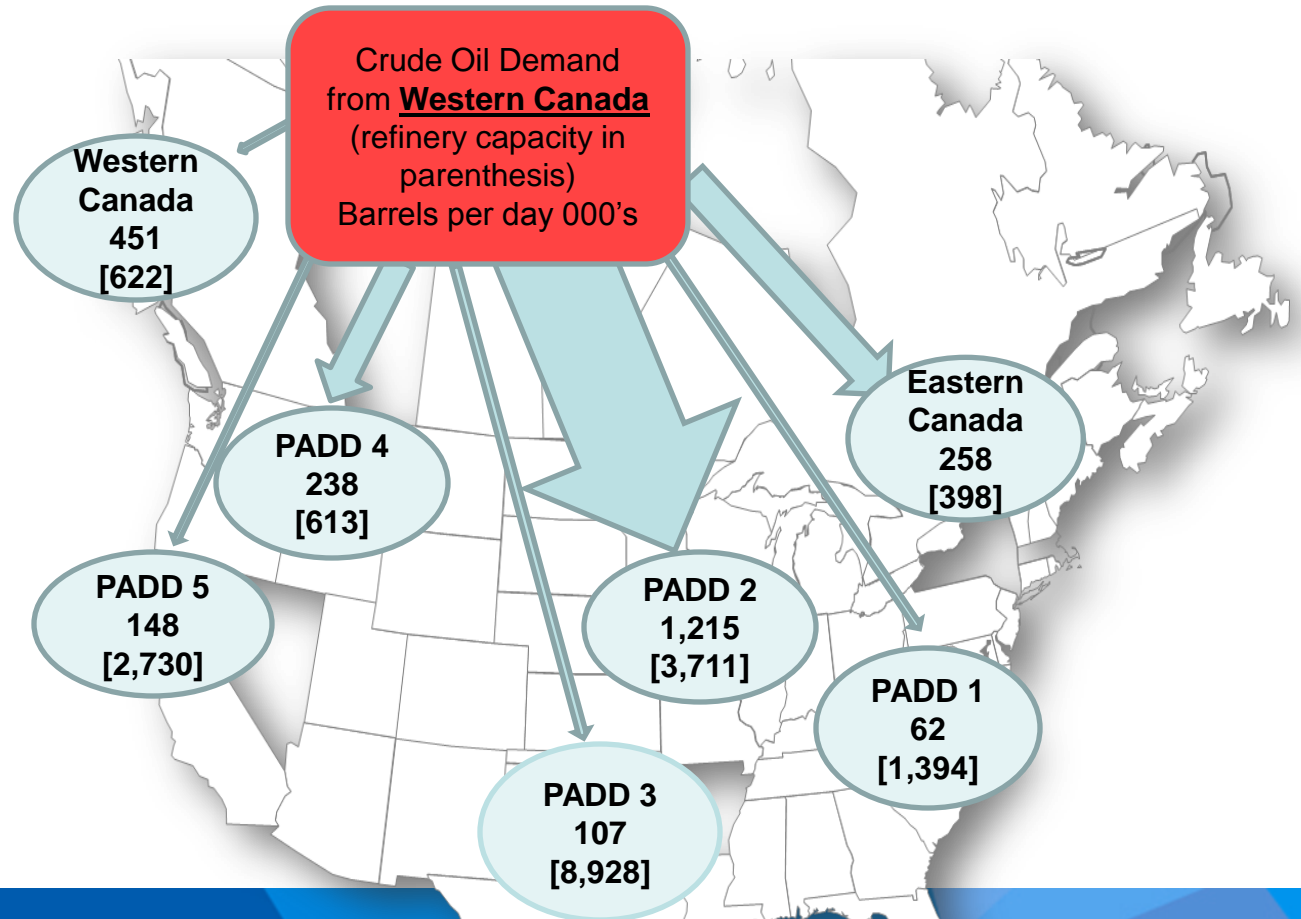
Alberta Energy Exports



Source: Energy Resource Conservation Board

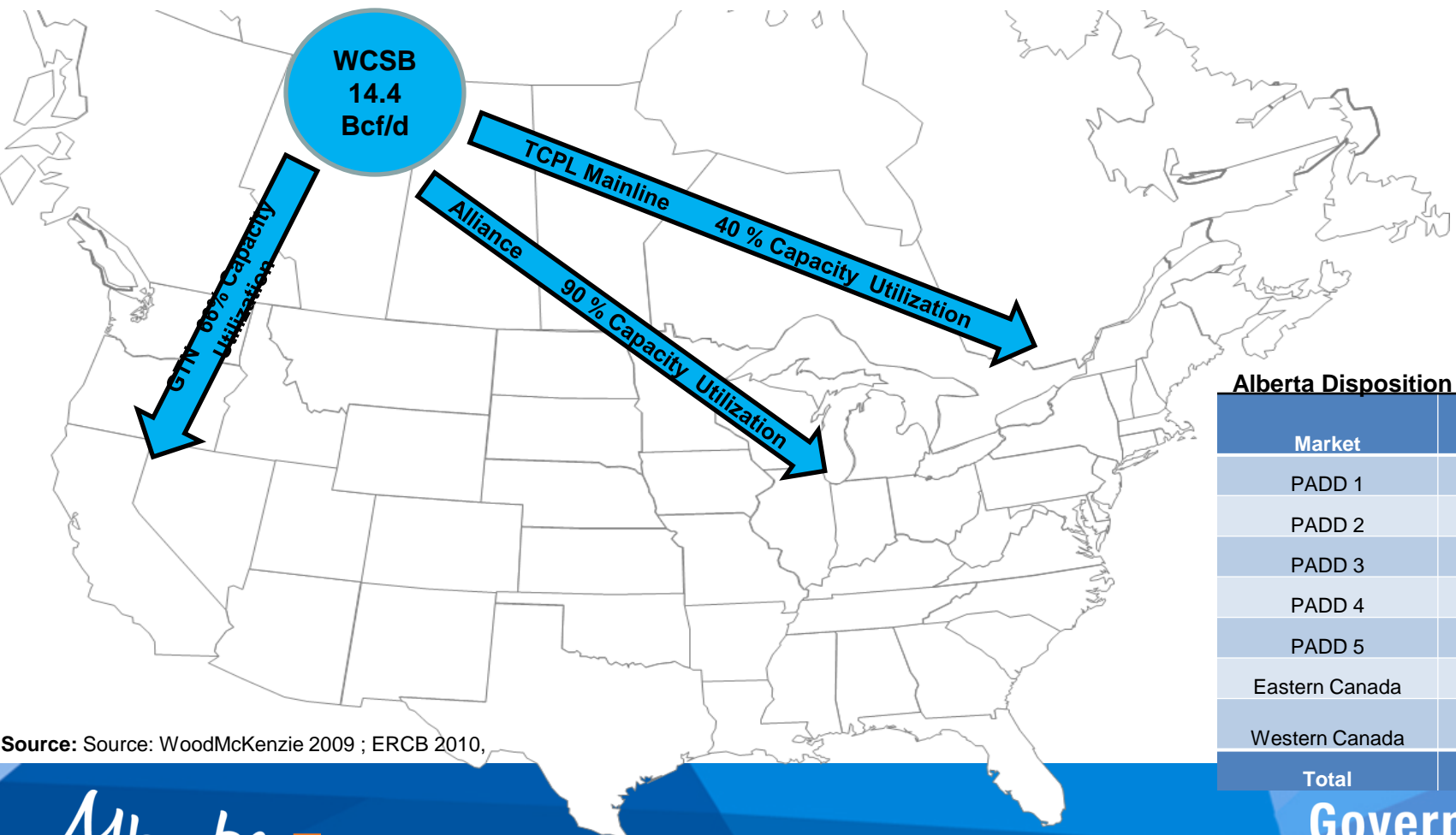
Western Canadian Crude Oil Demand and Refinery Capacity

Market	Alberta Exports (Barrels Per Day 000's)
PADD 1	59
PADD 2	1,167
PADD 3	78
PADD 4	218
PADD 5	106
Eastern Canada	252
Western Canada	47
Total	1,927



Source: CAPP

Current Alberta Natural Gas Markets

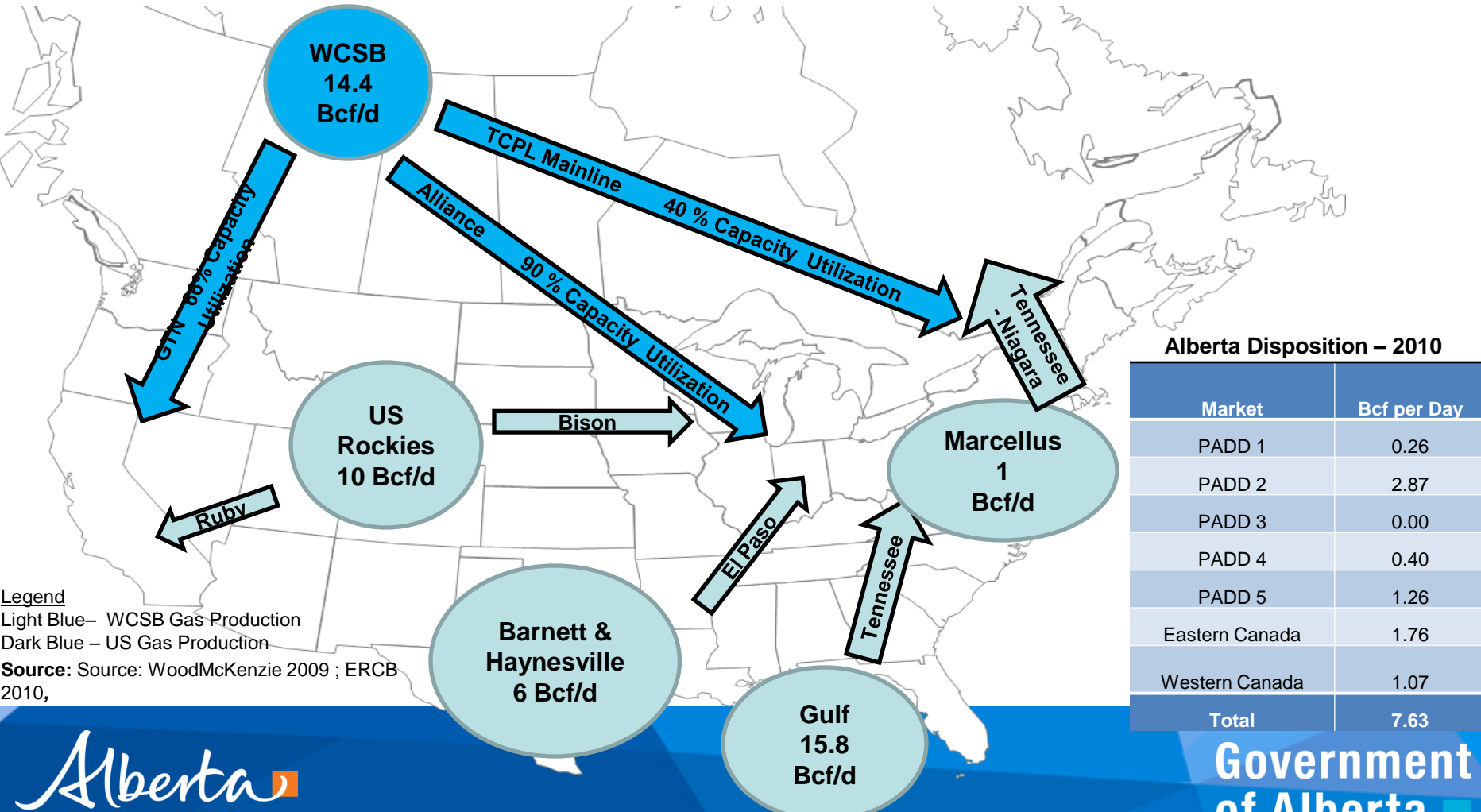


Alberta Disposition – 2010

Market	Bcf per Day
PADD 1	0.26
PADD 2	2.87
PADD 3	0.00
PADD 4	0.40
PADD 5	1.26
Eastern Canada	1.76
Western Canada	1.07
Total	7.63

Source: Source: WoodMcKenzie 2009 ; ERCB 2010,

Current Alberta Natural Gas Markets



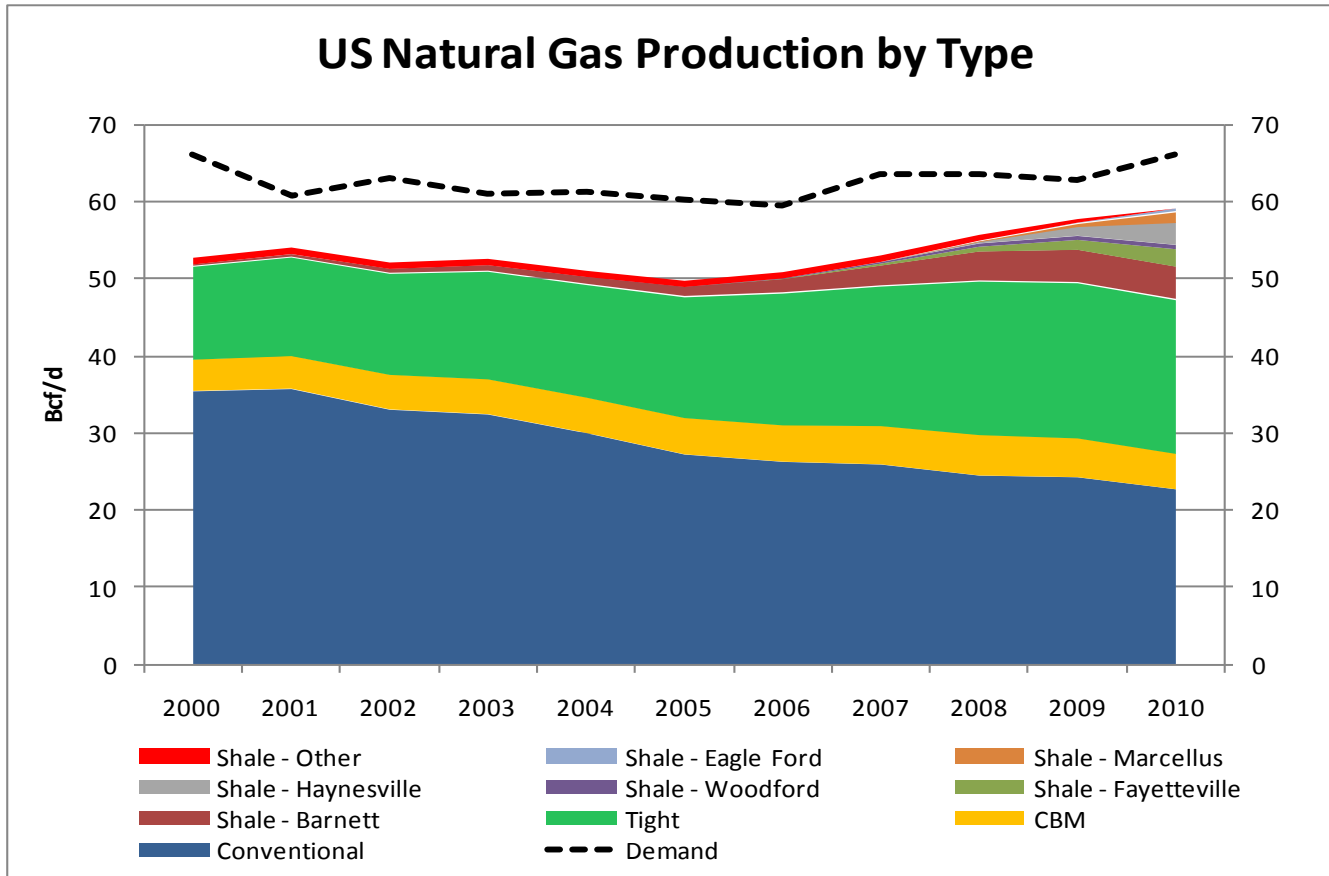
Alberta Disposition – 2010

Market	Bcf per Day
PADD 1	0.26
PADD 2	2.87
PADD 3	0.00
PADD 4	0.40
PADD 5	1.26
Eastern Canada	1.76
Western Canada	1.07
Total	7.63

Legend
 Light Blue– WCSB Gas Production
 Dark Blue – US Gas Production

Source: Source: WoodMcKenzie 2009 ; ERCB 2010,

US Shale Gas Growth

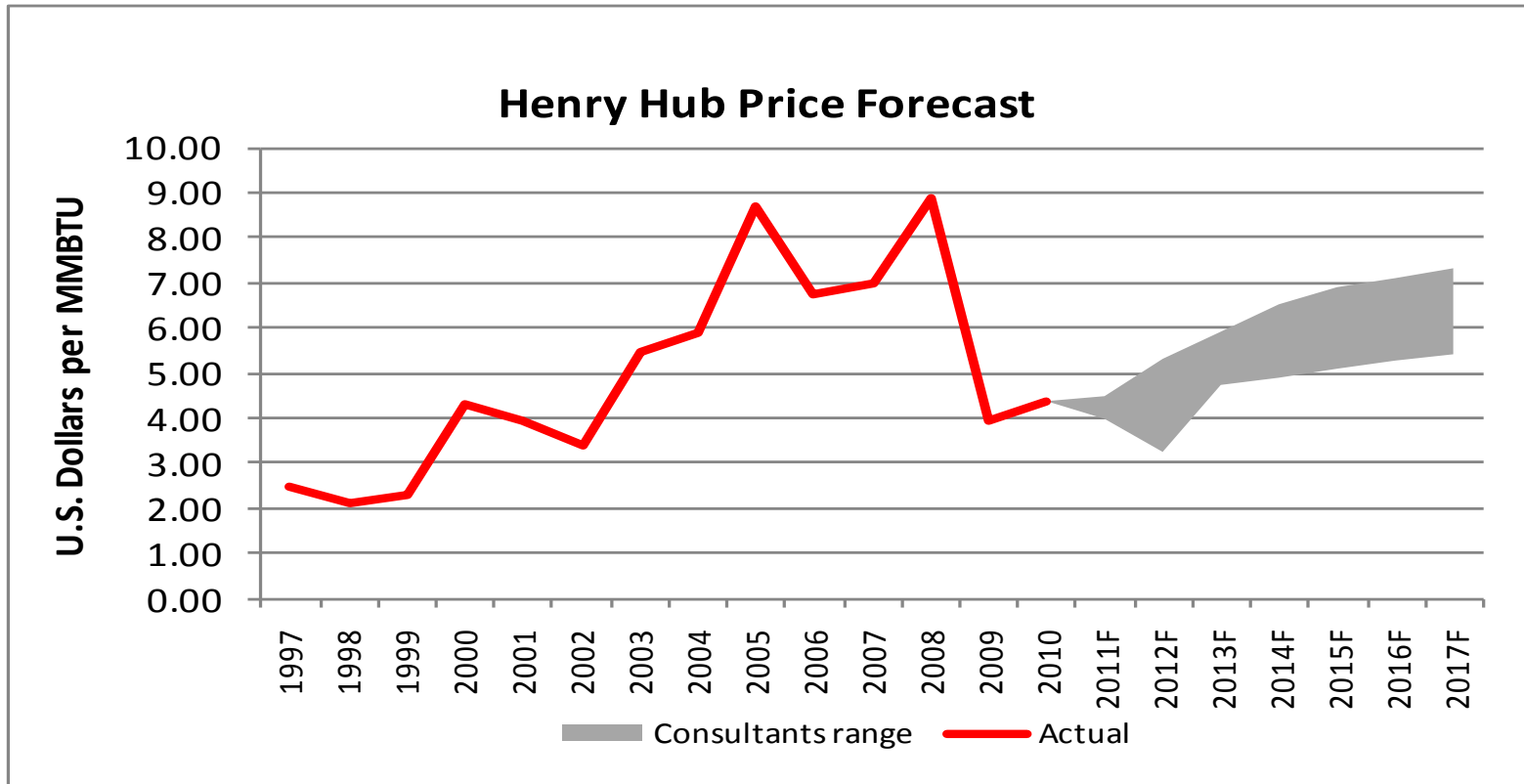


	US Demand	Total Supply	Diff
2000	66	53	13
2001	61	54	7
2002	63	52	11
2003	61	53	9
2004	61	51	10
2005	60	50	11
2006	59	51	9
2007	64	53	11
2008	64	56	8
2009	63	58	5
2010	66	59	7

Source: Wood Mackenzie

Price Trends

Natural Gas Price & Forecast



Natural Gas Price Drivers

Lower Prices

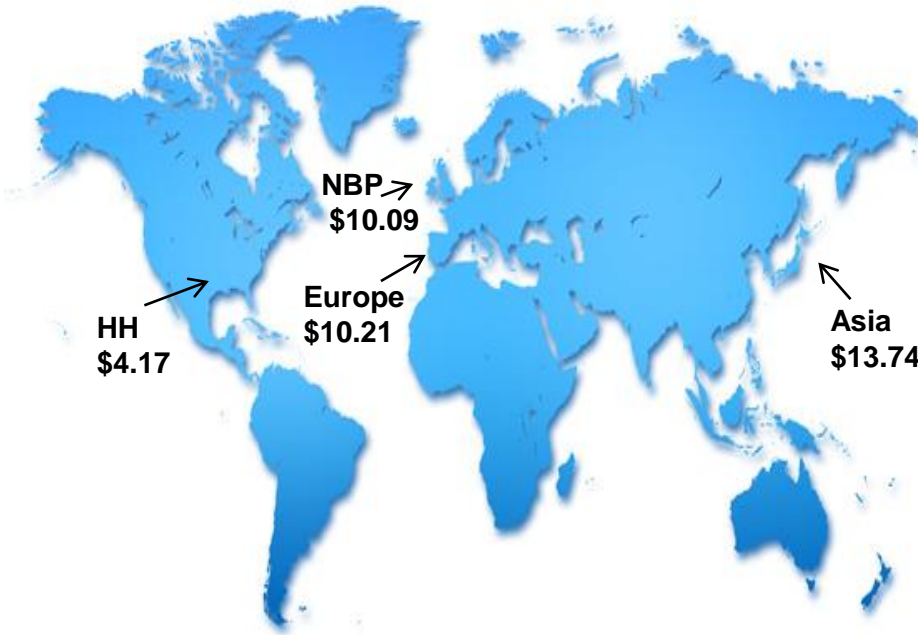
- shale gas production growth
- high inventory levels
- Joint Ventures
- US drilling to retain land



Higher Prices

- lower returns
- investment migrating towards tight oil & liquid rich plays
- cost inflation pressures (oil/gas competition)
- slow down in drilling activity
- economic recovery
- increase usage of natural gas

Natural Gas Prices around the world

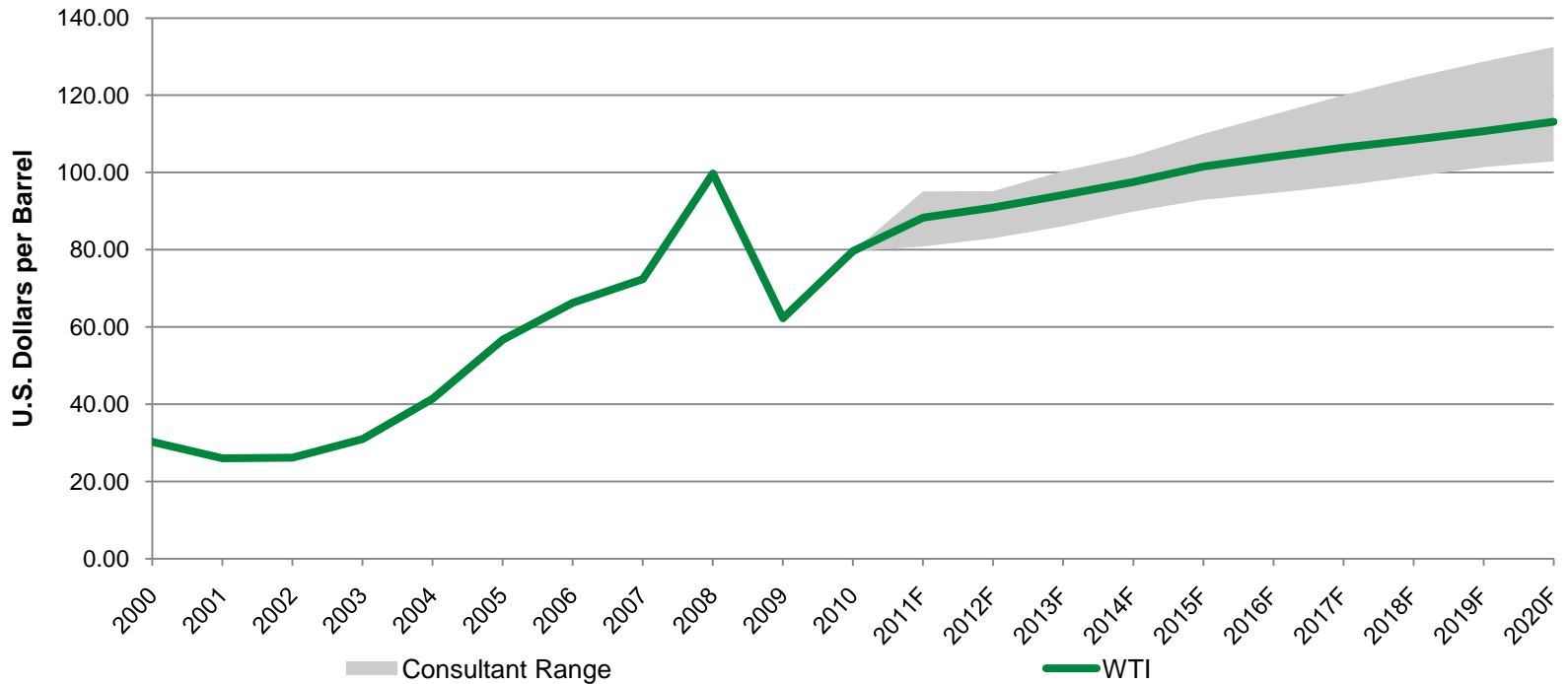


- Natural gas is a continental commodity as LNG transports a small portion of total natural gas production
- Price differentials have widened as natural gas prices in other international markets are tied to higher oil prices
- Market diversification (LNG) can increase the price Alberta producers received for natural gas and reduce the risk associated with depending on the North American market

Source: PIRA, Global LNG Monthly (March 2011), ADOE

WTI Price & Forecast

WTI Price Forecast



Oil Price Drivers

Lower Prices

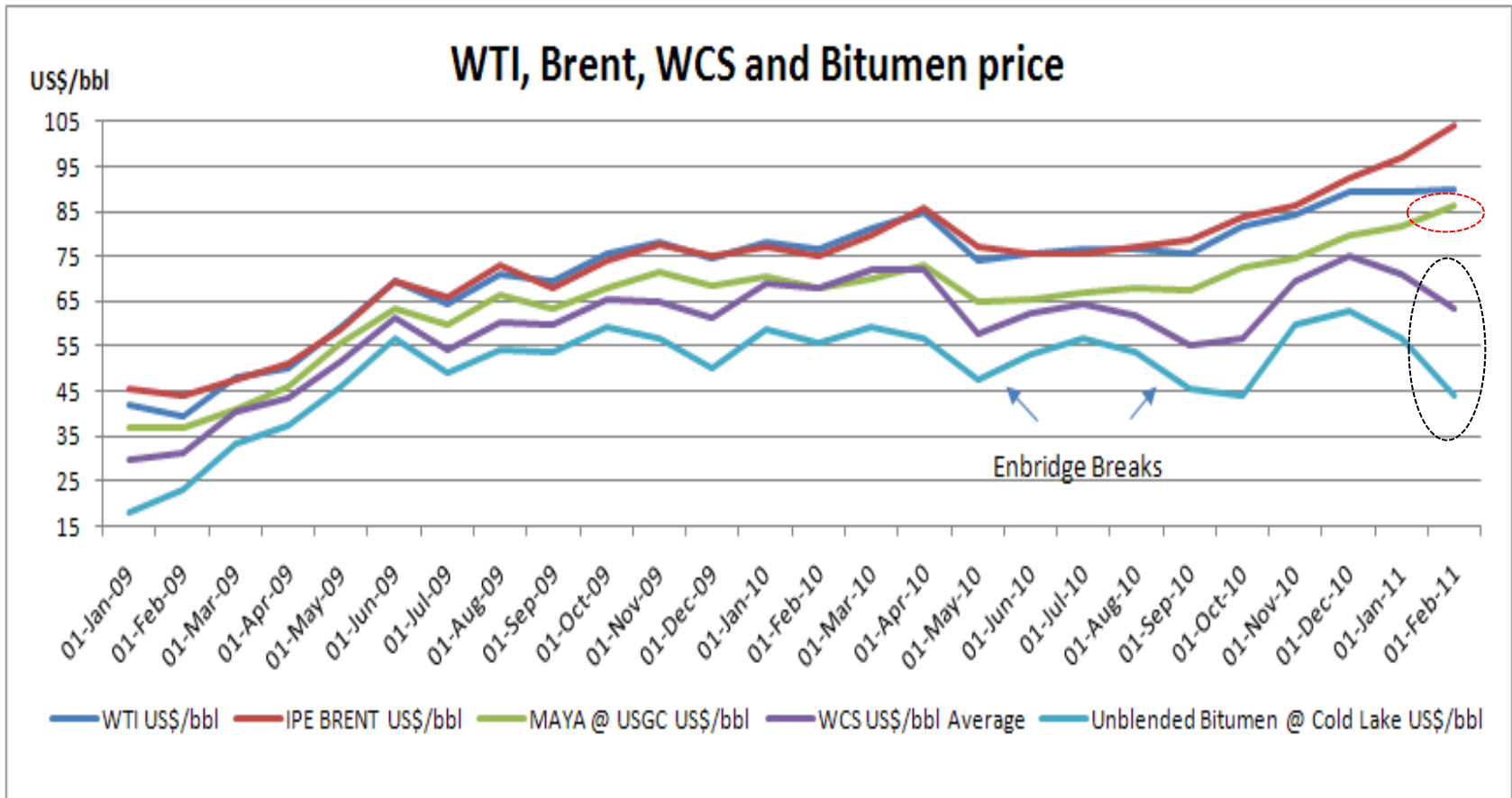
- Economic slowdown
- Higher US dollar
- Geopolitical stability
- Low refinery capacity
- Market over-supplied in the US Mid-West (crude oil is land locked)



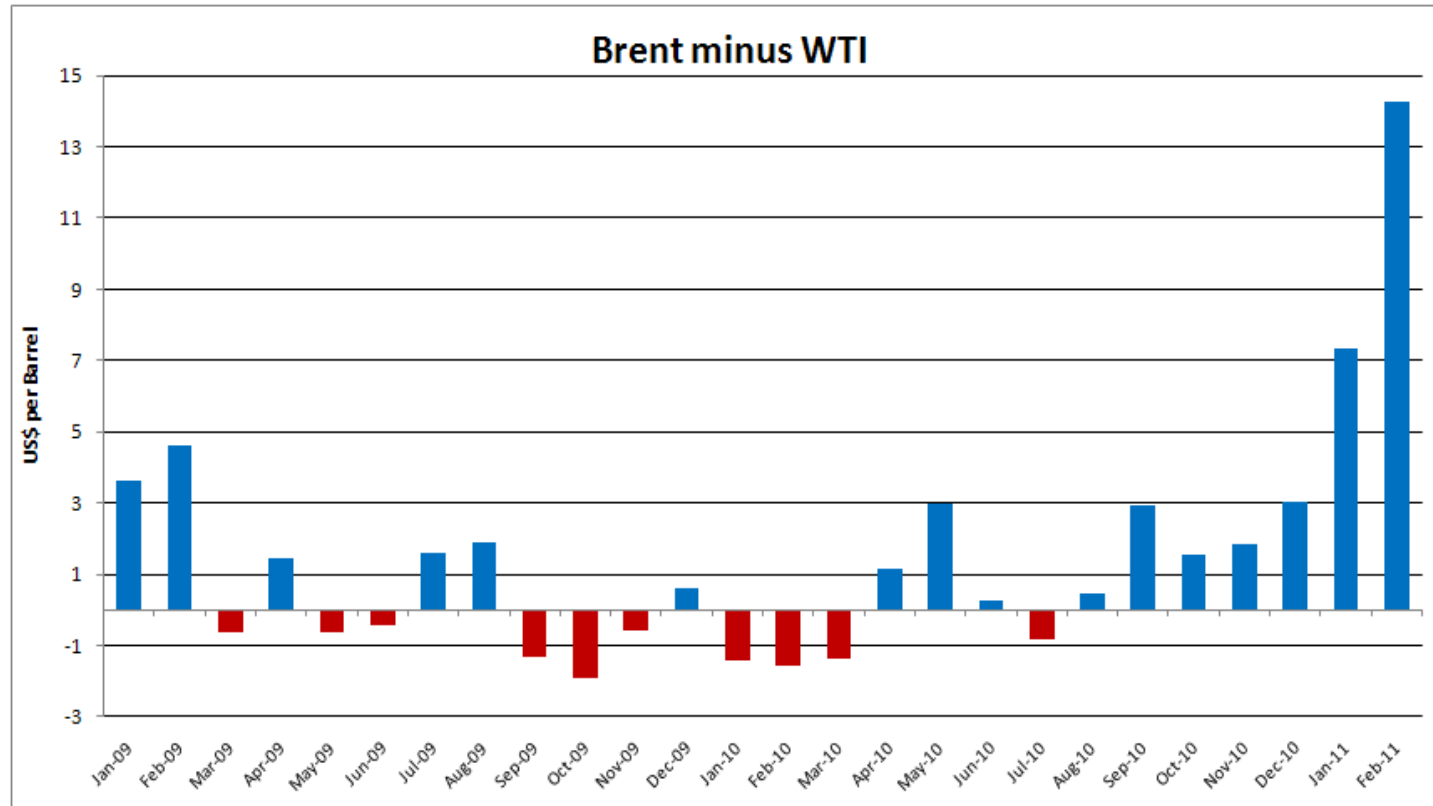
Higher Prices

- Higher Economic recovery in US
- Unrest in the Middle East
- Low spare oil production capacity
- Supply disruption
- Investors looking for a hedging vehicle against US dollar devaluation

Declines in Alberta Heavy Crude Oil Prices since December 2010 (but Maya keeping up)

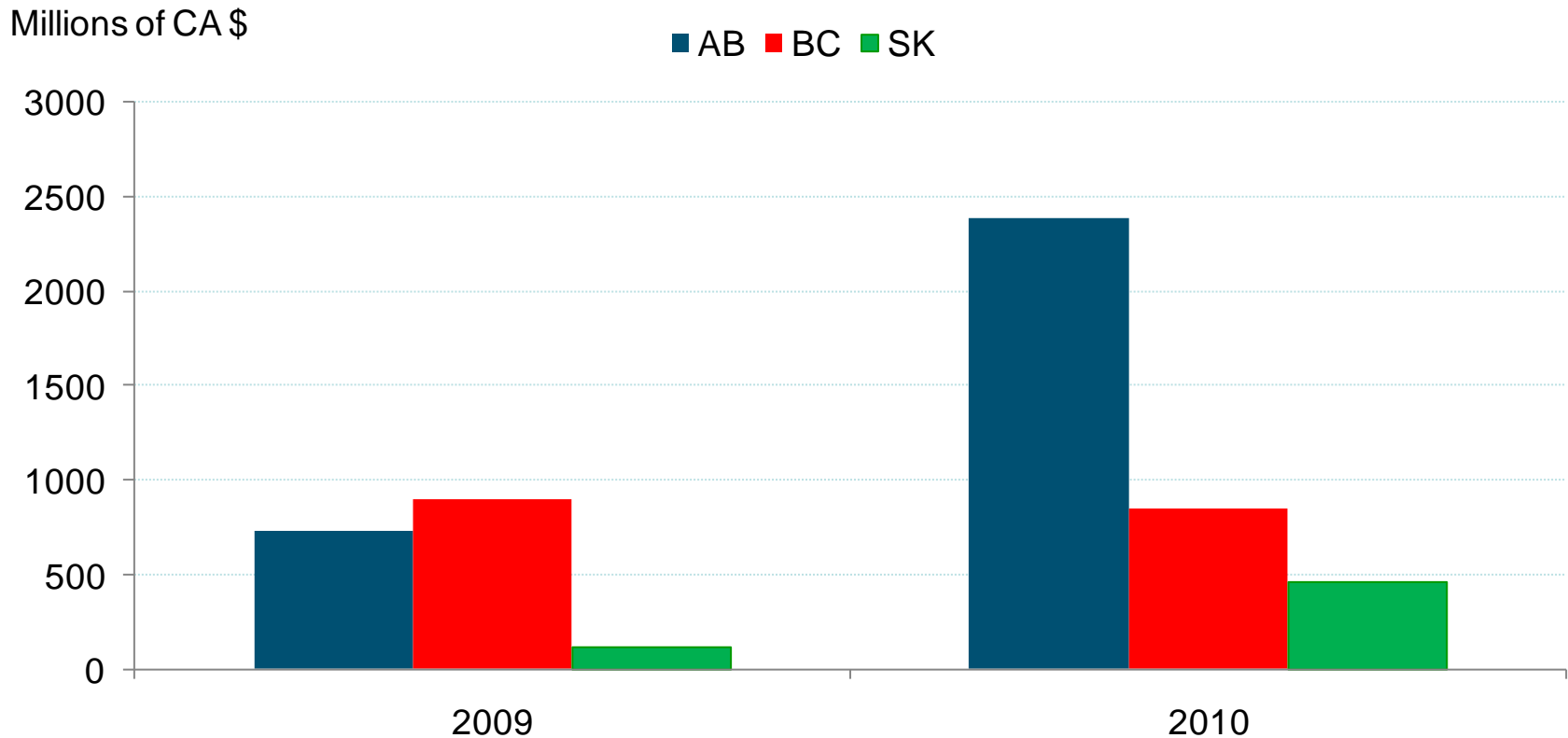


WTI Prices – Rise in global crude oil prices glut in Cushing



Conventional Oil and Gas Activity Trends

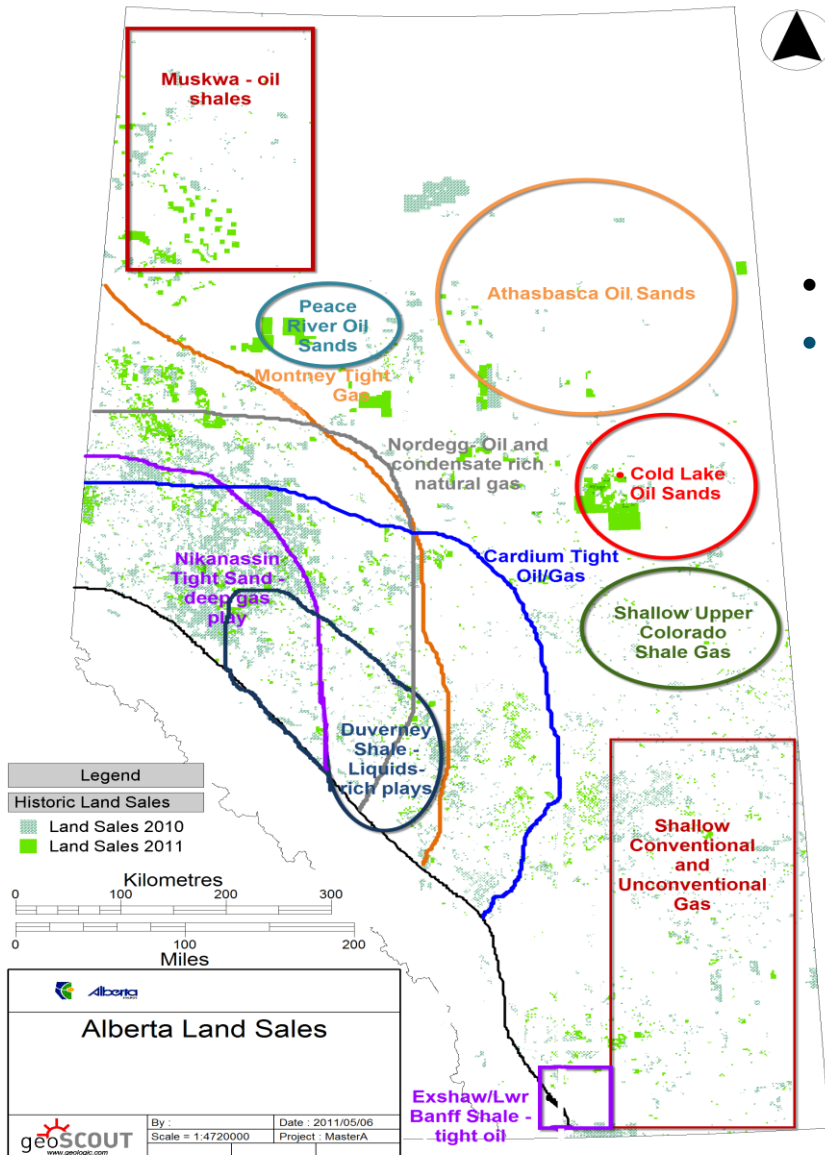
Western Canadian Land Sales



Source: Alberta Department of Energy

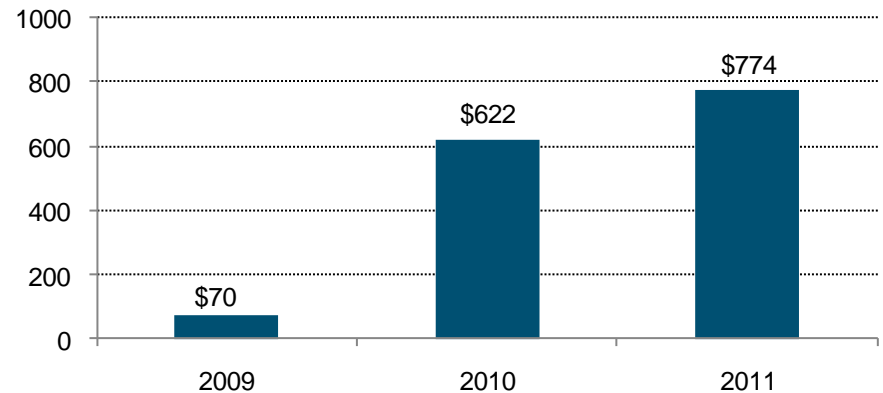
Emerging Resources

- Land sales is an indicator of future activity
- Total 2010 land sales over \$2.3 Billion



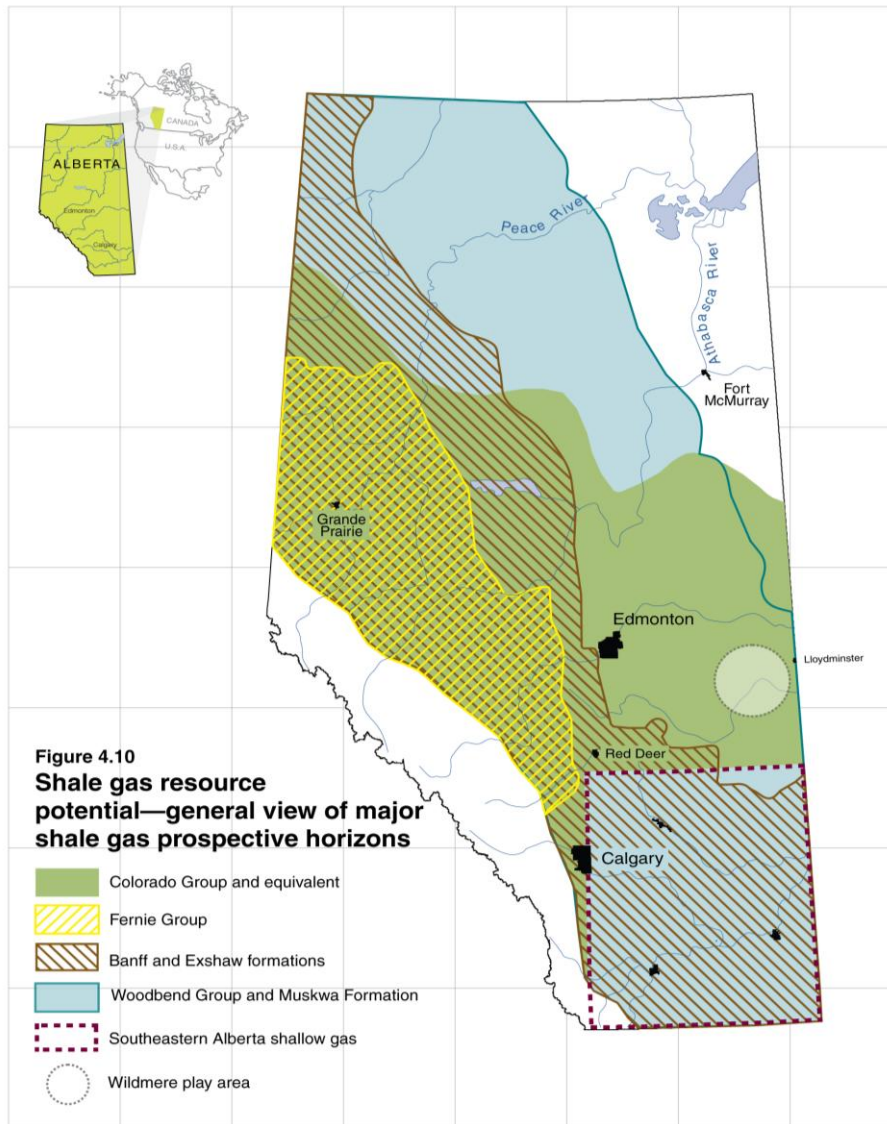
**Alberta Land Sales
(January to April)**

Millions of CAD\$



Source: Alberta Department of Energy

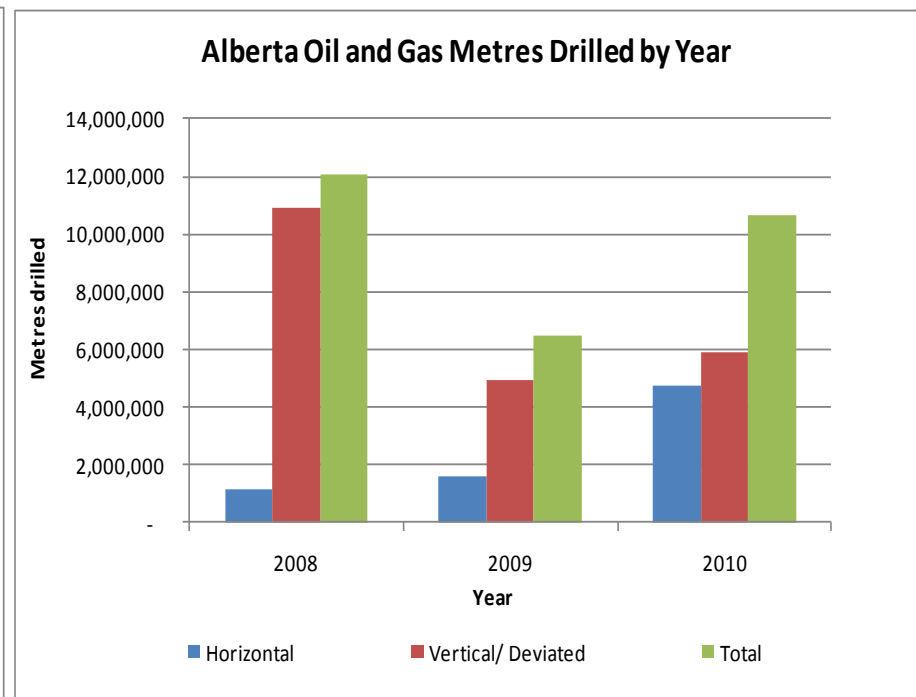
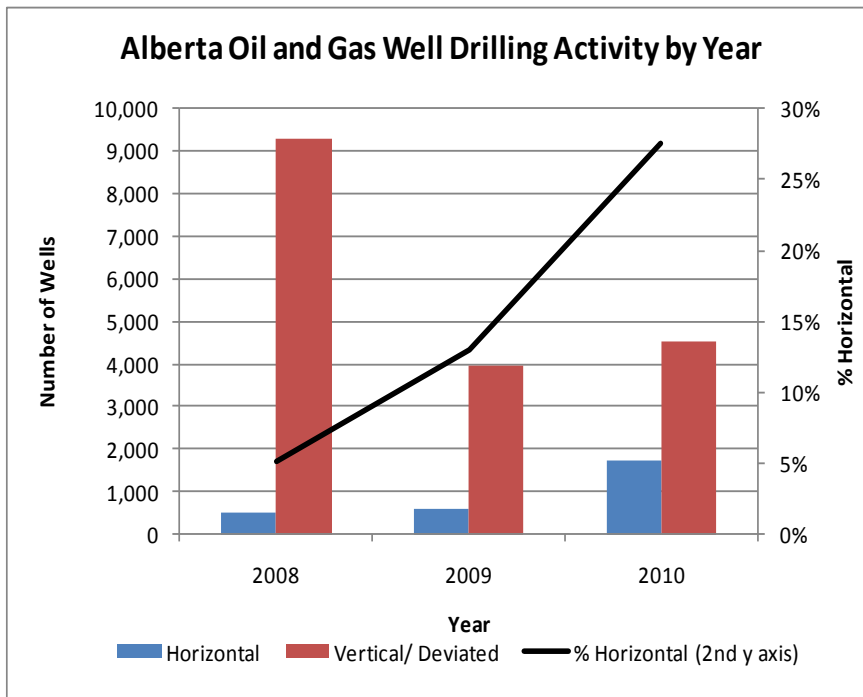
Emerging Resources



Source: Energy Resource Conservation Board

- Not all shale areas have development potential
- 15 shale zones have potential including;
 - **Cretaceous**
 - Colorado Group
 - **Jurassic**
 - Fernie
 - Nordegg
 - **Triassic**
 - Montney – siltstone and sandstone in Alberta (shale in B.C.)
 - **Mississippian**
 - Banff
 - Exshaw
 - **Devonian**
 - Duvernay
 - Muskwa

Alberta Drilling Activity



Source: Alberta Department of Energy

- Increasing horizontal drilling reflecting shift towards unconventional oil and gas development in shale and tight plays
- Activity has shifted towards tight oil in Alberta

Improving Investment

Improving Investment

- New Well Royalty Rate (May 2010)
- Natural Gas Deep Drilling Program (May 2010)
- Horizontal Oil New Well Royalty Rate (May 2010)
- Emerging Resources Technology Initiative (May 2010)
- Resource Characterization (May 2011 – March 2012)

Initiatives

- Natural Gas Strategy
 - Address the near and long term competitiveness of Alberta based natural gas supply
 - Focus on both demand side initiatives and supply economics.
 - Maintains near-term industry health
- Oil Markets Diversification Strategy
 - Focus on market diversification and transportation

Summary

- Alberta's resource potential is world class
- Accessing global markets (Asia) for its crude oil and natural gas is needed to maximize the value Albertans receive for their resources.
 - Despite rising WTI prices, North American crude oil prices not keeping pace with global crude oil prices due to growing land locked crude supplies in US Mid-West (Cushing)
 - Natural gas industry is still challenged by:
 - » Low prices
 - » Higher tolls
 - » Increasing competition from US shales
- Alberta emerging resource plays and competitive fiscal terms are boosting investment
- Alberta fiscal and regulatory are evolving to accommodate increasing unconventional development