

# Safe and Reliable Transportation of the Bakken Production



**IOGCC Midyear Issues Meeting  
Environment & Safety  
Committee  
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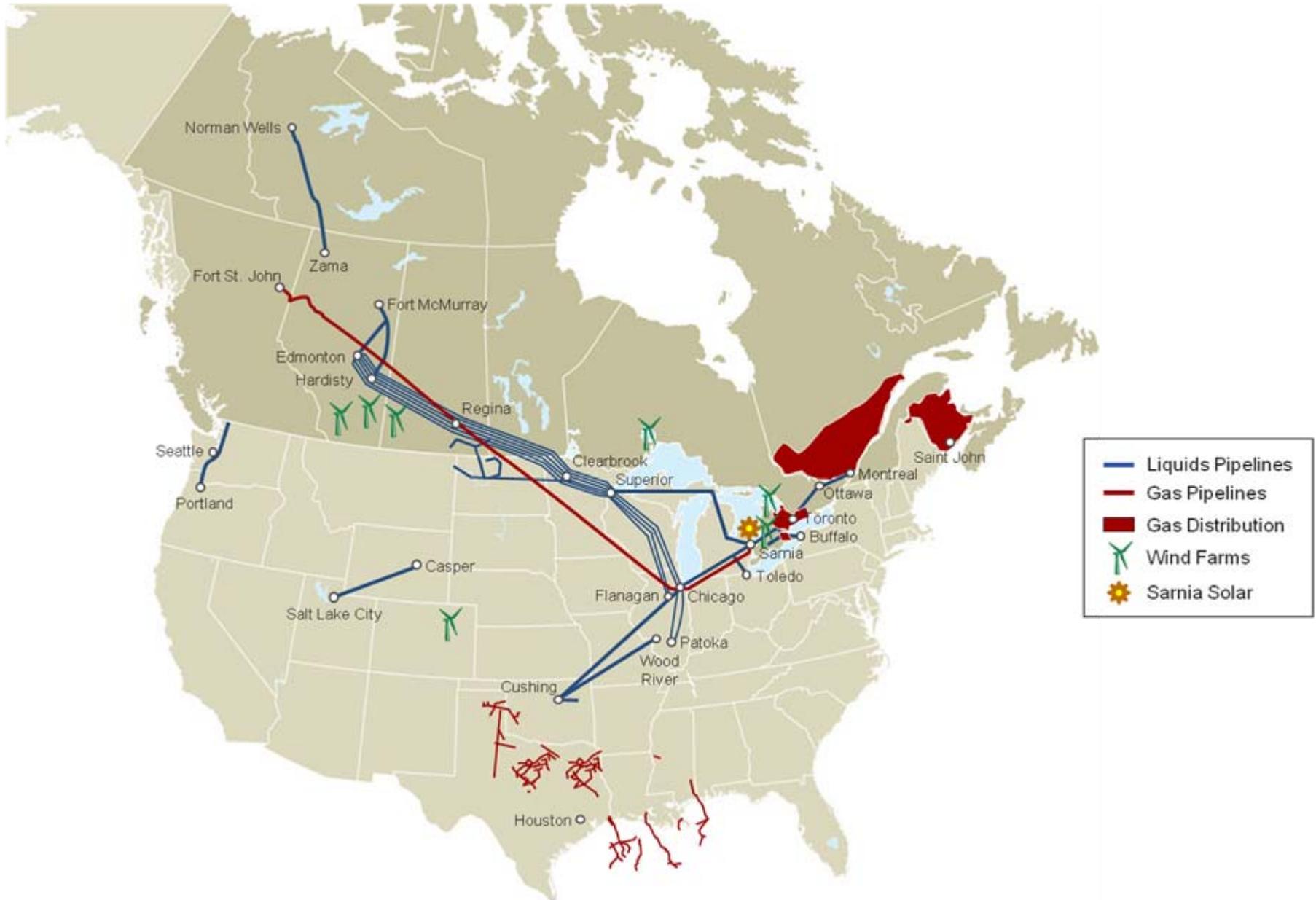


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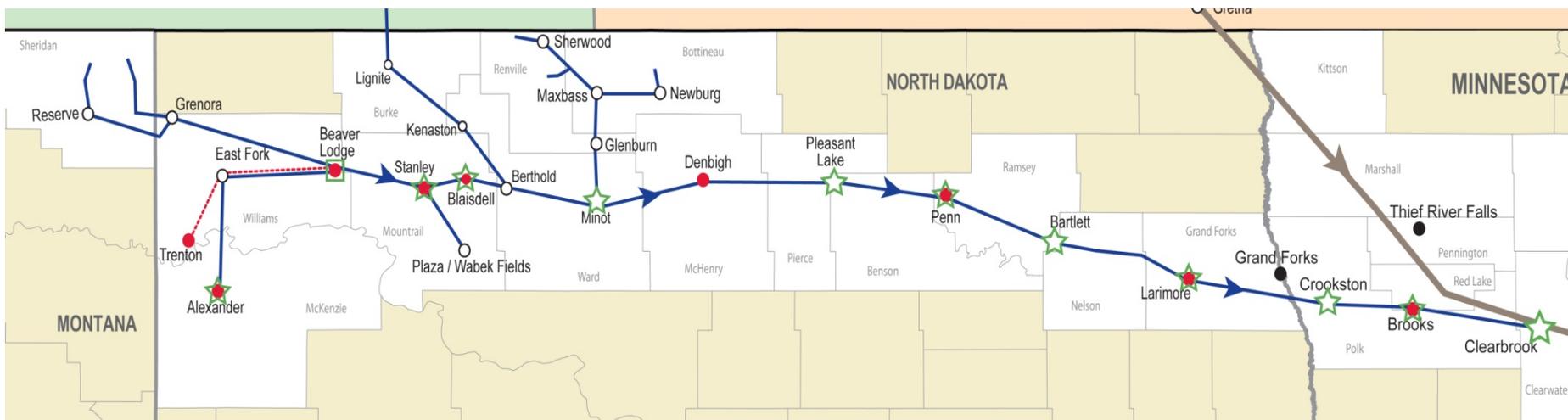
- **About Enbridge**
- **Growing Bakken Production**
- **Enbridge in the Bakken – Crude Oil Activities**
- **Balancing Community Interests and Expansion Projects**
- **Superior Market Access**
- **Enbridge and Alliance in the Bakken – Natural Gas Activities**
- **Conclusion**

# Enbridge Overview

## North American Leader in Energy Transportation



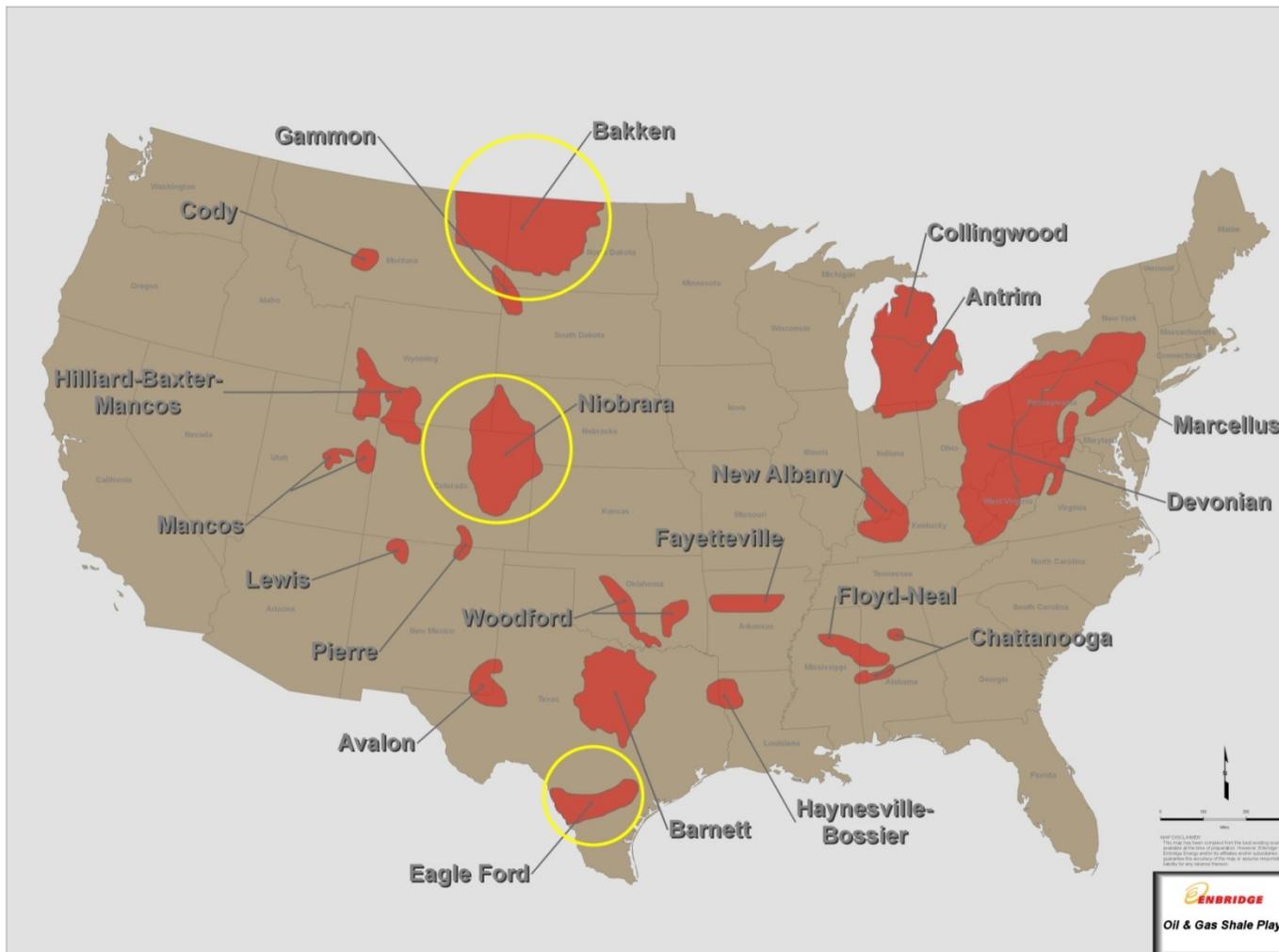
# Enbridge Pipelines North Dakota



- **Enbridge Pipelines, North Dakota (LLC)**

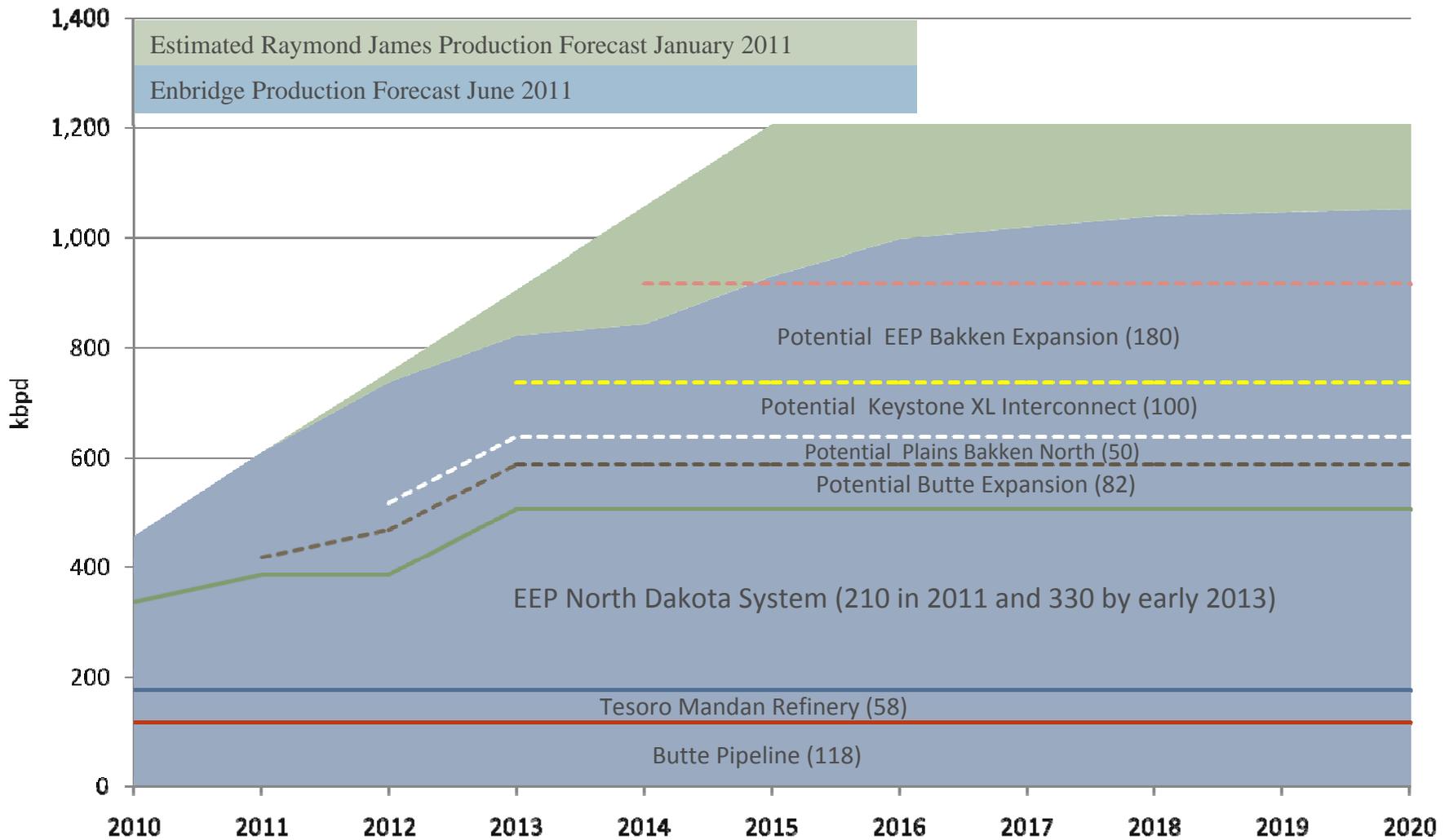
- Present in North Dakota since 1996 (purchased Portal Pipeline)
- 240-mile crude oil **gathering** and 730-mile **interstate pipeline** transportation system
- Gathers oil from 22 oil fields in North Dakota and Montana
- 210,00 bpd moving out of North Dakota system – more than 2 ½ times original capacity

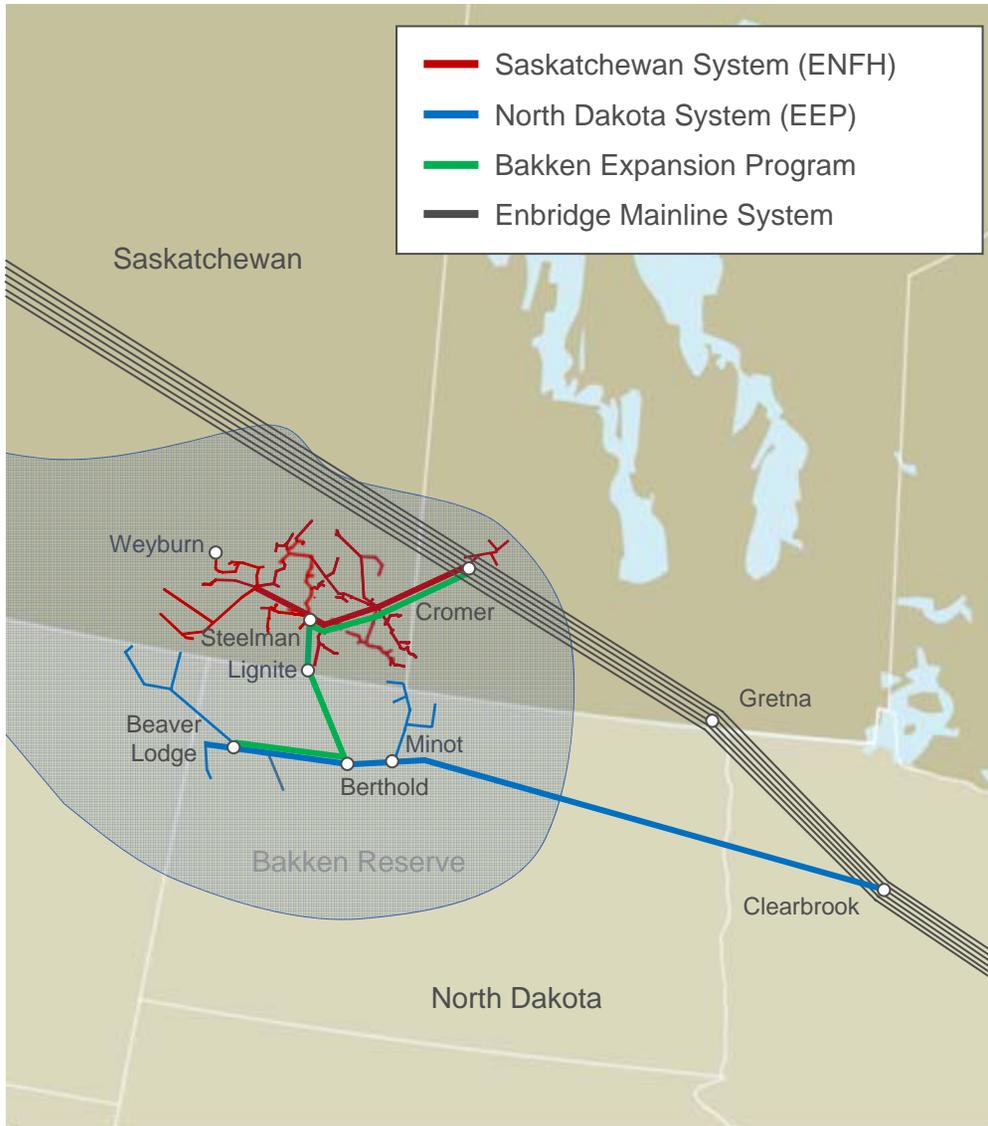
# Opportunities: Shale Oil Plays Yielding Sustainable Economic Recovery of Reserves



Goldman Sachs estimates North American shale oil potential at over 1.8 million barrels per day

# Bakken Production and Capacity Forecast





- **North Dakota Pipeline Capacity (185,000 bpd growing to 210,000 bpd)**

- Phase 6 (51 kbpd of additional capacity)
- Portal Reversal (25 kbpd of additional capacity)
- Alexander to Beaver Lodge
- System Optimization
- Berthold Truck Station

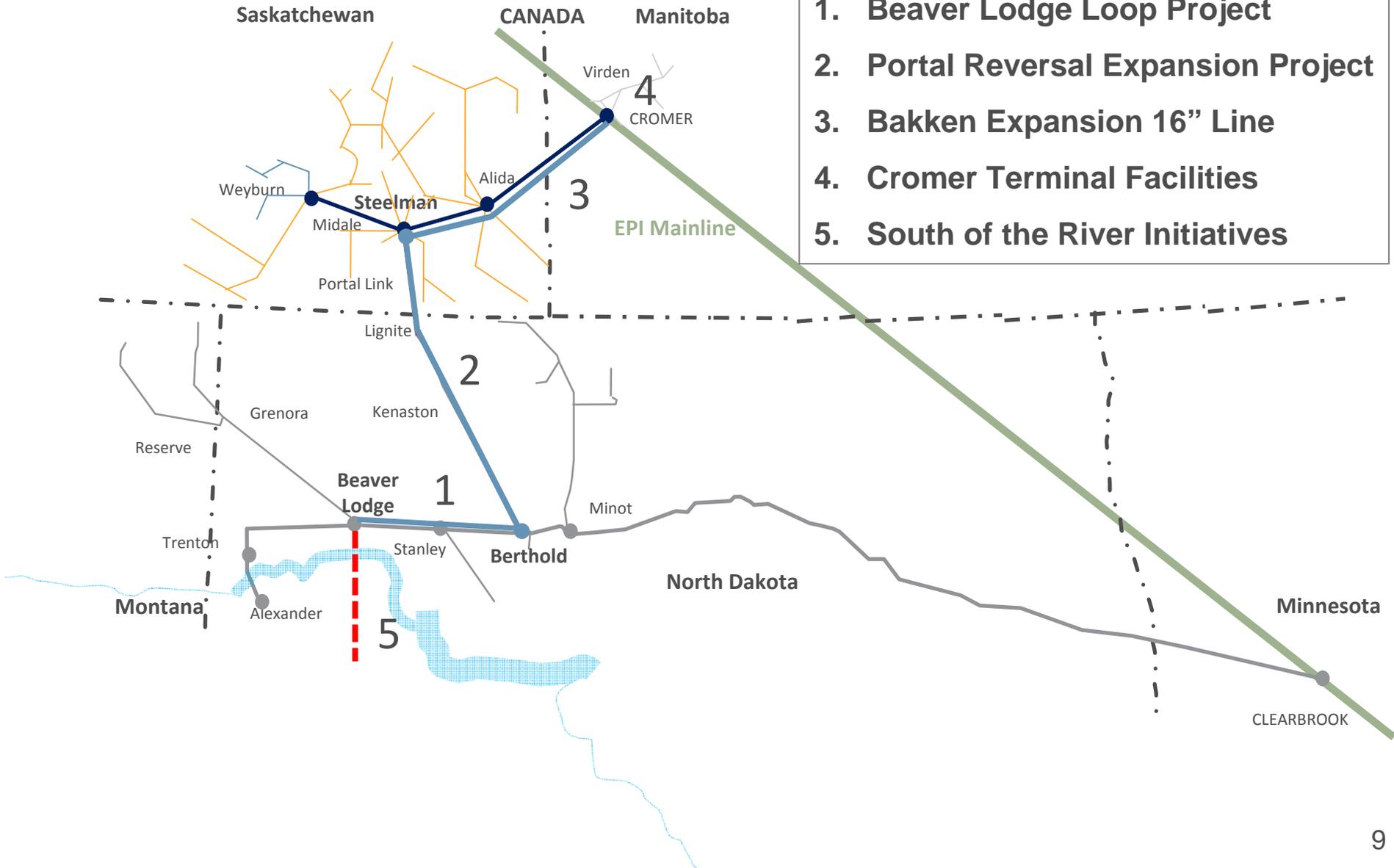
- **Bakken Expansion Program**

- Capacity: 145,000 bpd
- In-service Jan 1, 2013
- Expandable to 325,000 bpd

# Bakken Expansion Program Configuration



1. Beaver Lodge Loop Project
2. Portal Reversal Expansion Project
3. Bakken Expansion 16" Line
4. Cromer Terminal Facilities
5. South of the River Initiatives





- Rapid growth outpacing pipeline infrastructure expansion
- Current market prices/conditions support rail solutions in the near term
- Enbridge considering rail alternatives as part of its overall Bakken transportation portfolio.

## **Gathering lines, transmission lines, provide safest transportation for Bakken production**

- Below ground
- No surface impact to roads, traffic

## **At current rate of production growth, truck transportation remains important component in transportation portfolio**

- Consultation with local communities and state transportation departments on expansion involving truck facilities is critical component to expansion projects.
- Safety of local citizens is paramount concern for both the pipeline company and the community impacted.

**Rail provides interim transport options as pipeline infrastructure continues. Safety considerations apply to rail projects as well.**

# BERTHOLD STATION UPGRADE PROJECT

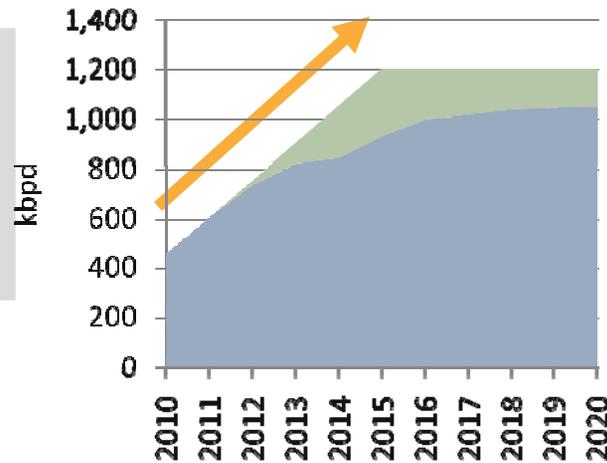


Open House Meetings provide opportunity to:

- Educate stakeholders about pipeline construction and the work that will take place in their area
- Showcase Enbridge's safety culture
- Demonstrate Enbridge's commitment to stakeholder consultation and community involvement
- Build on the goodwill established with stakeholders through prior outreach
- Commemorate the project milestone and the new office in Stanley
- Provide a "one stop shop" for stakeholders to receive information on both pipeline construction and ongoing operations
- Upcoming meetings include:
  - July 12            Berthold
  - July 13            Stanley
  - July 14            Lignite

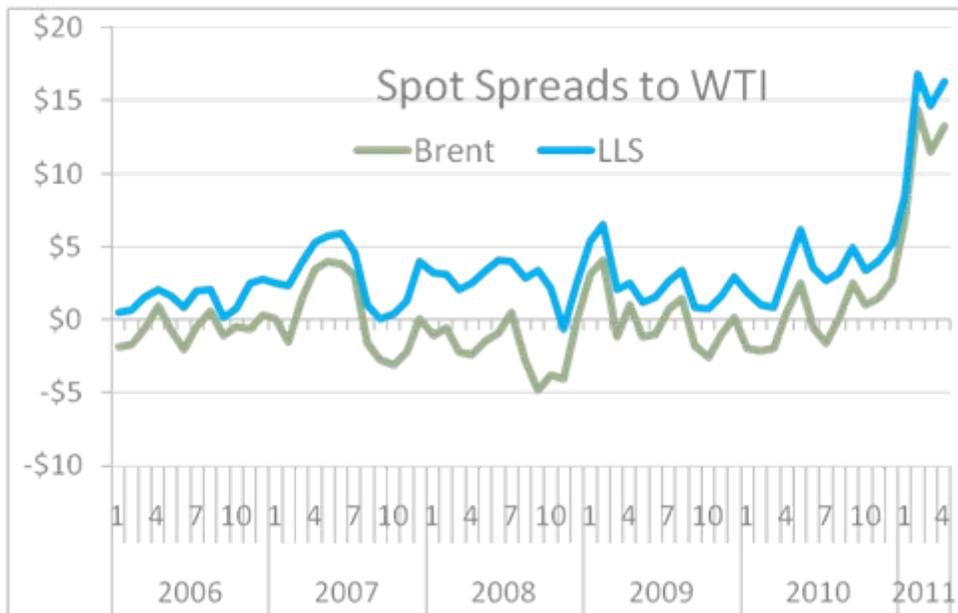
***Communication is essential to a successful project.***

Bakken production continues to climb...



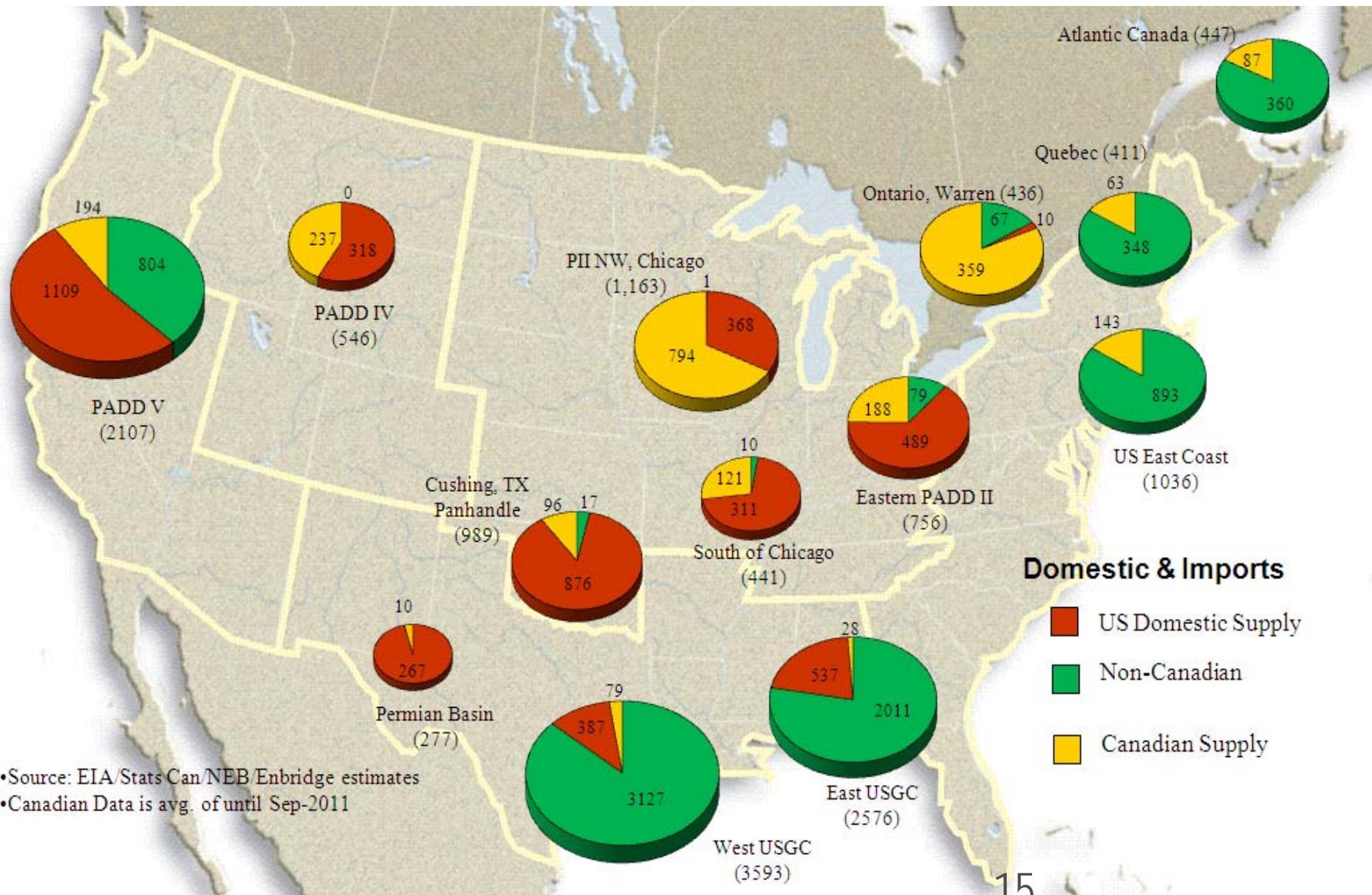
...while refinery conversions in Midwest will further reduce regional demand for light crude

Refinery Conversions	Year	Change in Light
WRB Wood River	2012	-130,000
BP Whiting	2013	-230,000
Marathon Detroit	2013	-70,000
<b>Total</b>		<b>-430,000</b>



Growth in light production coupled with refinery conversions in Upper Midwest will continue to cause market disparity for WTI

# 2010 Crude Disposition by Region



• Source: EIA/Stats Can/NEB/Enbridge estimates  
 • Canadian Data is avg. of until Sep-2011

# Enbridge Extending Light Crude to Premium Light Sweet Markets

Liquids Pipelines  
Broadening Market Access

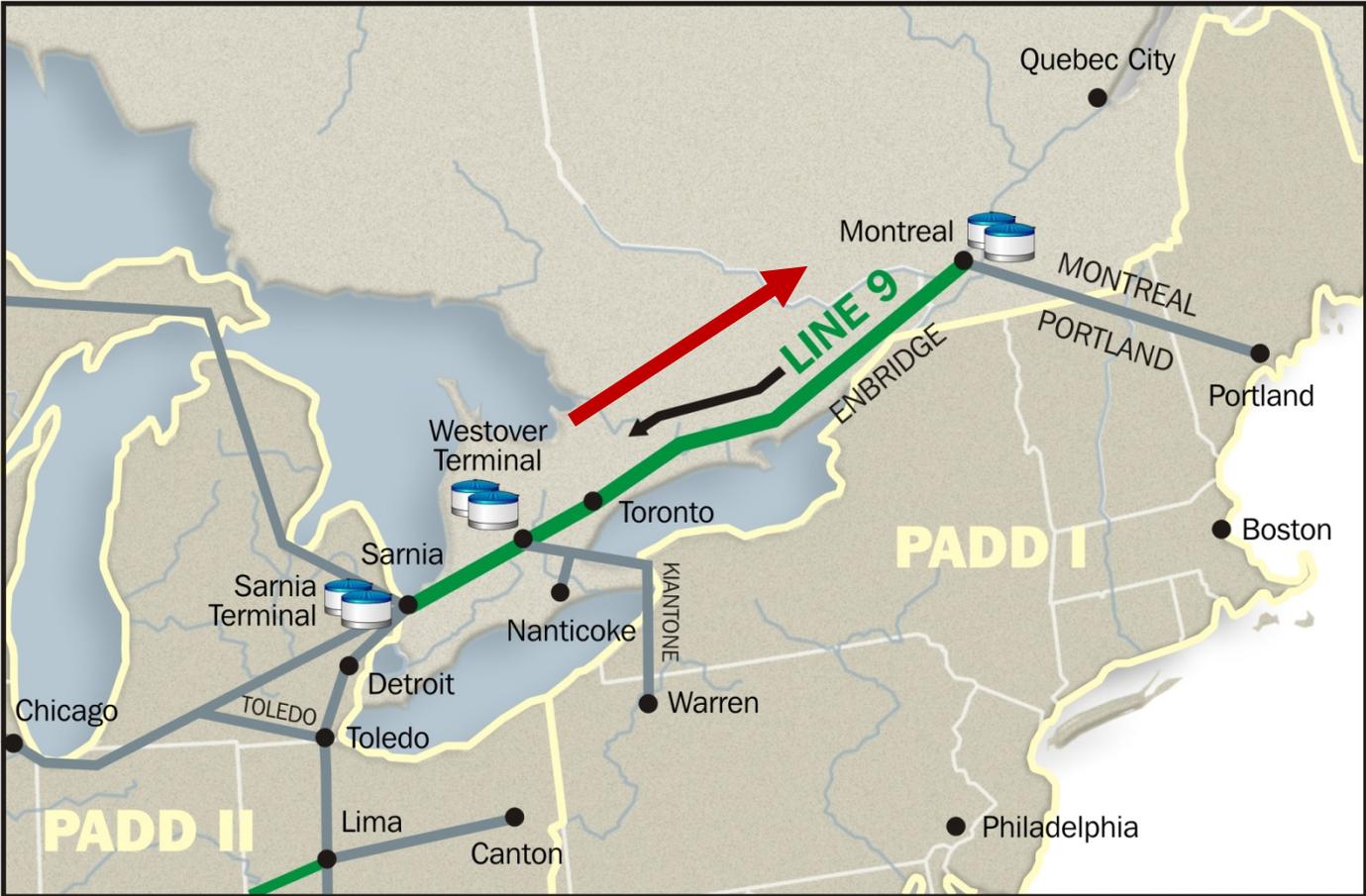




## Greenfield

- A 475 mile pipeline from Cushing to the interconnect north of Houston to serve US Gulf Coast refinery hub
- Utilize existing terminal at Cushing and deliver into existing terminal and pipeline infrastructure in Houston area
- Designed based on 350 kbpd of WTI
- Expandable to meet market needs to connect supplies to vast Gulf Coast hubs
- Targeting a Q4 2013 in-service date

# Line 9 Reversal



# Widespread deposits of shale have become game-changers; North America now has abundant low-cost resources .



## Northeast B.C. Shale Plays



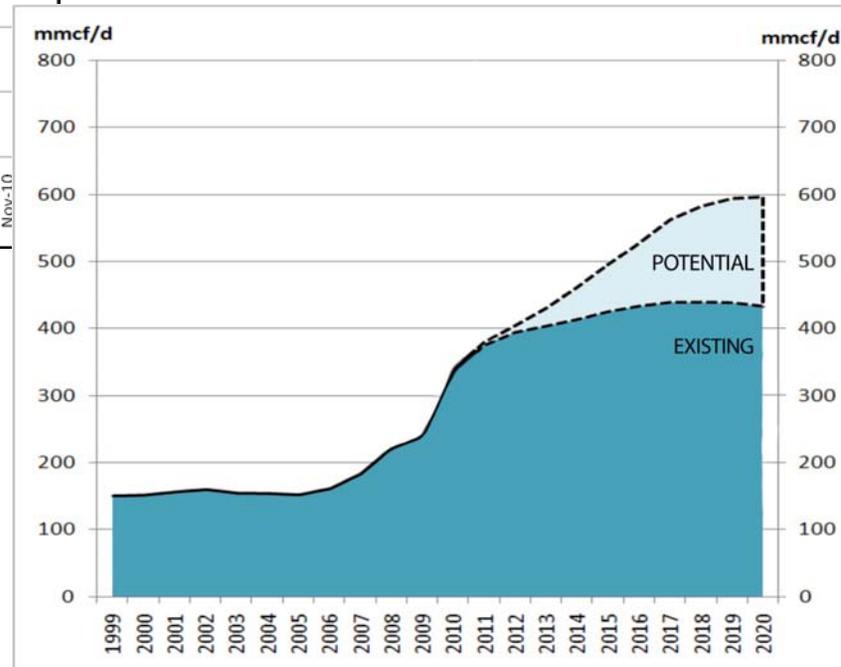
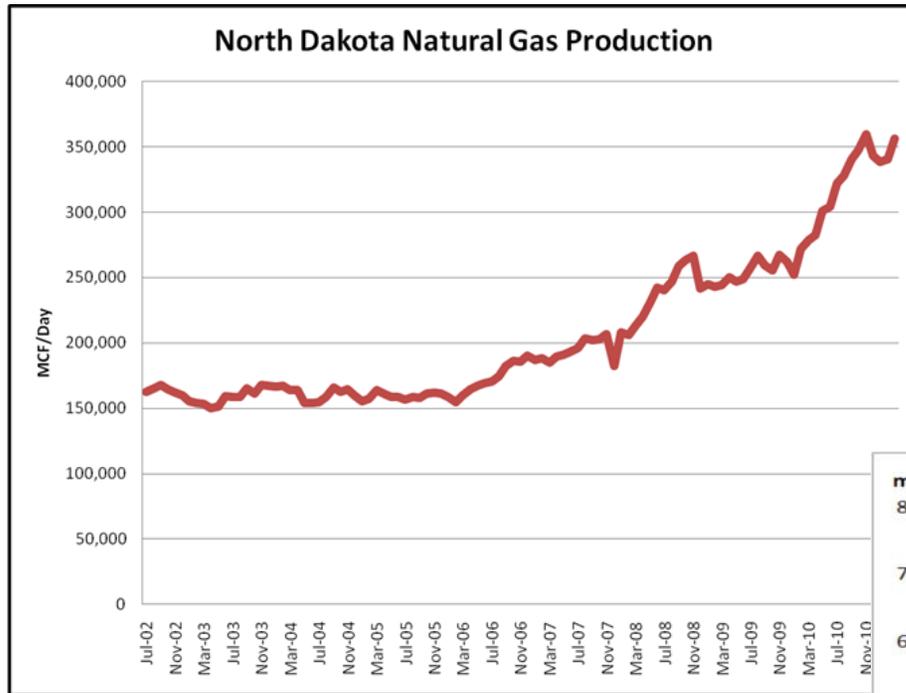
Source: CSUG

## Shale Gas Plays, Lower 48 States



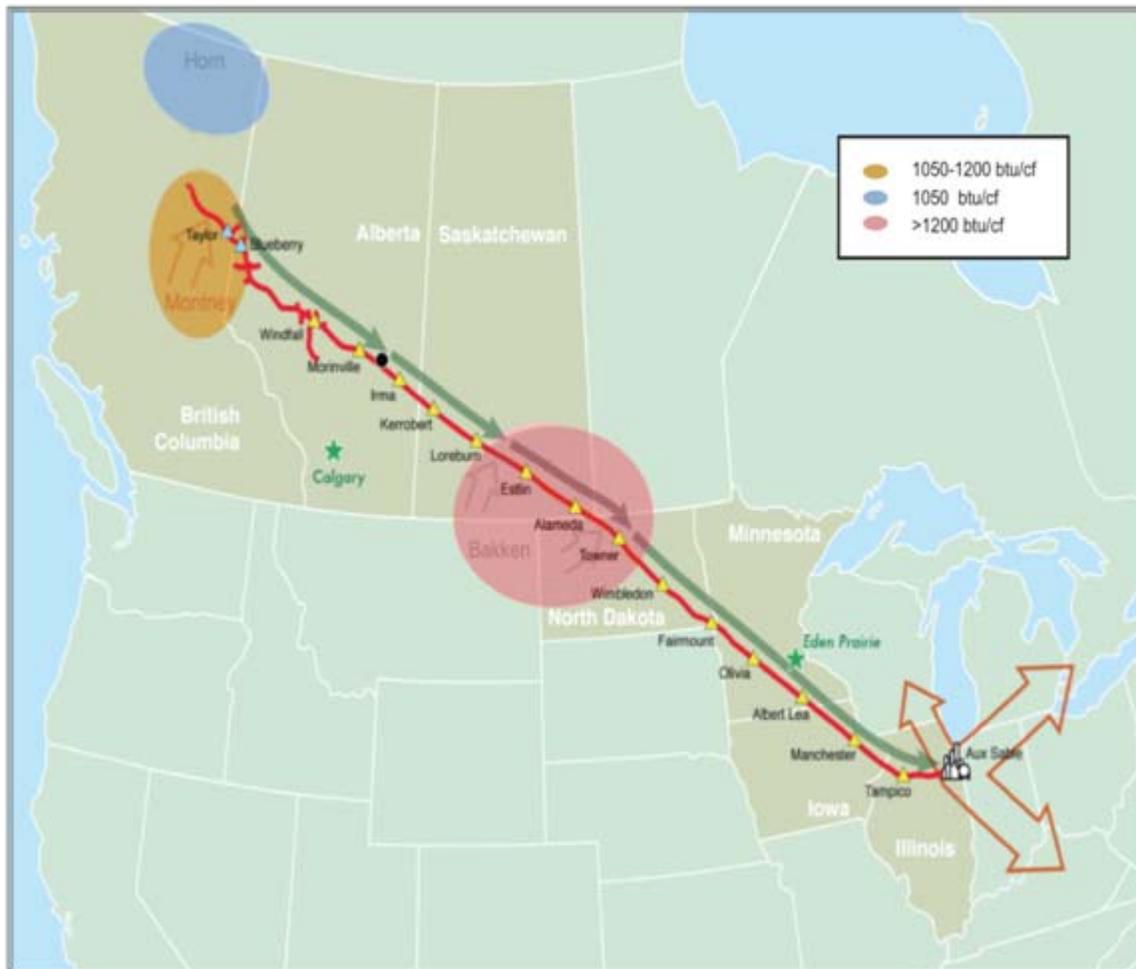
Source: Energy Information Administration based on data from various published studies  
Updated: May 28, 2009

# North Dakota Natural Gas Production



Source: North Dakota Industrial Commission, Dept. of Mineral Resources, Oil and Gas Division

Source: Alliance Pipeline



## Alliance Pipeline

The Alliance Pipeline system transports high-energy, rich natural gas from northeastern British Columbia and northwestern Alberta through Saskatchewan, North Dakota, Minnesota, and Iowa to its terminus at the Aux Sable plant along Highway 6 between Morris and Channahon, Illinois



# Aux Sable Liquids Products: Channahon NGL Facility

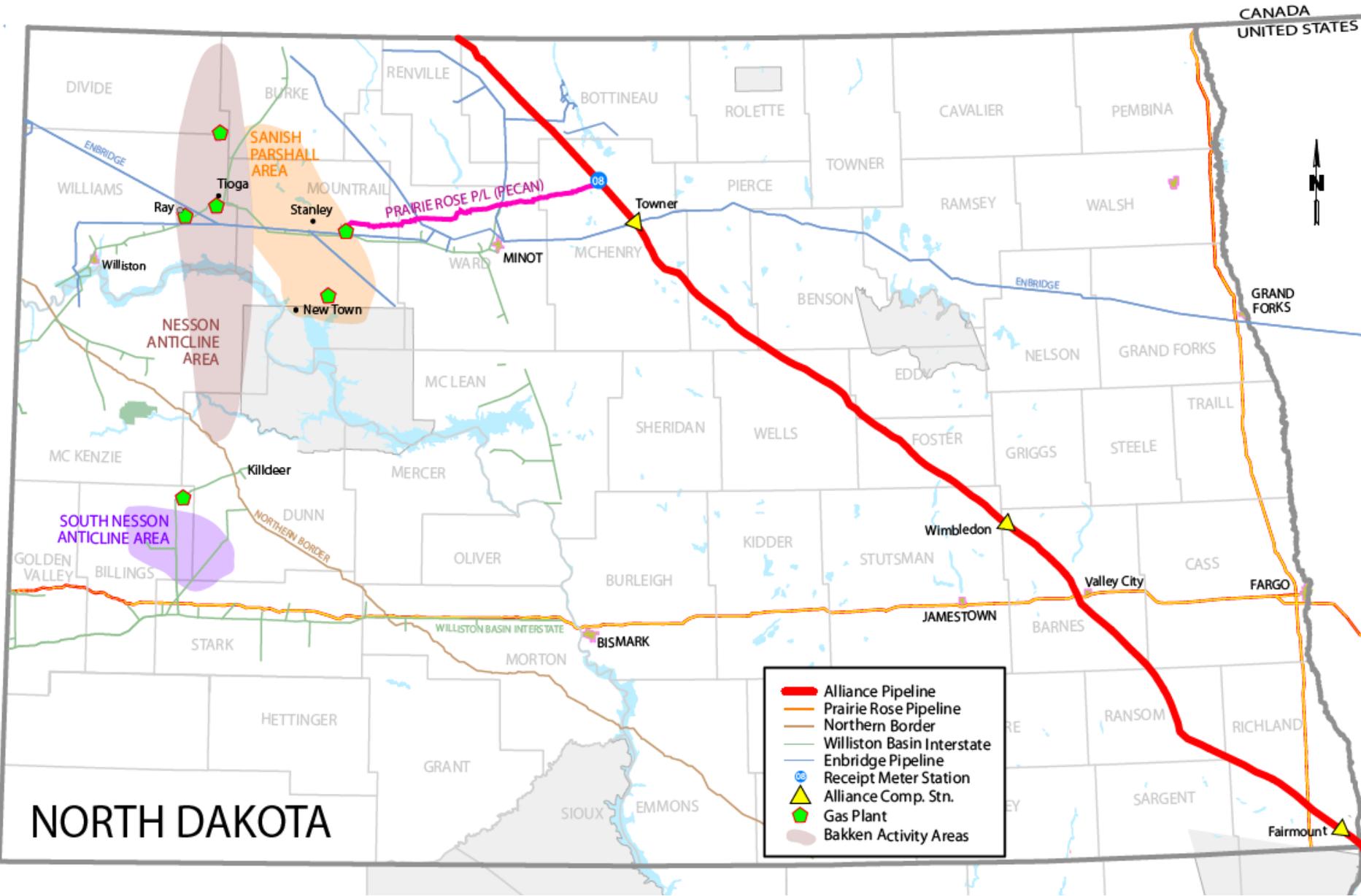
- Commenced operations in December 2000 and can process up to 2.1 billion cubic feet per day of natural gas.
- Capable of extracting and fractionating approximately 92,000 barrels per day of spec NGL products (ethane, propane, normal butane, iso-butane, and natural gasoline).
- ASLP installed a 7,000 barrel a day isomerization plant that commenced operations in 2nd quarter 2007.



Located on US Highway 6 approximately half way between Channahon and Morris, Illinois, about 50 miles southwest of Chicago

ASLP is owned by Enbridge (42.7%) , Veresen (42.7%) and Williams (14.6%)

# Alliance and Aux Sable are well positioned to provide optimum value for growing natural gas production



NORTH DAKOTA

- **Investing in infrastructure to get production to market**
- **Providing producers with access to the right markets with greater optionality**
- **Developing projects in consultation with local communities in safe and reliable manner.**

# Questions?

