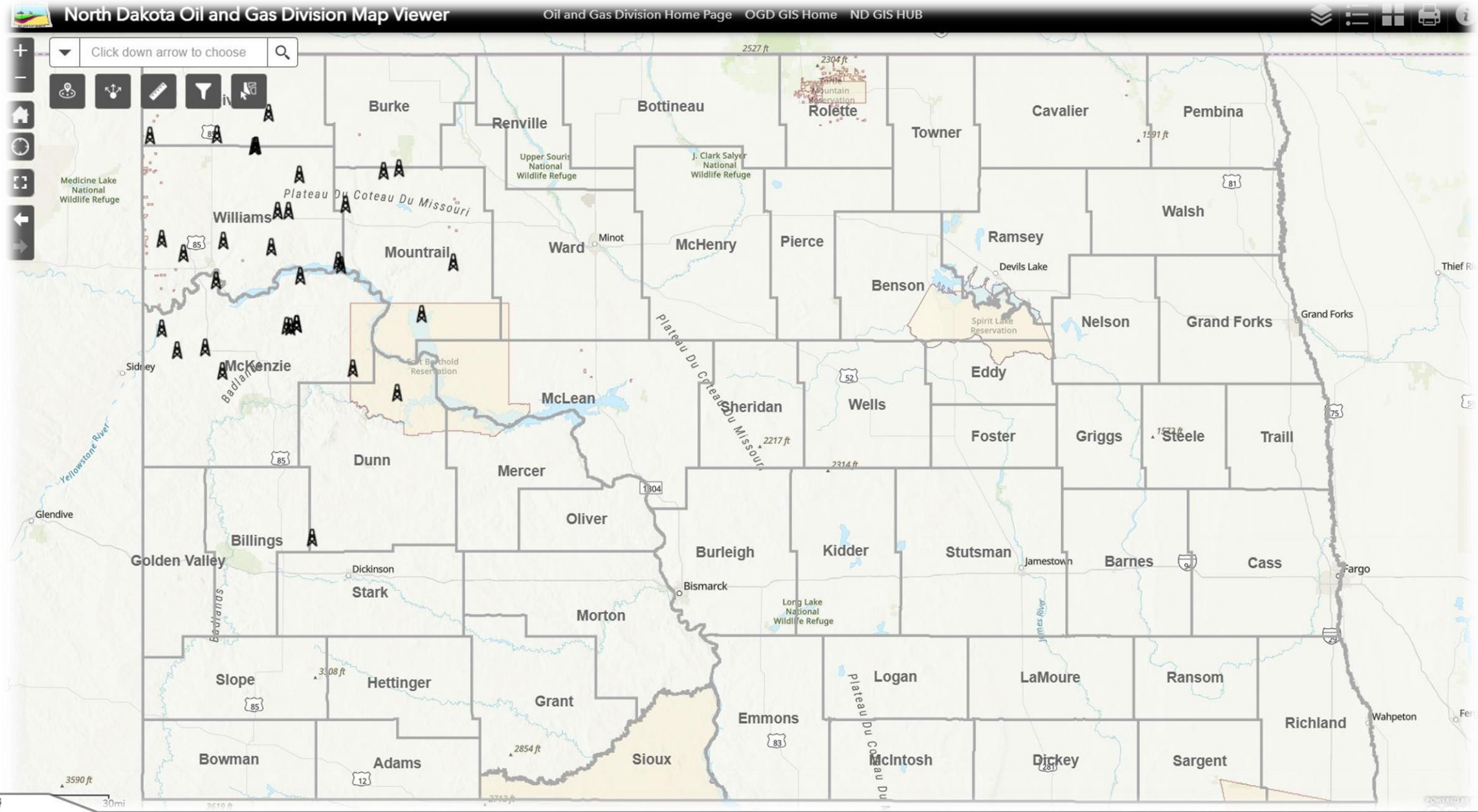
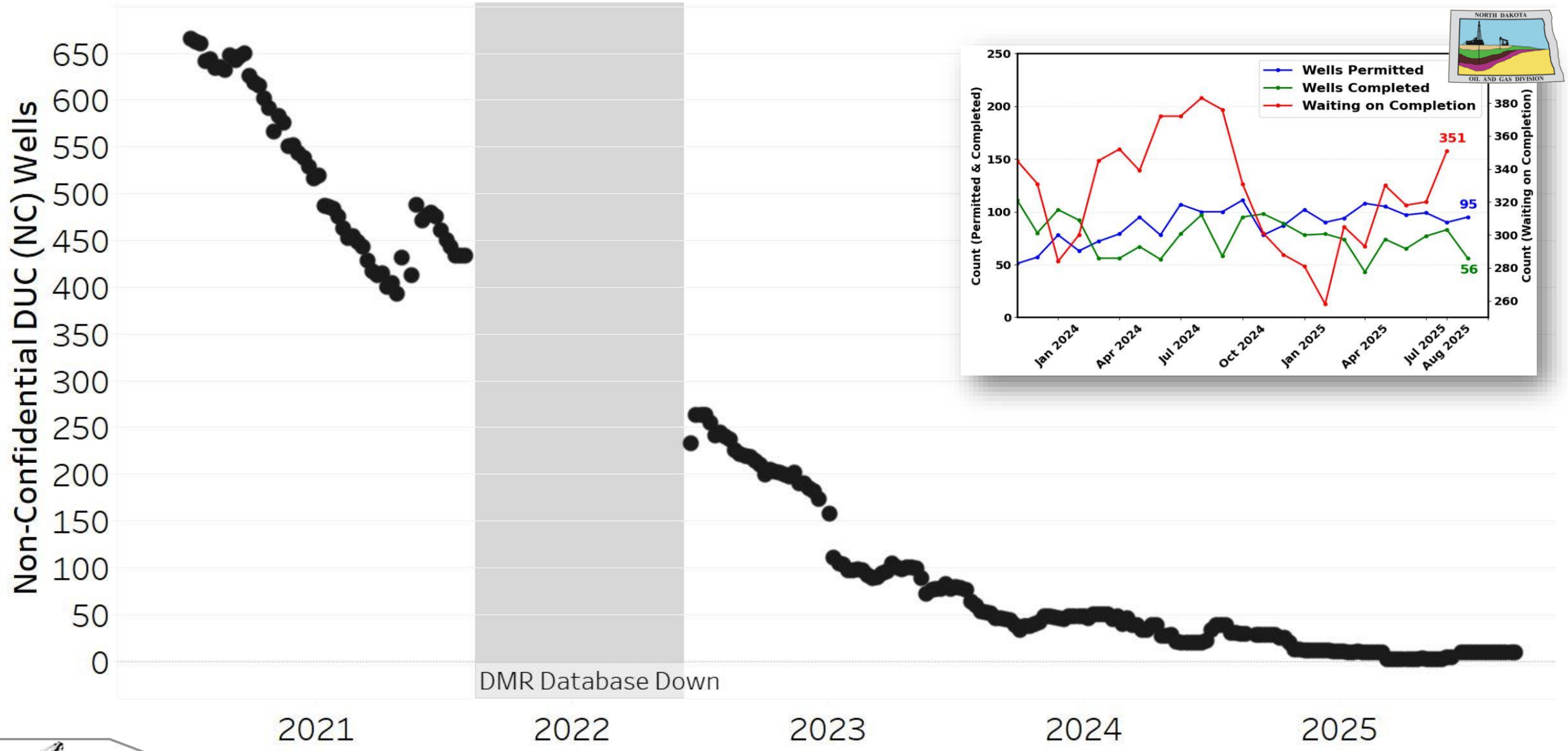
North Dakota Midstream Update

Image: Library of Congress

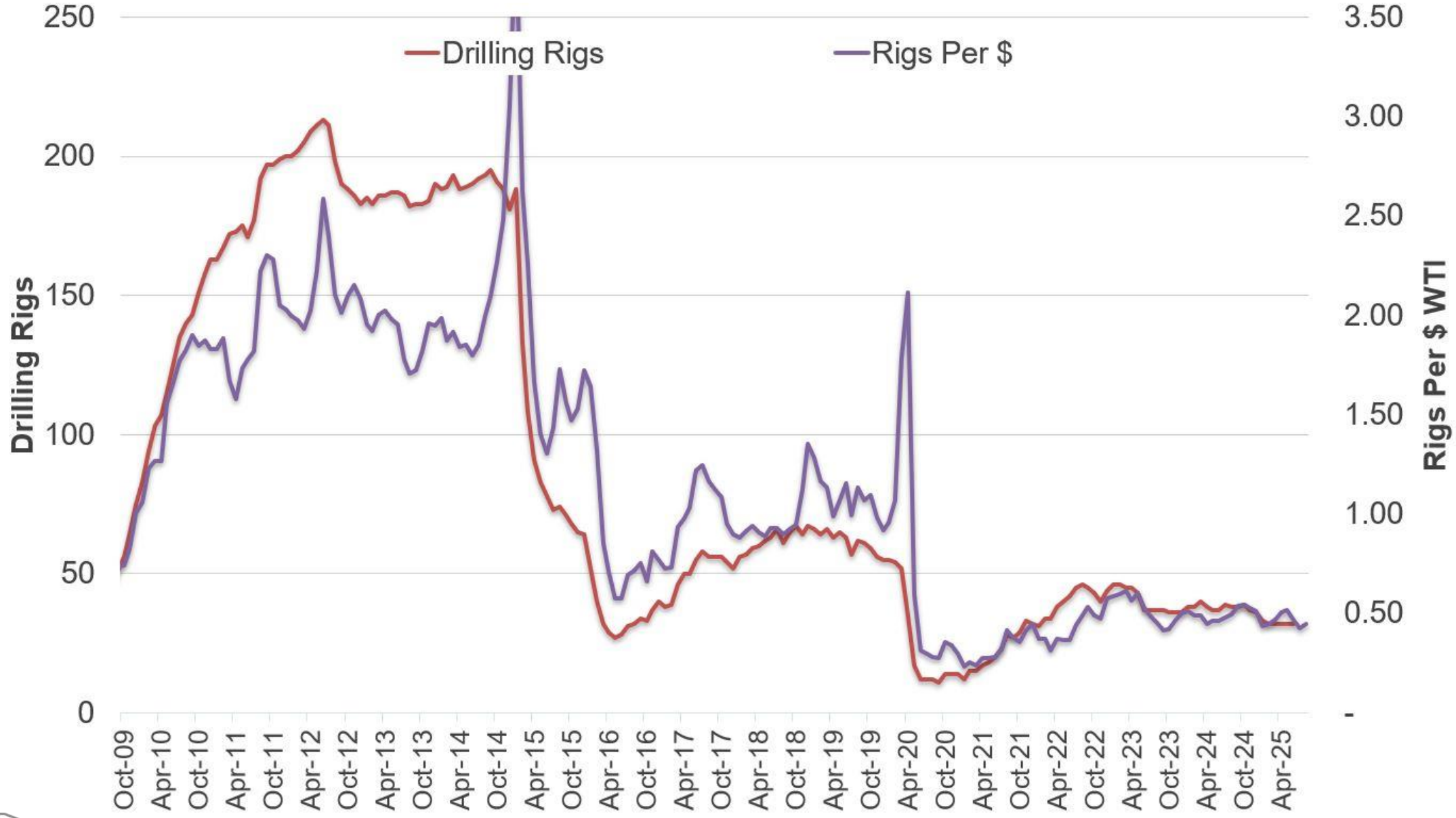
North Dakota Drilling Rigs: 33 (November 5, 2025)



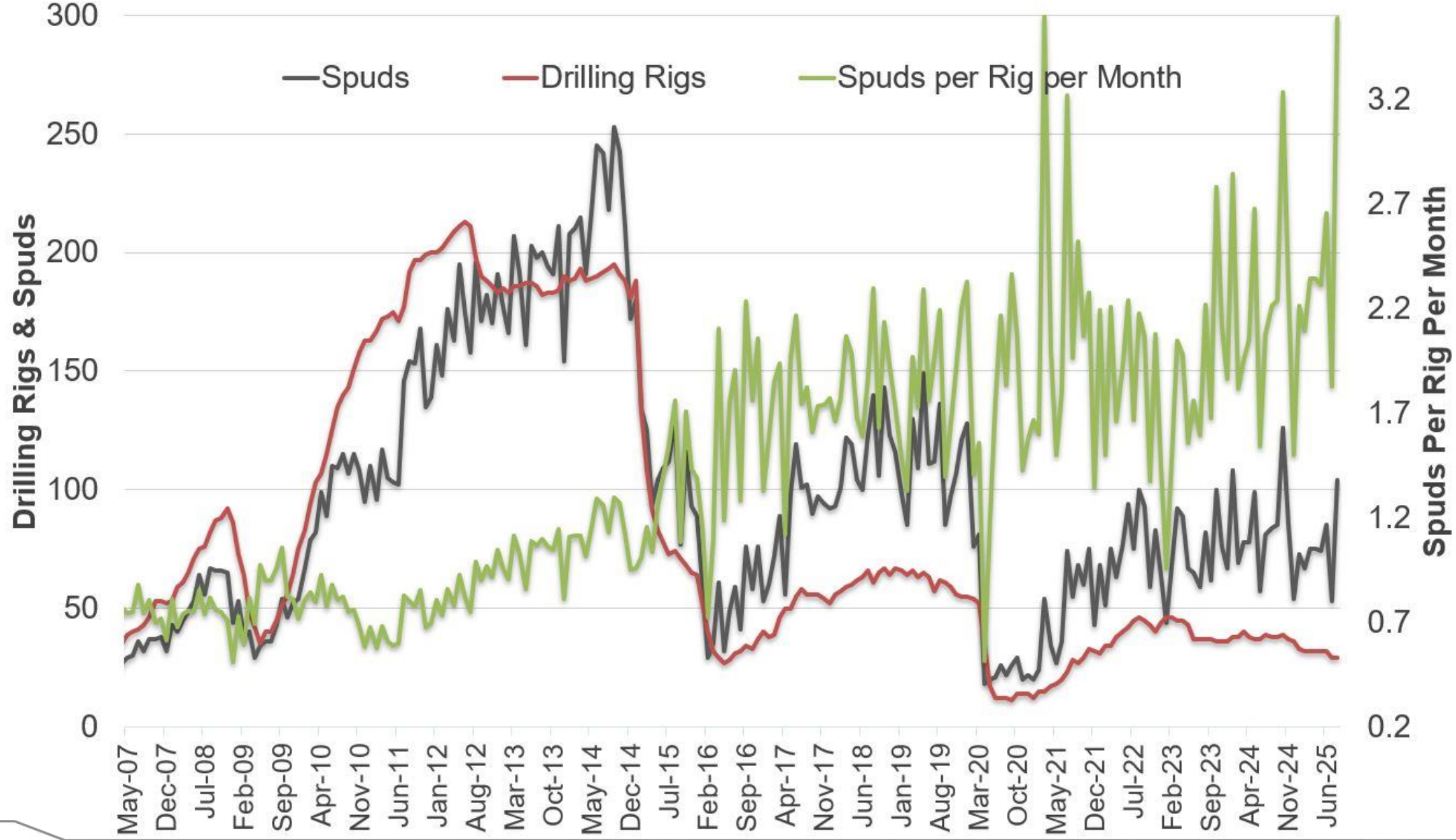
North Dakota DUC/NC Well Counts



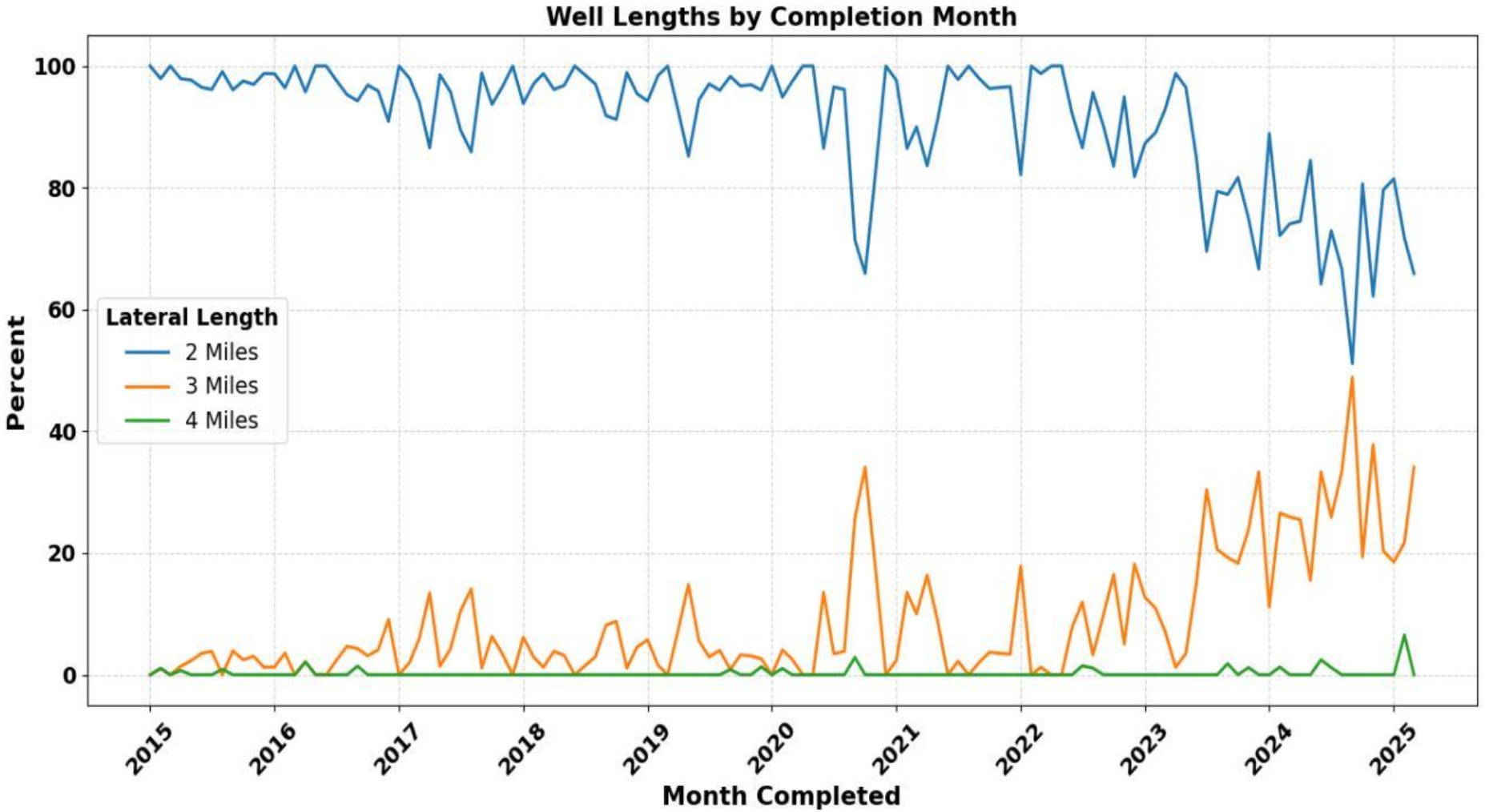
North Dakota Drilling Rig Relationship With Oil Price



North Dakota Drilling Rig Efficiency



LATERAL LENGTHS OVER TIME

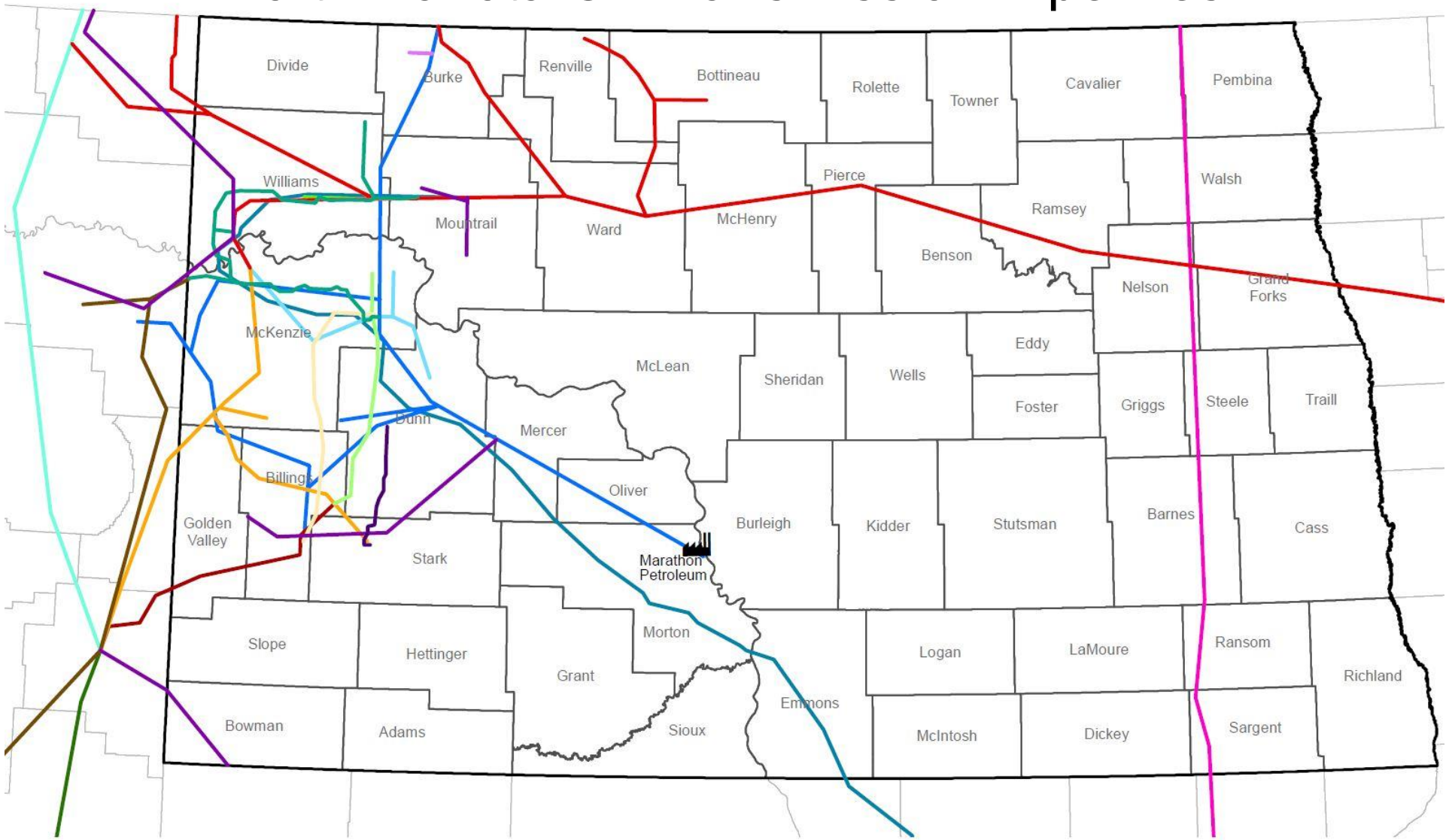


- The total percentage of 2-mile laterals is ~65%
- The total percentage of 3-mile laterals is ~35%
- 4-mile lateral development began in 2024 and is in its infancy, but we continue to see an increase in 4-mile permits

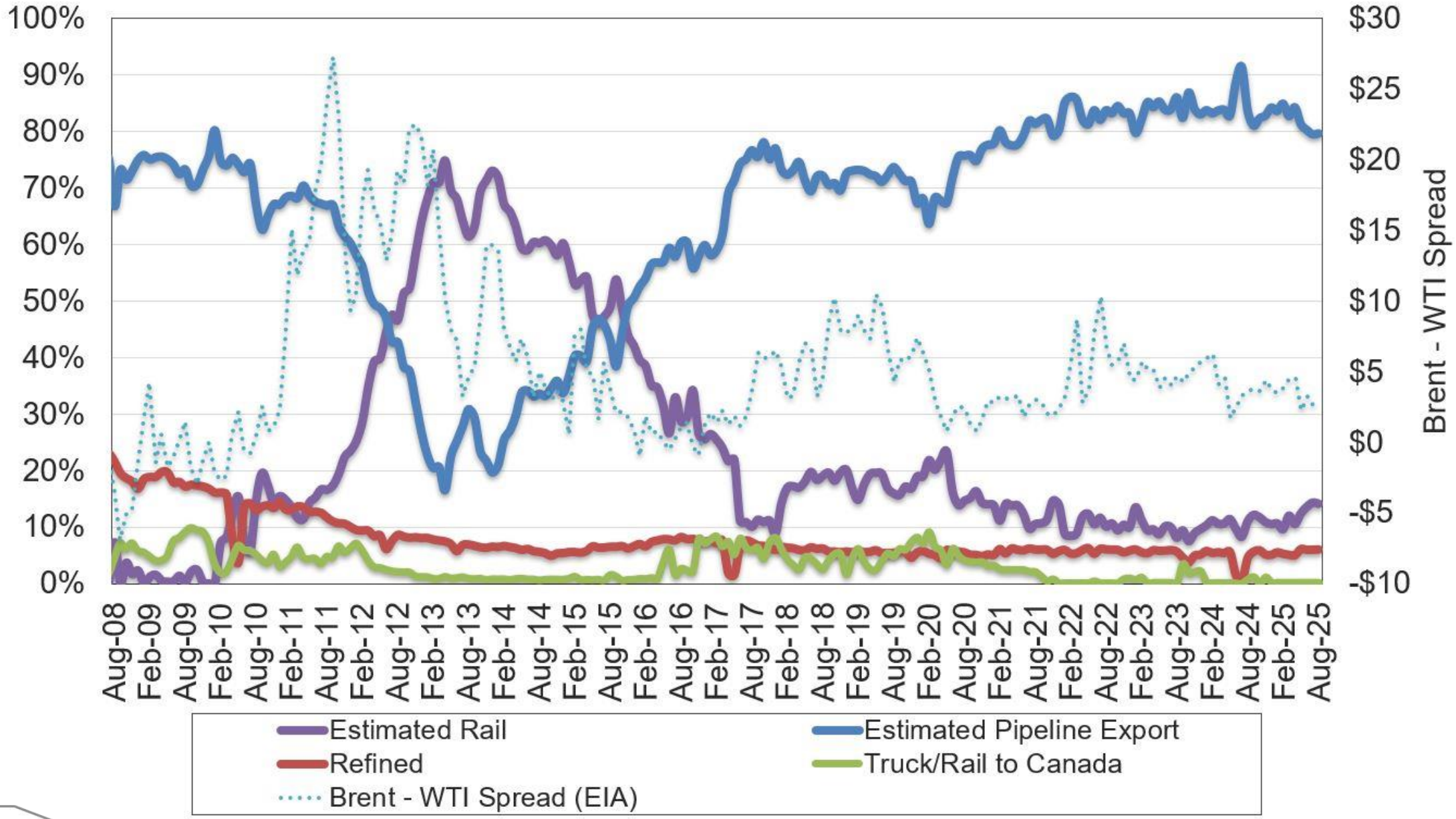
Lateral Length Categorization:
(First to last perforation)

- *1.5-2.24 miles = 2-mile*
- *2.25-3.24 miles = 3-mile*
- *3.25-4.24 miles = 4-mile*

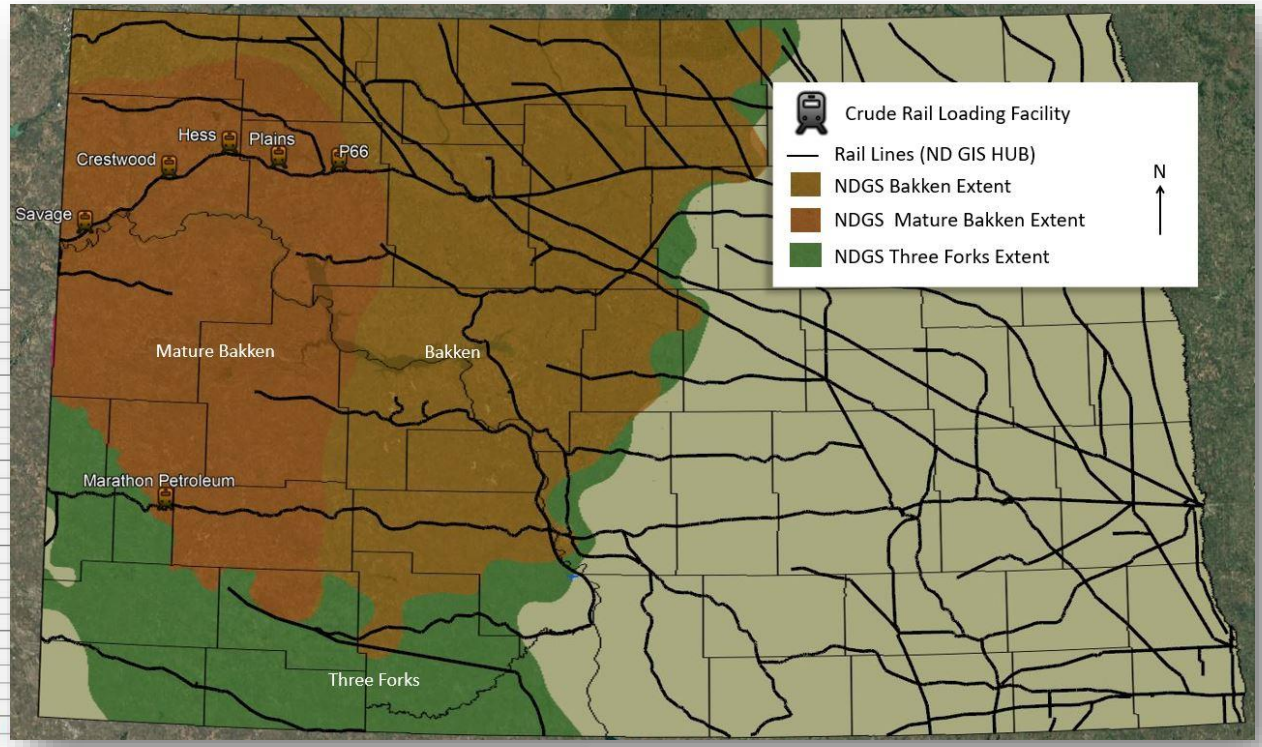
North Dakota Oil Transmission Pipelines

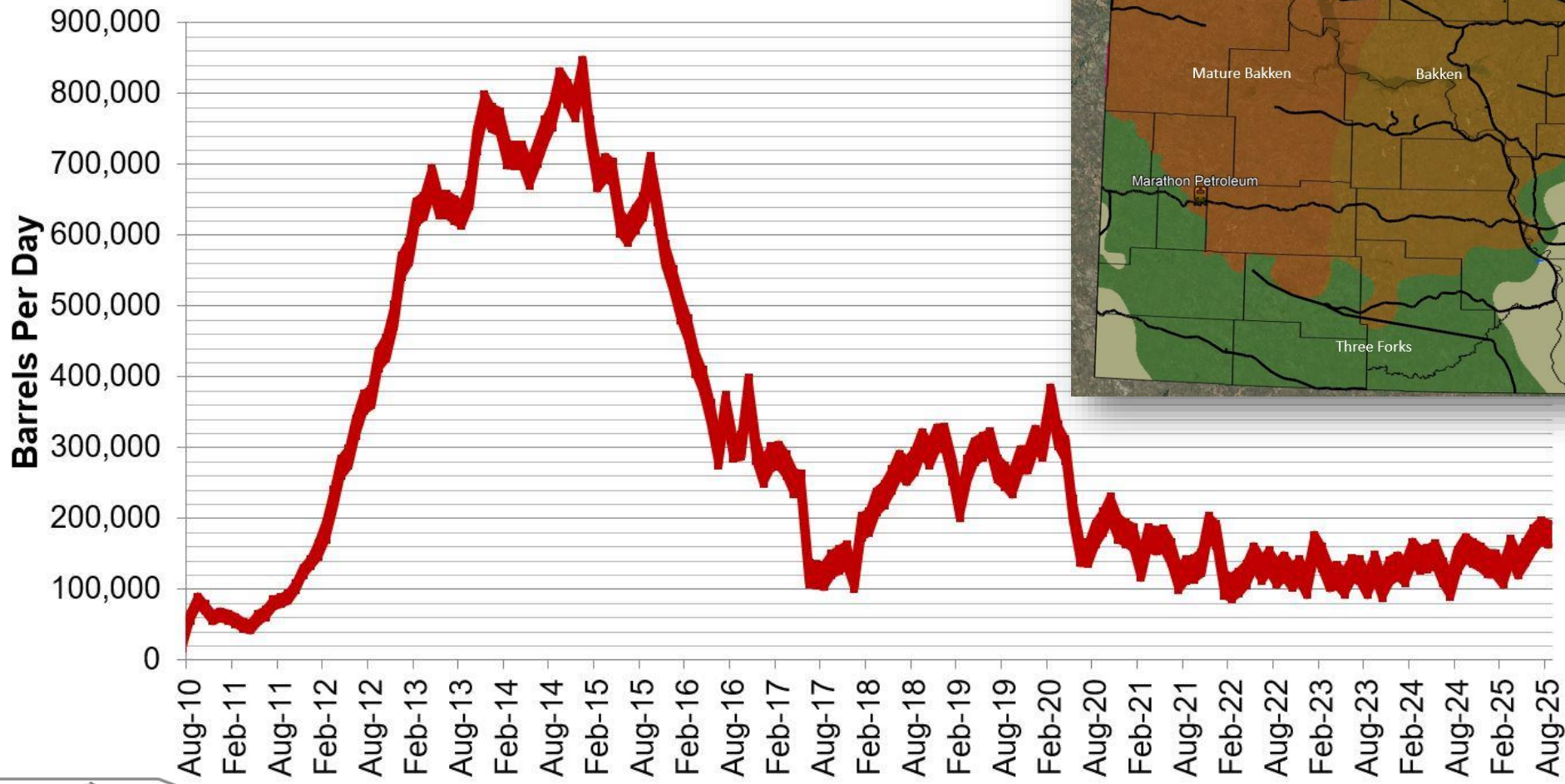


Estimated Williston Basin Oil Transportation

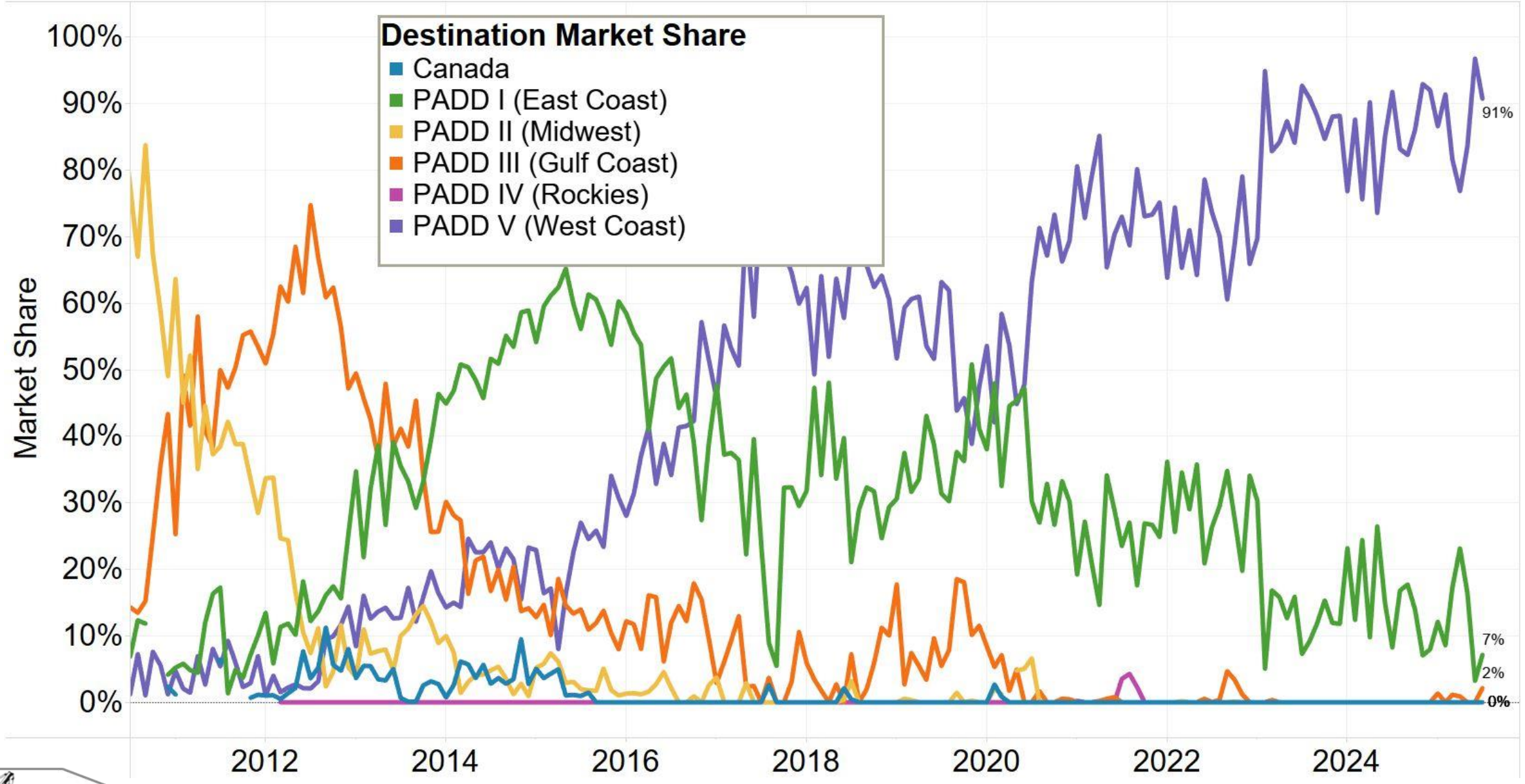


Estimated ND Rail Export Volumes

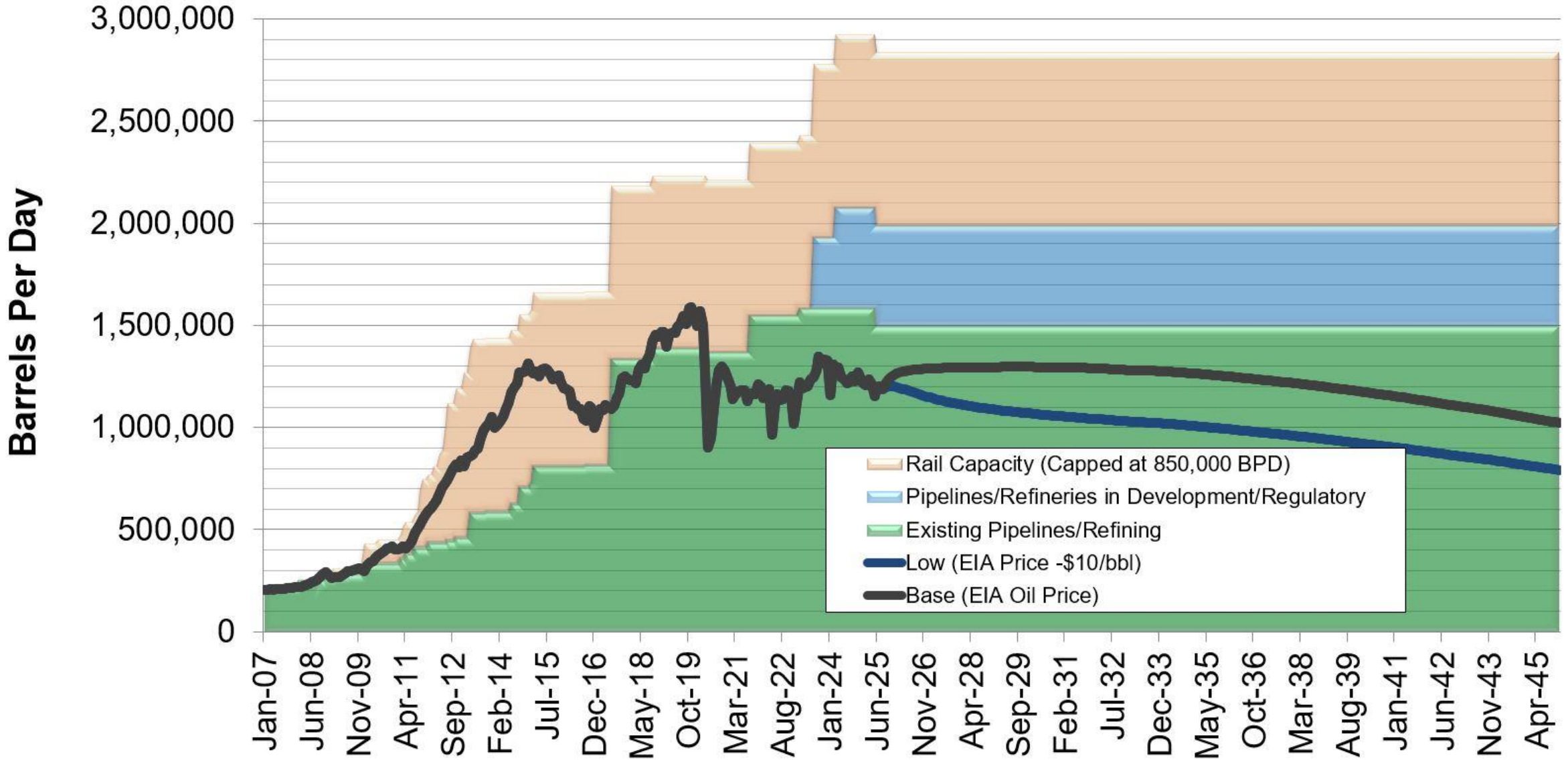




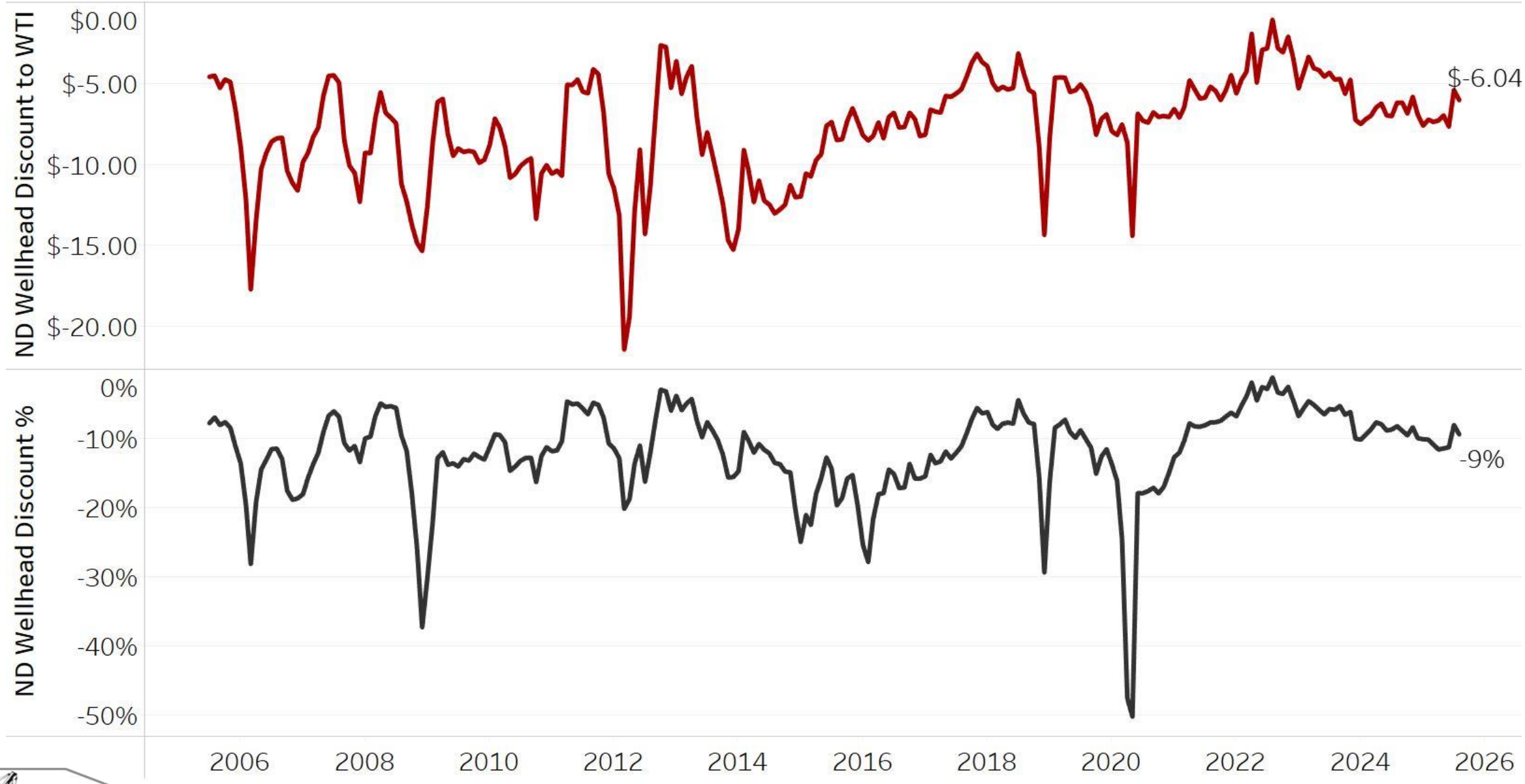
Rail Destinations Market Share (July 2025)



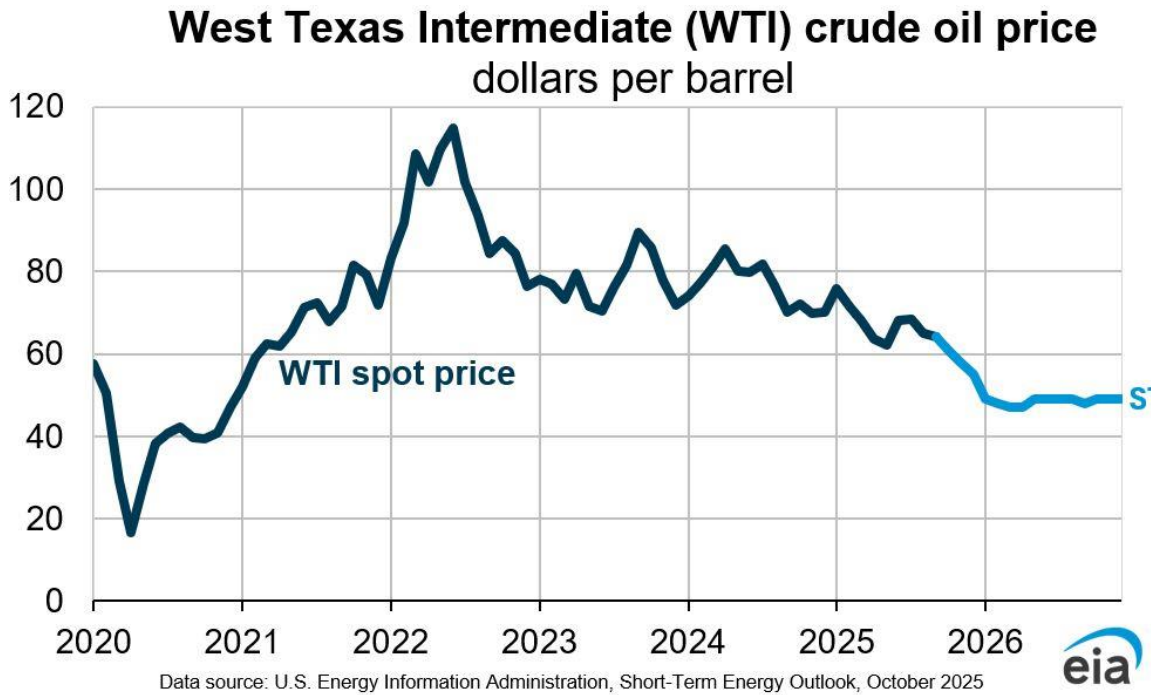
Williston Basin Oil Production & Export Capacity, BOPD

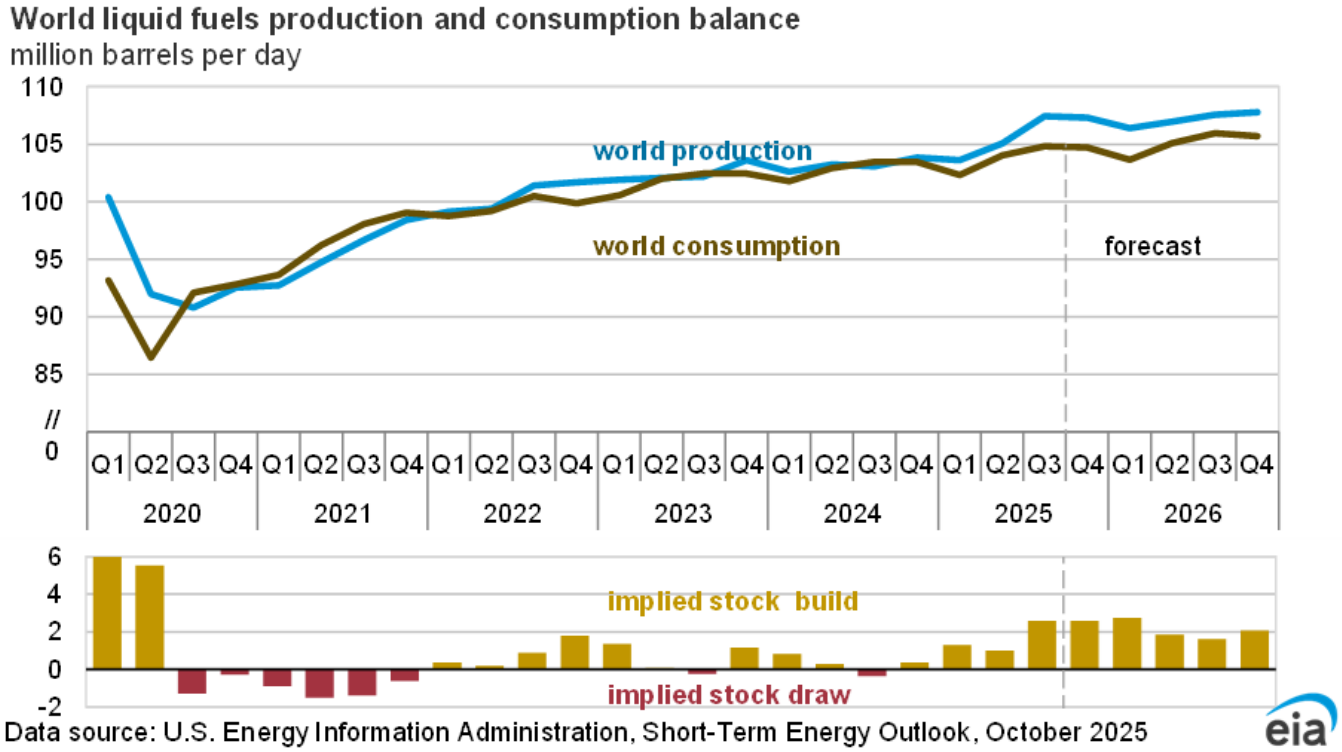


Average North Dakota Oil “Discount” to WTI



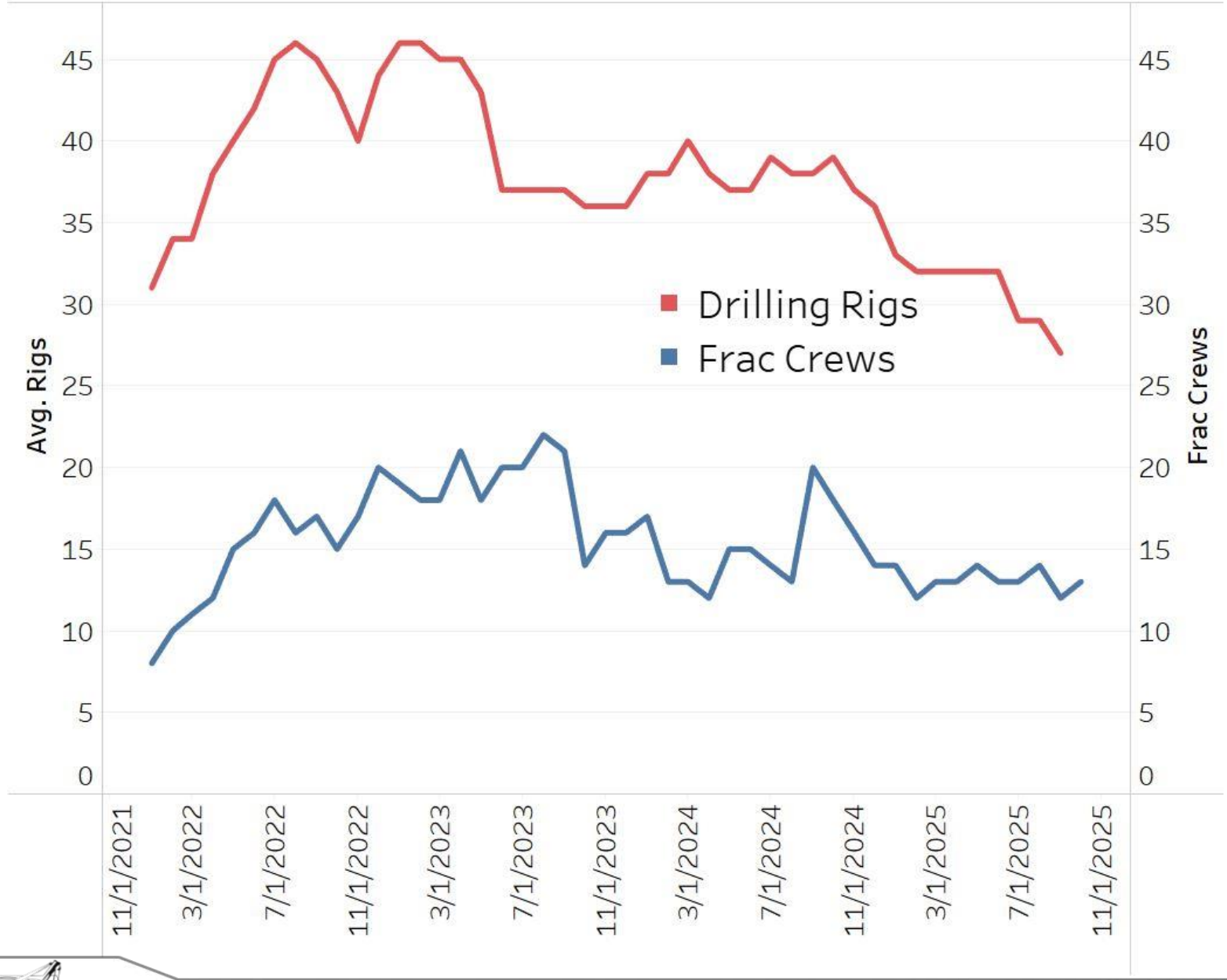
EIA Oil Price Outlook (October 2025)

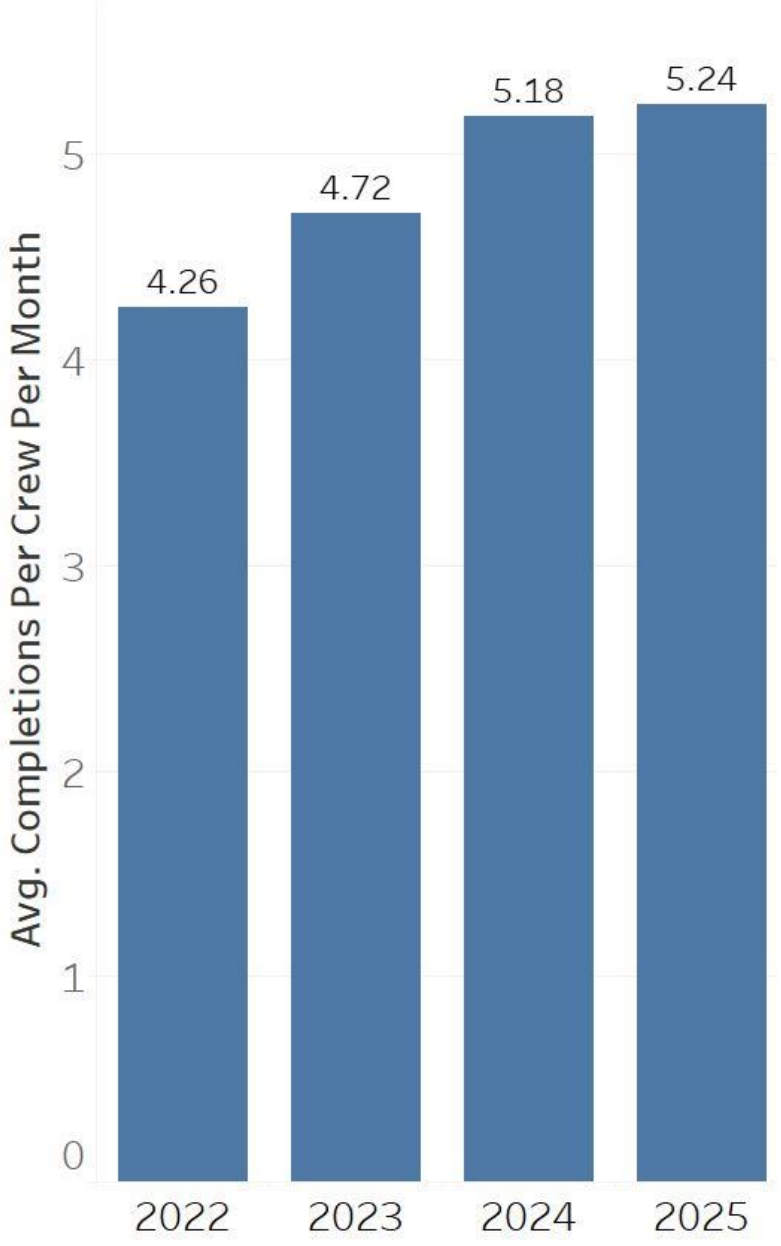




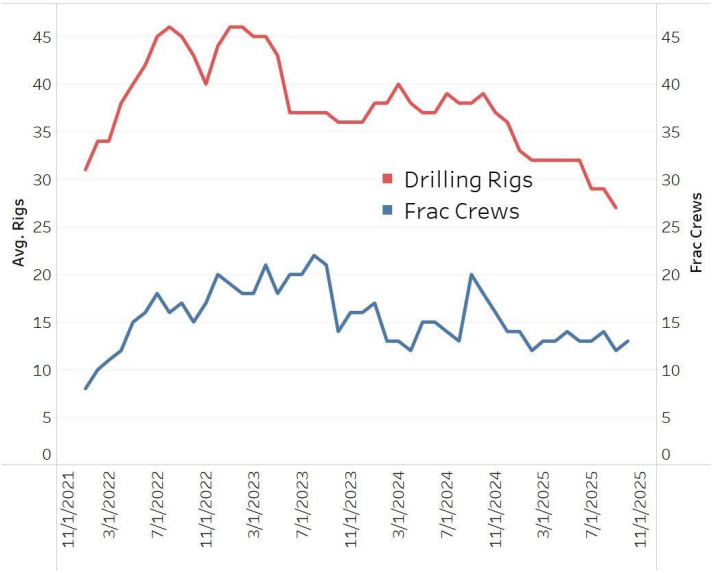
Monthly Completion* Scenarios - Oil

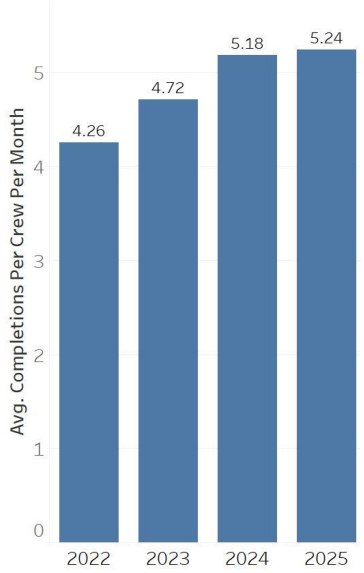
North Dakota Frac Crew Efficiency

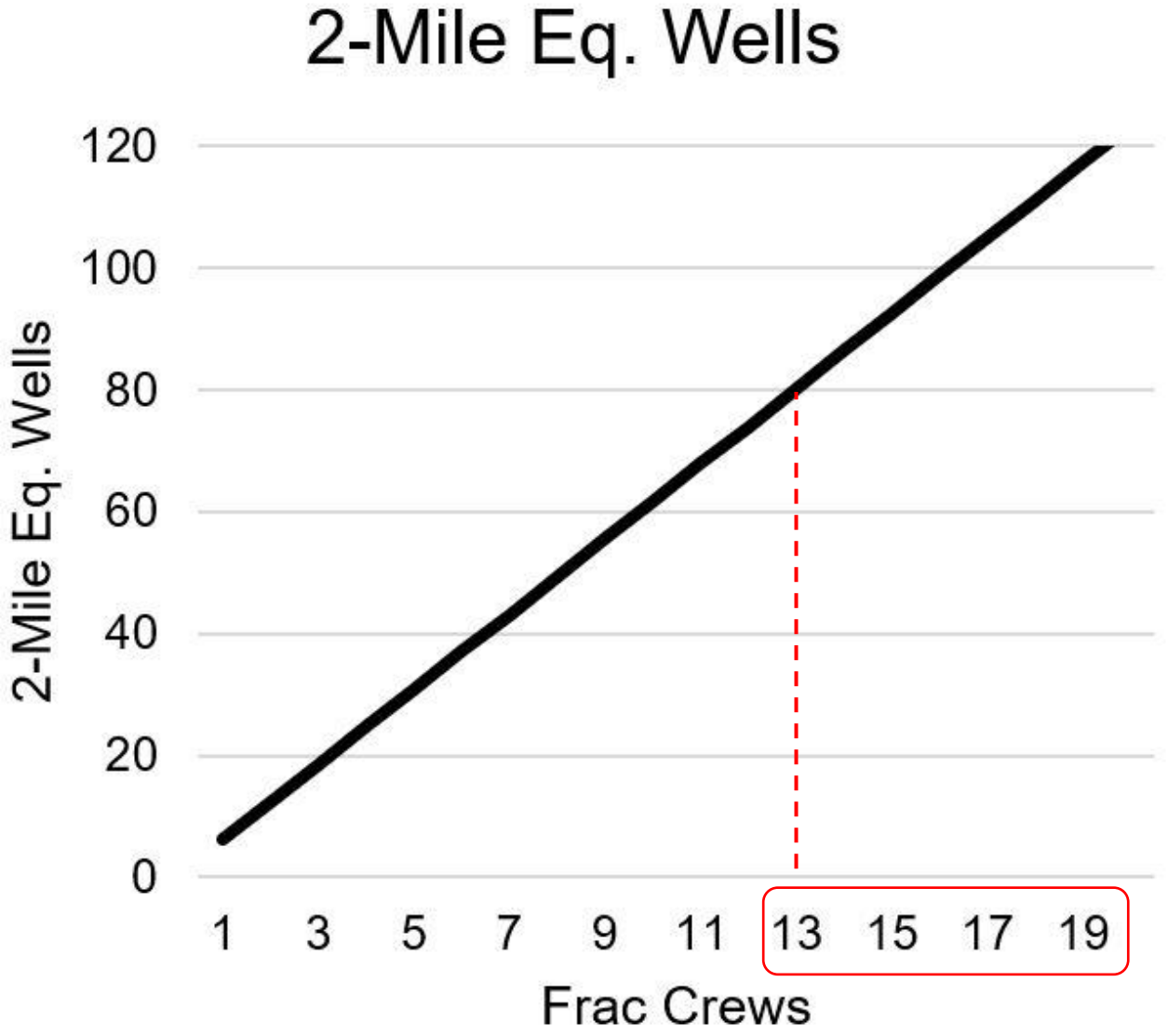




What is the Optimal Frac Crew Count? (Assuming 30% 3-Mile & 5% 4-Mile)







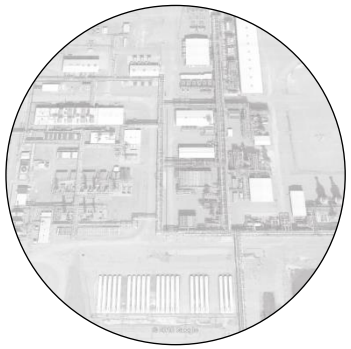
A Complete Natural Gas Solution

Production

- Technology
- Markets
- Forecasting

Gathering

- Capacity
- Connections
- Compression



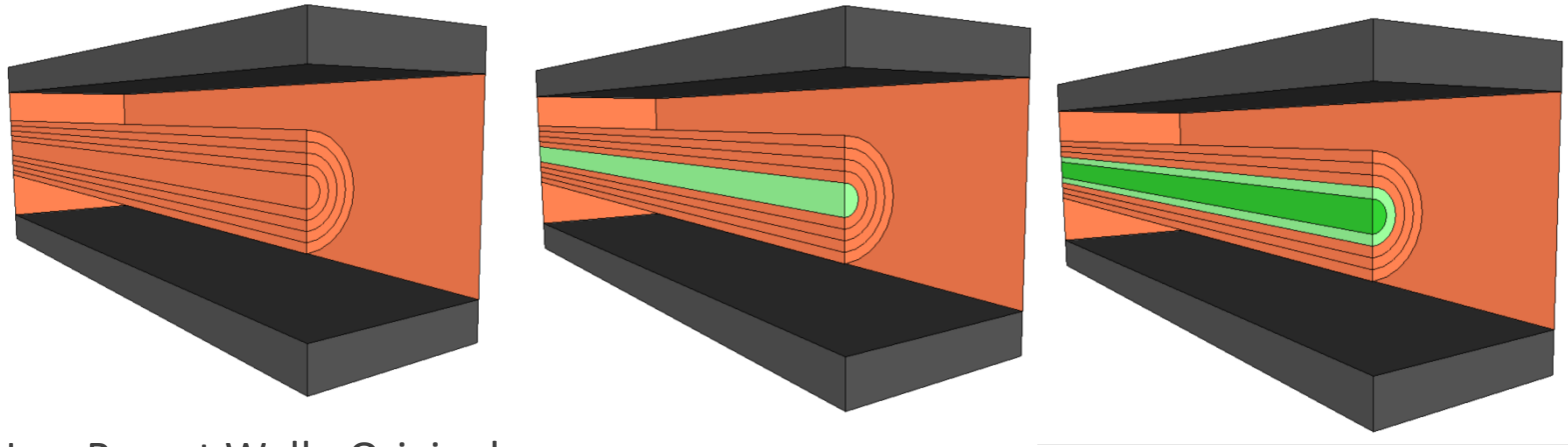
Processing

- Capacity
- Location
- Configuration

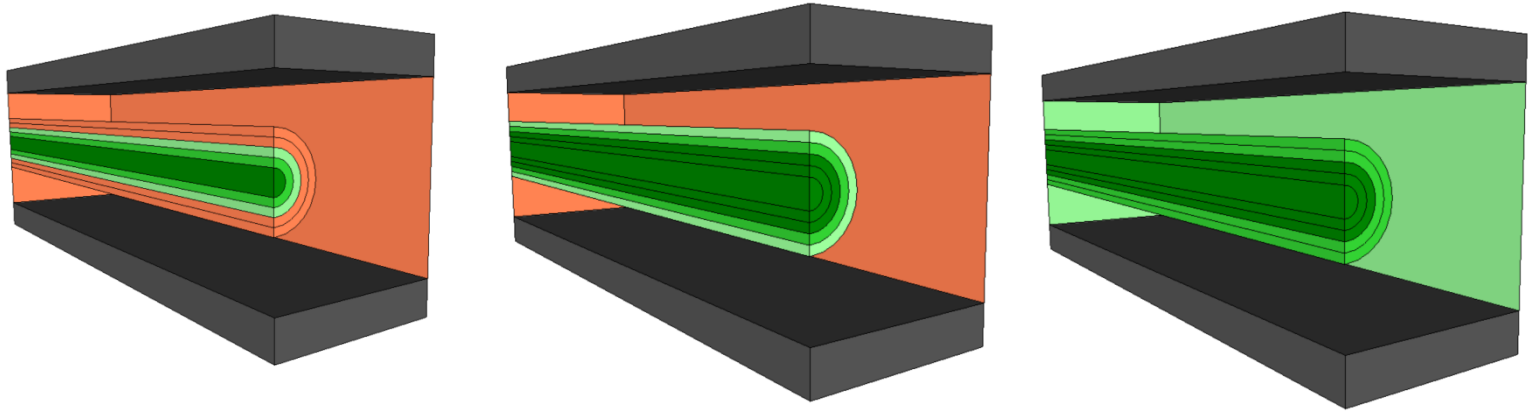
Transmission

- Dry Gas
- Natural Gas Liquids
- Storage

Statewide Bakken Gas/Oil Ratios

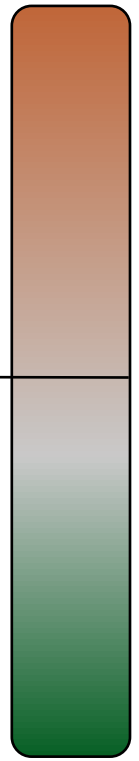


New Parent Well - Original Reservoir Pressure



Future – Entire Reservoir Below Bubble Point

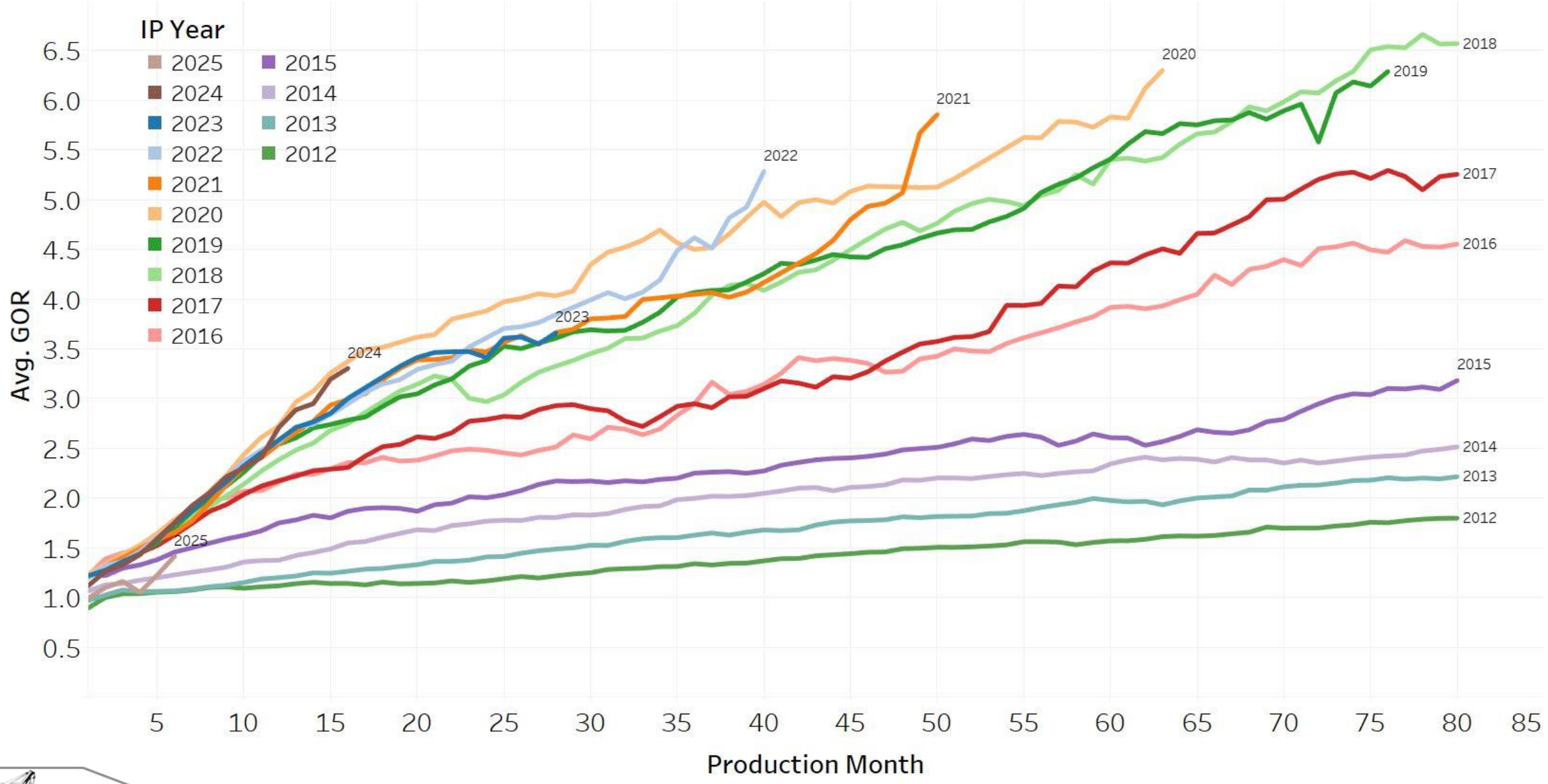
Bubble Point Pressure



High Reservoir Pressure

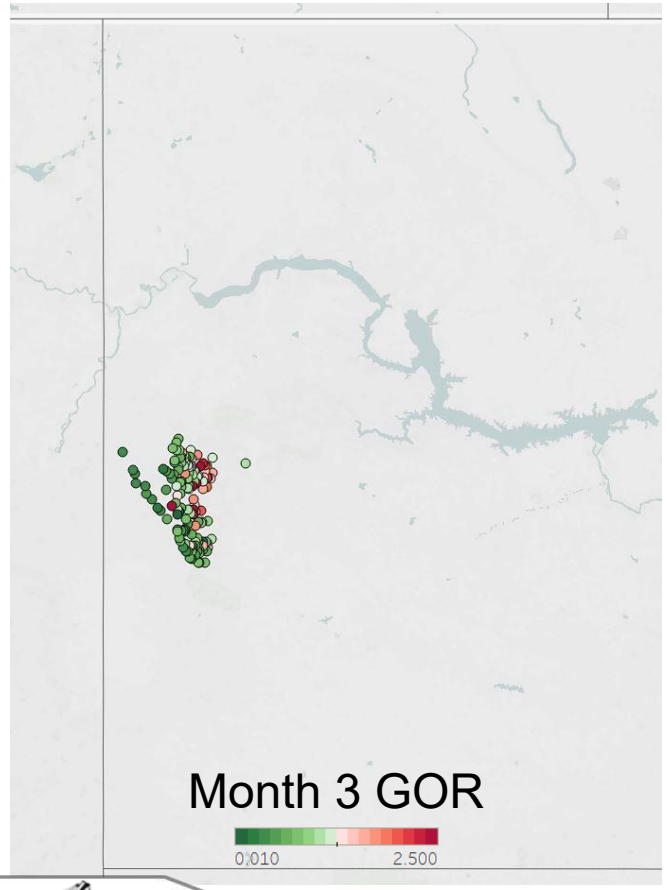
Low Reservoir Pressure

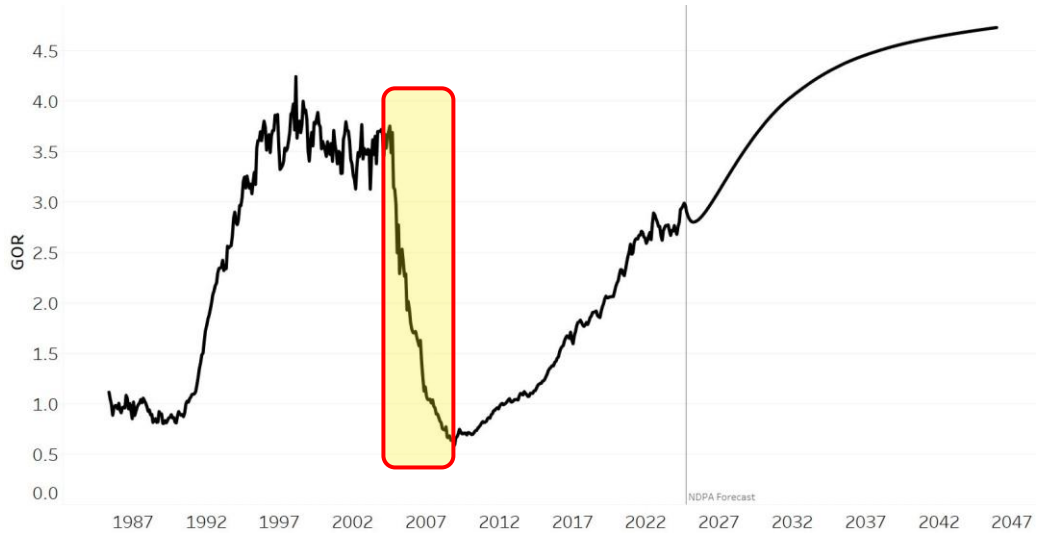
Statewide Bakken Gas/Oil Ratios



The GOR “Reset” and Forward Expectations

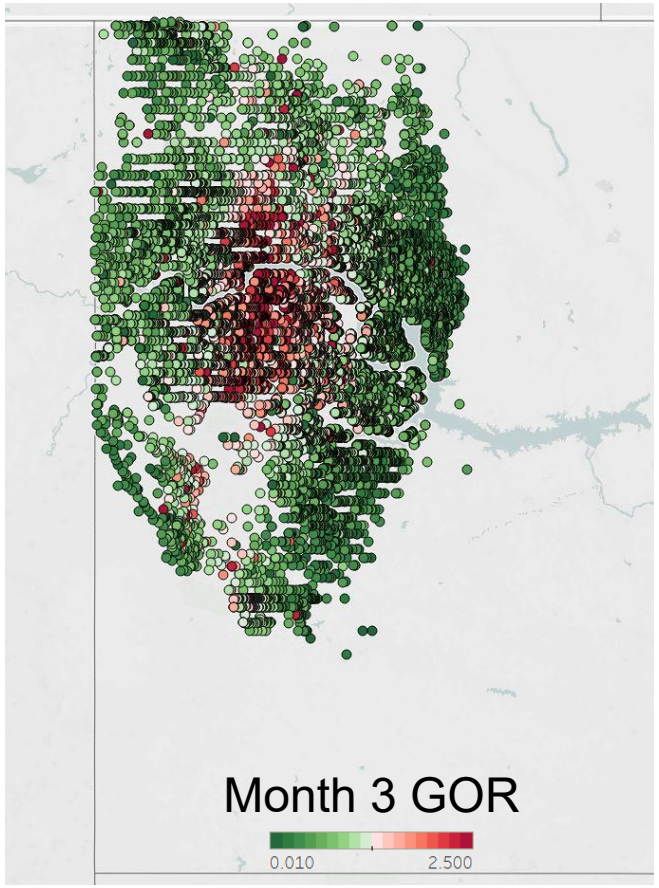
Bakken GOR settles around ~3.7 from 1990’s Bakken development in what is now considered “fringe” acreage



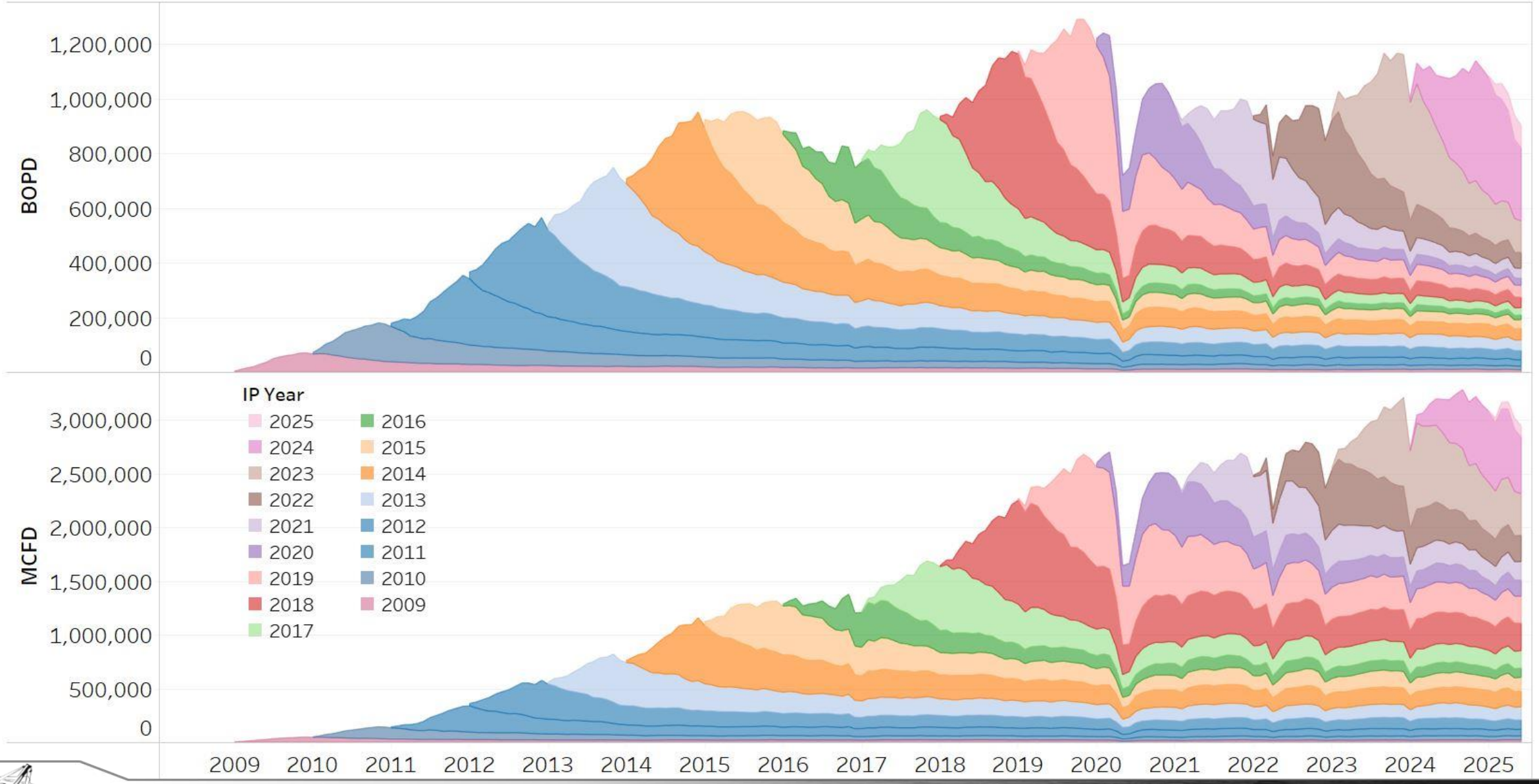


Mid-2000’s: Modern Bakken development begins and statewide average GOR is “reset” with large volumes of new gas production

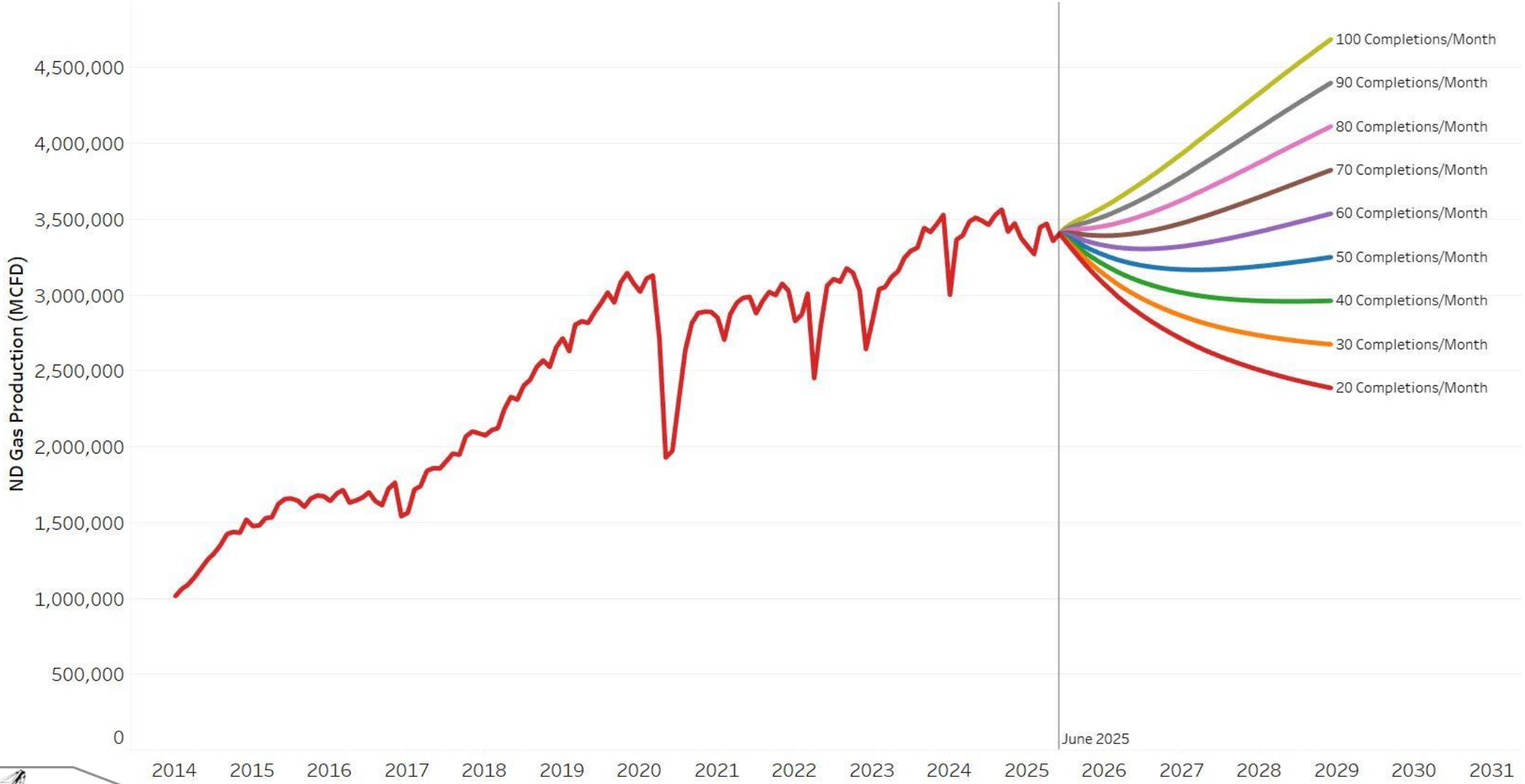
Future GOR will be driven by widespread development including deeper/hotter acreage with higher initial and sustained reservoir GOR



Bakken Base Decline By Well Vintage

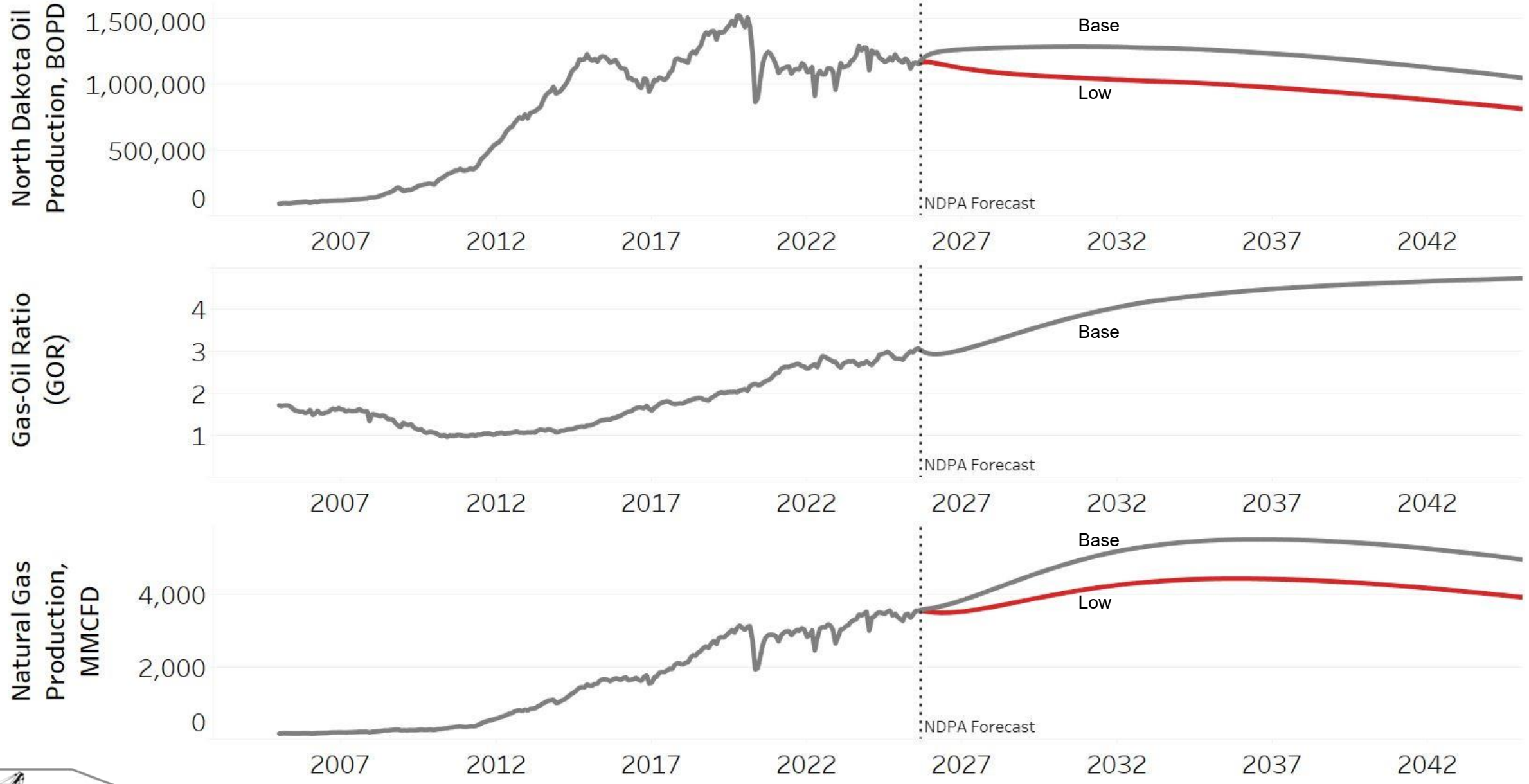


Monthly Completion* Scenarios - Gas



*1,280 Acre Equivalent Spacing

ND Production Forecast: EIA Price Deck



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Production

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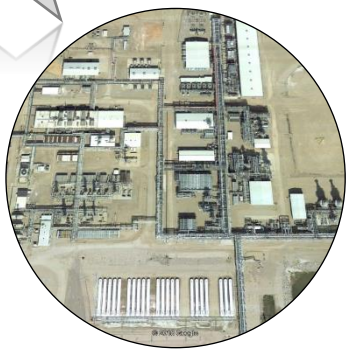
- Markets

Gathering

- Capacity
- Connections



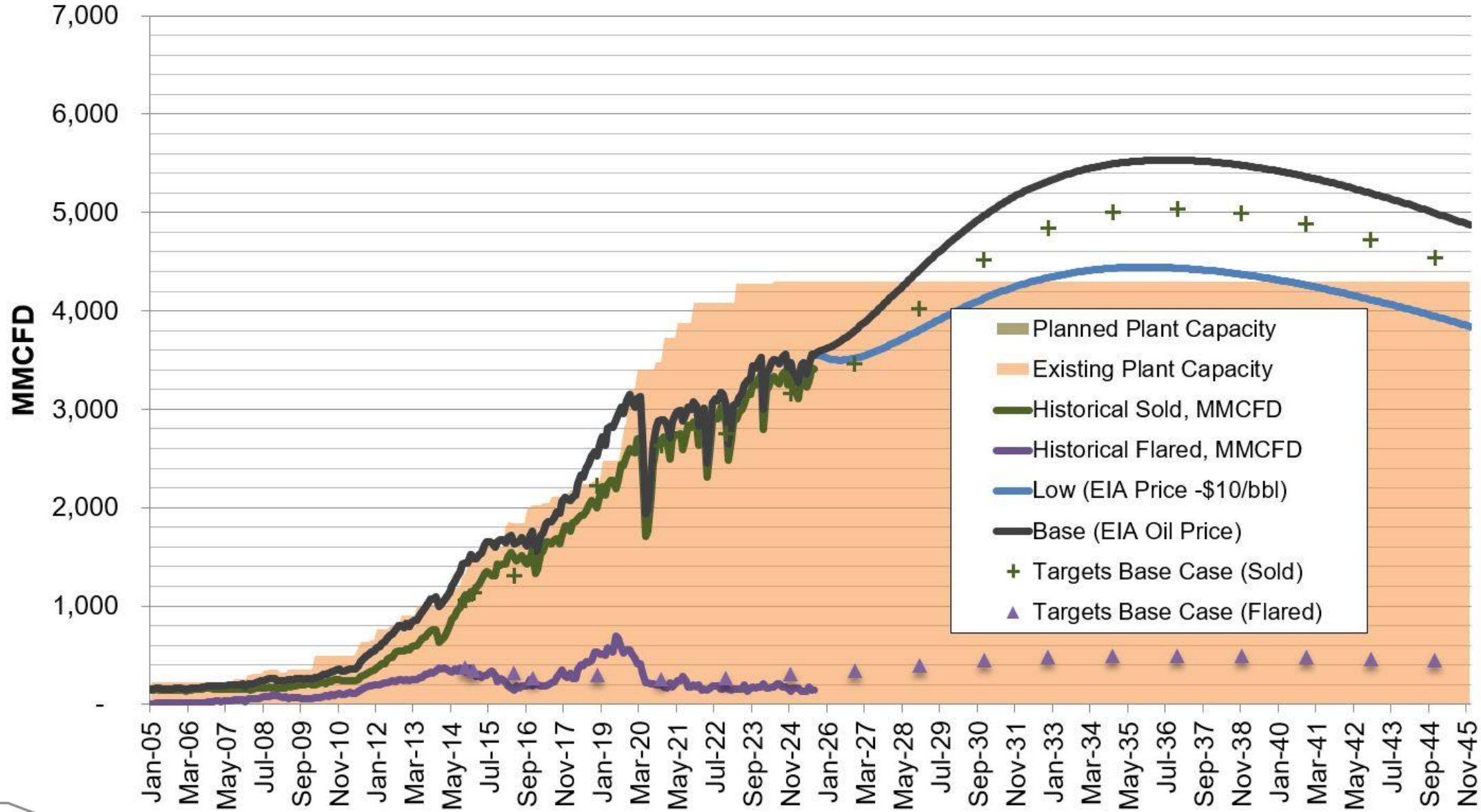
Processing

- Capacity
- Location

Transmission

- Dry Gas
- Natural Gas Liquids

North Dakota Gas Processing Outlook



A Complete Natural Gas Solution

Production

- Technology
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Gathering

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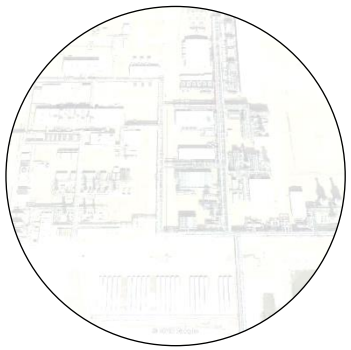


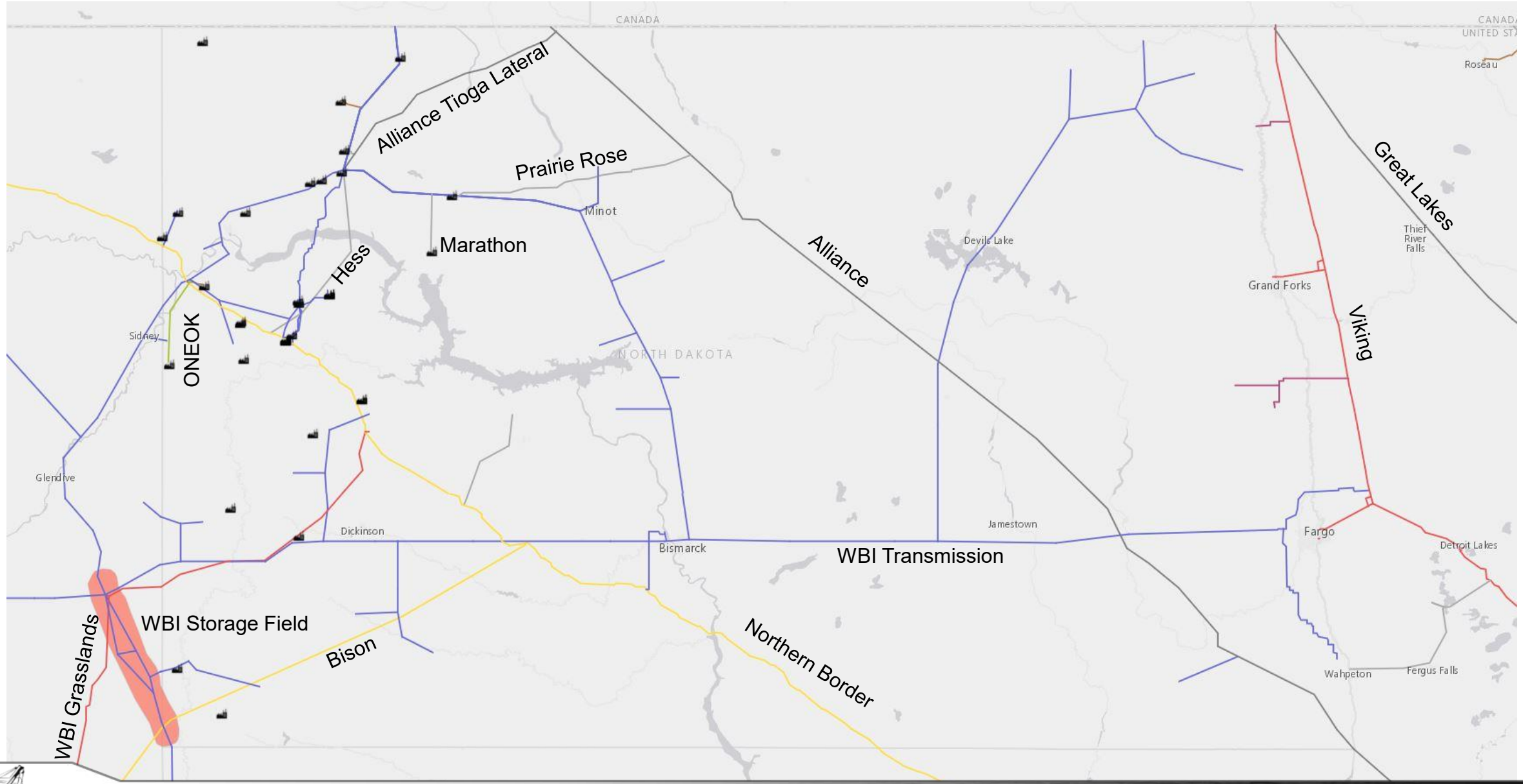
Processing

- Capacity
- Location

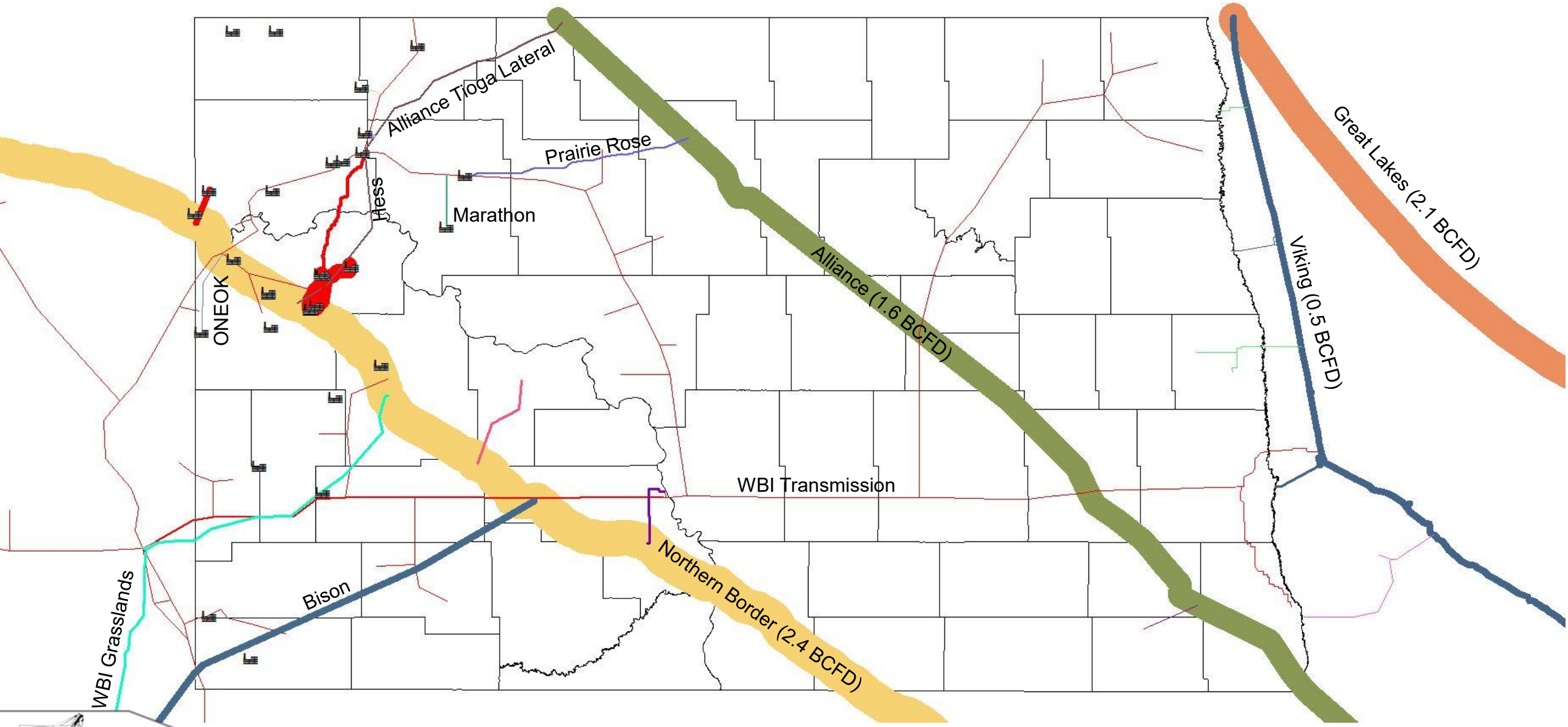
Transmission

- Dry Gas
- Natural Gas Liquids
- Storage

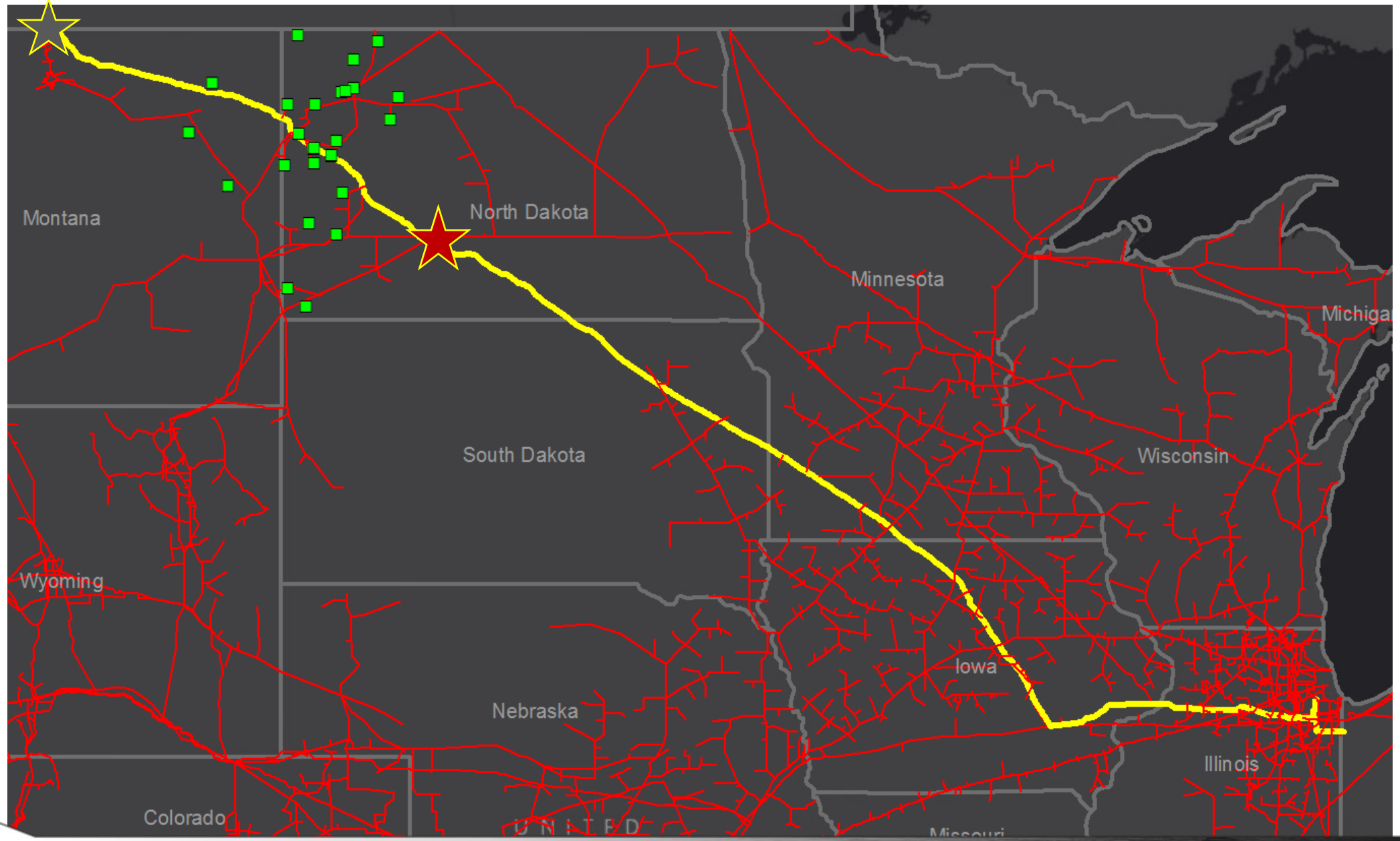
Major Residue Gas Pipeline Infrastructure



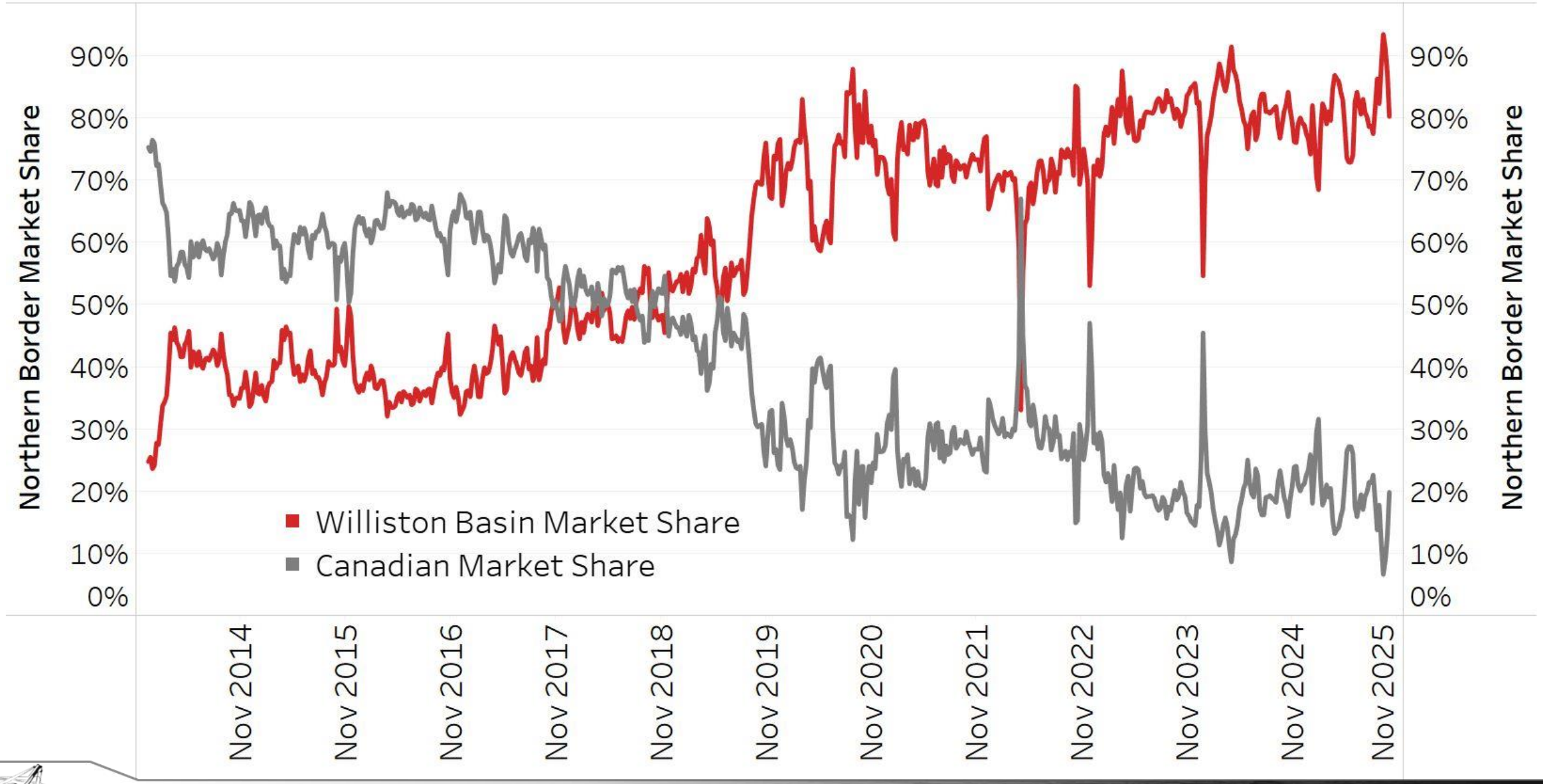
Residue Gas Pipeline Capacity Visualization



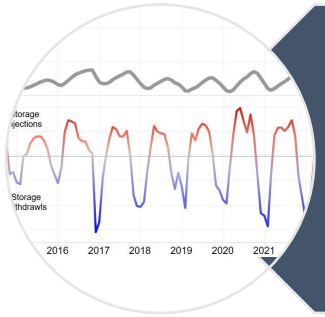
Northern Border Pipeline



Northern Border Pipeline Market Share



Summer 2025 Transmission Tailwinds



Summer Storage Injections

Seasonal ~100,000 Dth/day

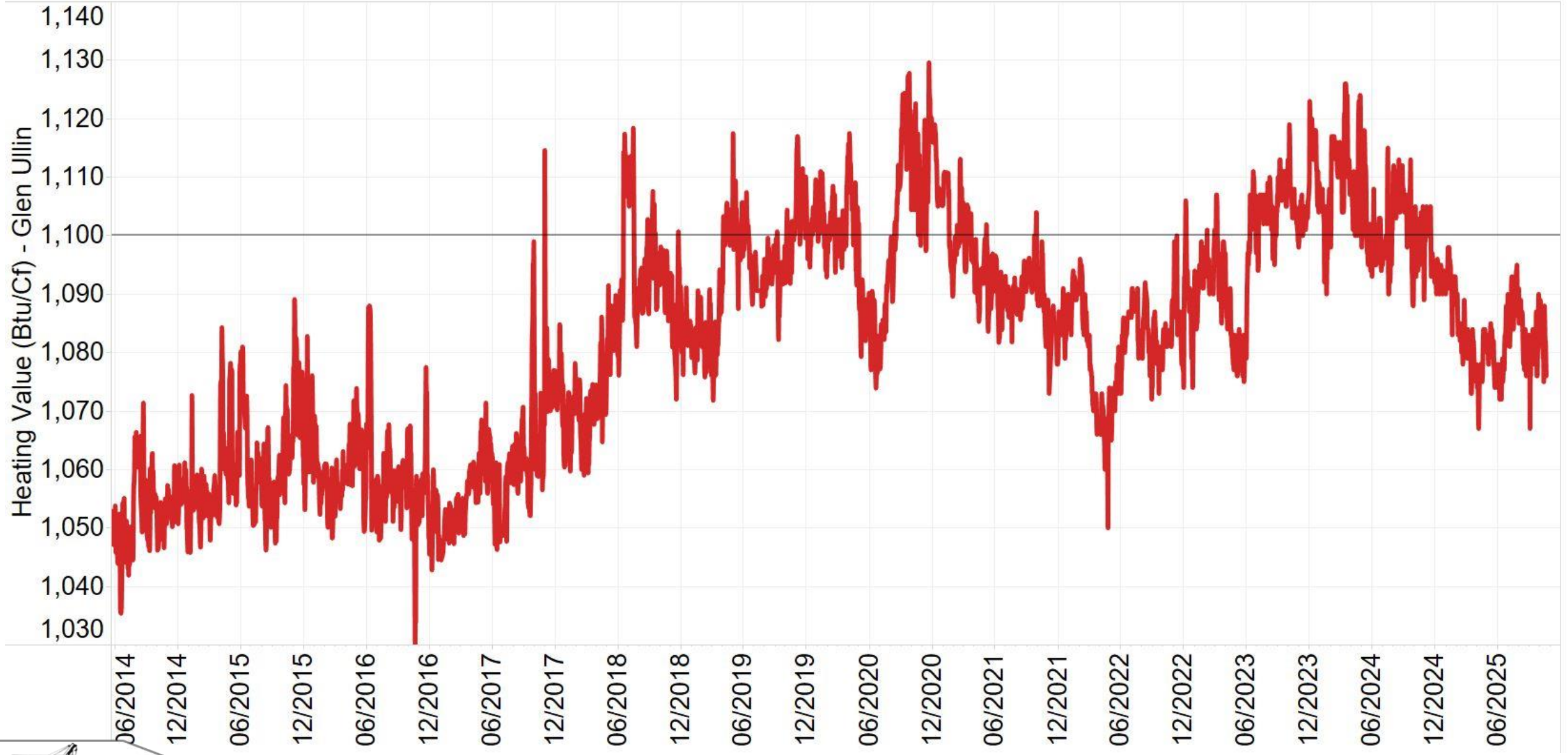
Local Power Generation

Increase ~120,000 Dth/day

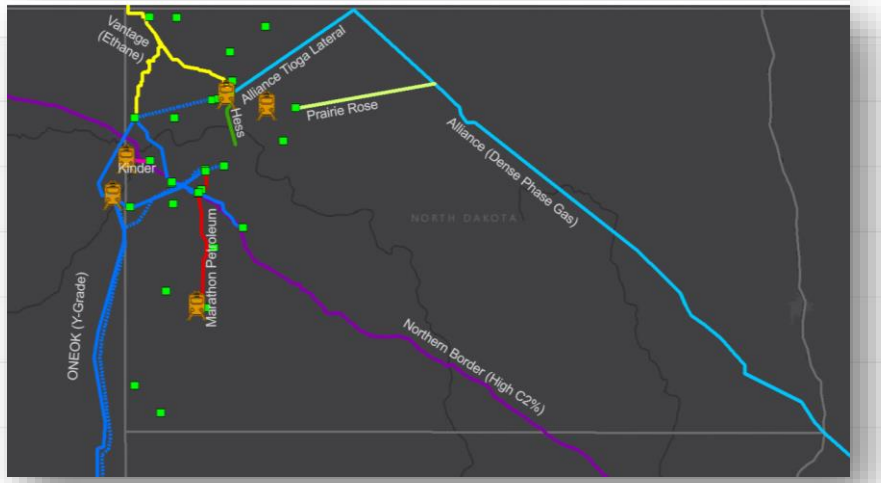
High Ethane Recovery

Elective ~100,000 Dth/day

Northern Border BTU at Glen Ullin, ND



PADD II to PADD IV NGL Pipeline Flows



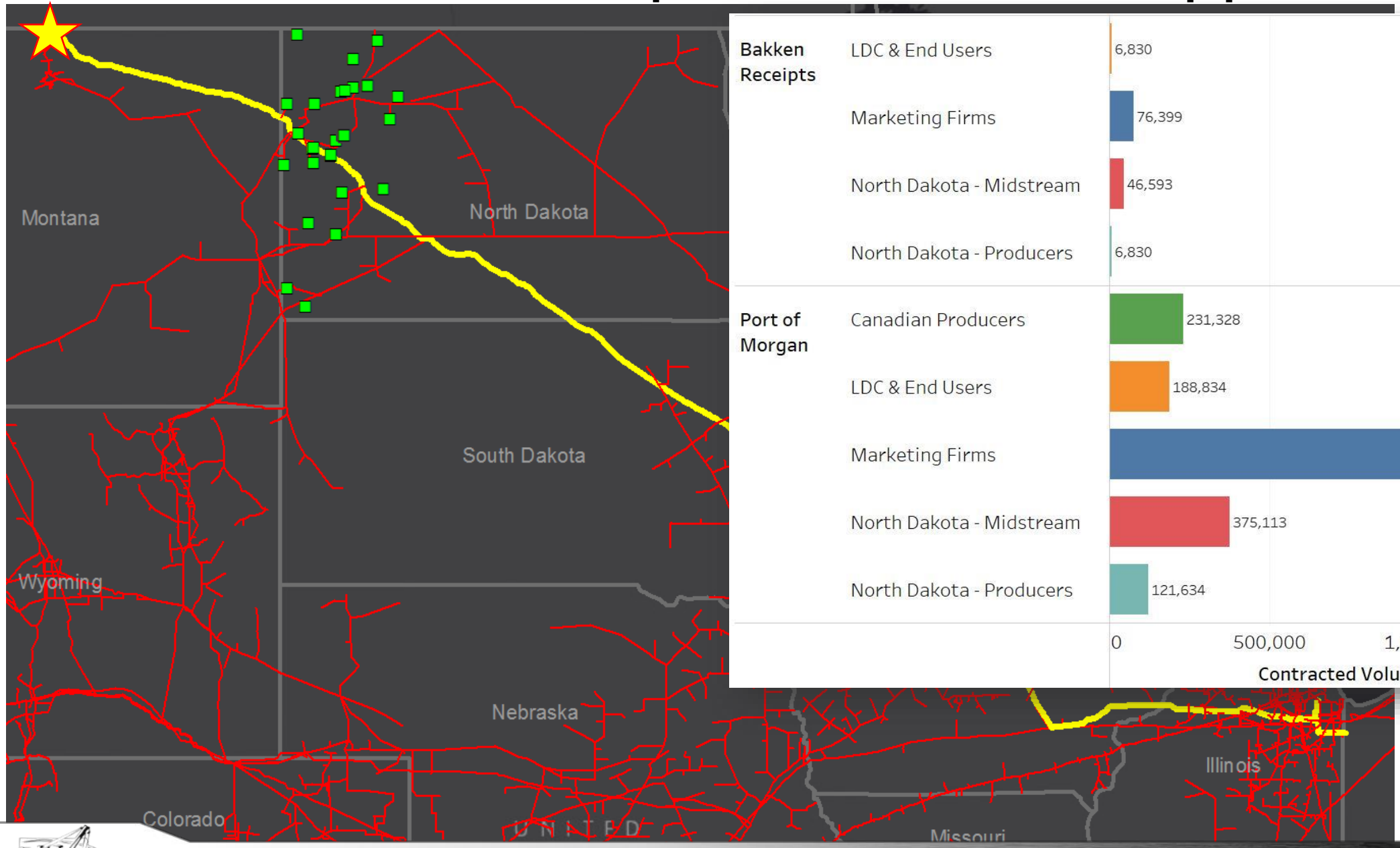
Barrels Per Day

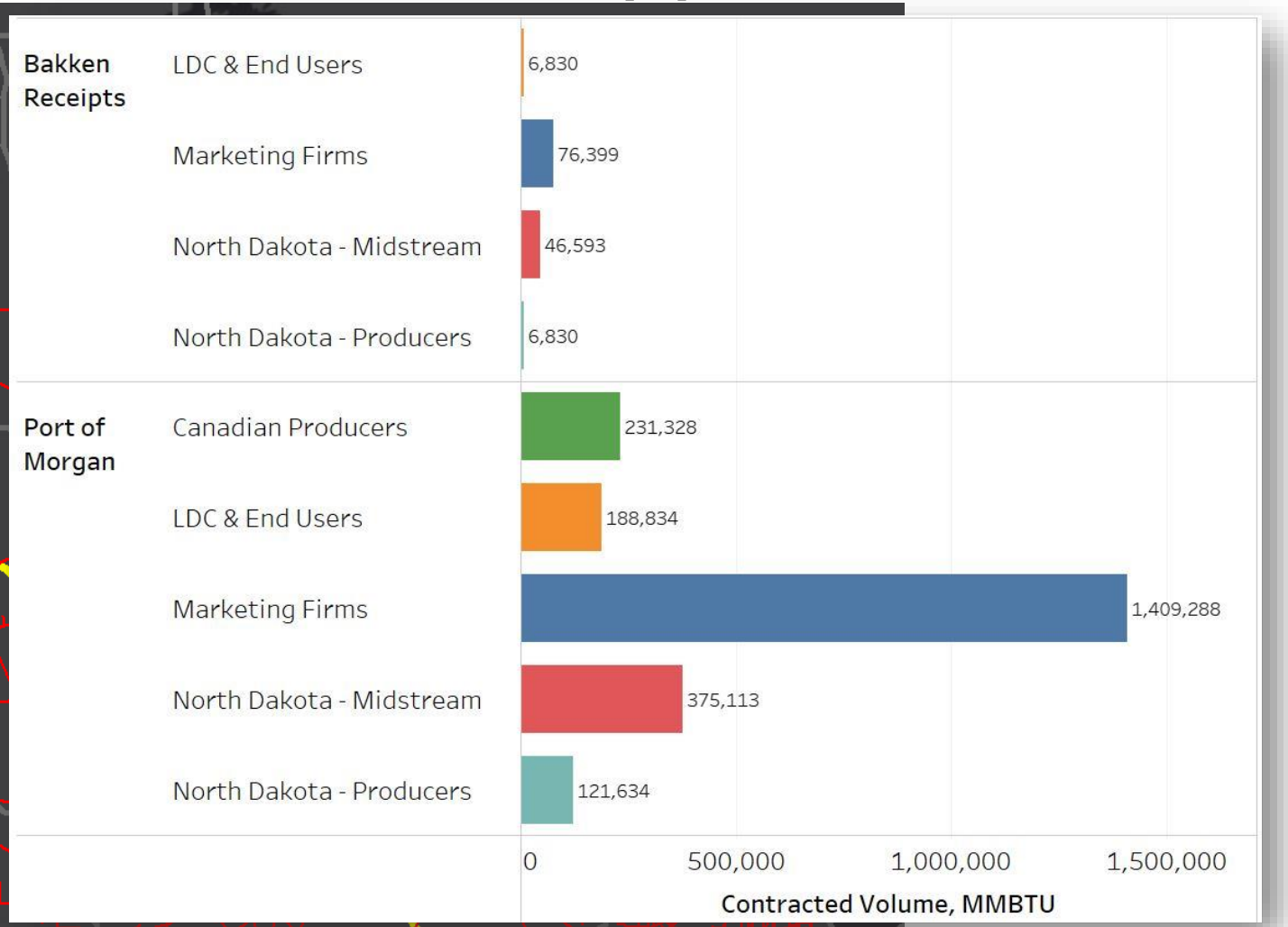
170,000
160,000
150,000
140,000
130,000
120,000
110,000
100,000
90,000
80,000
70,000
60,000
50,000
40,000
30,000
20,000
10,000
0

2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024 2025 2026 2027

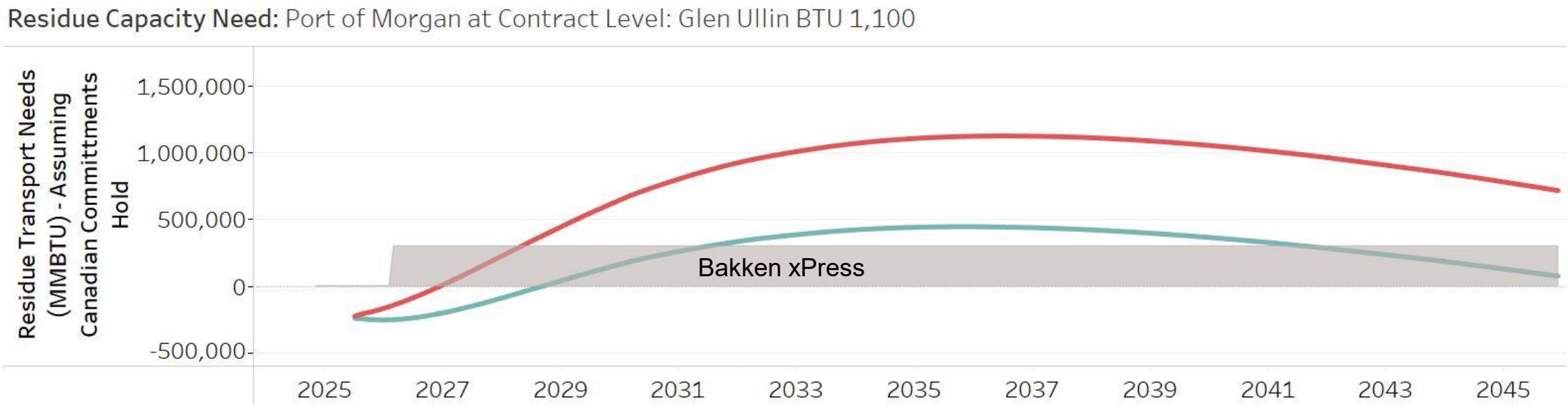
Propane
Ethane
Normal Butane
Natural Gasoline
Isobutane

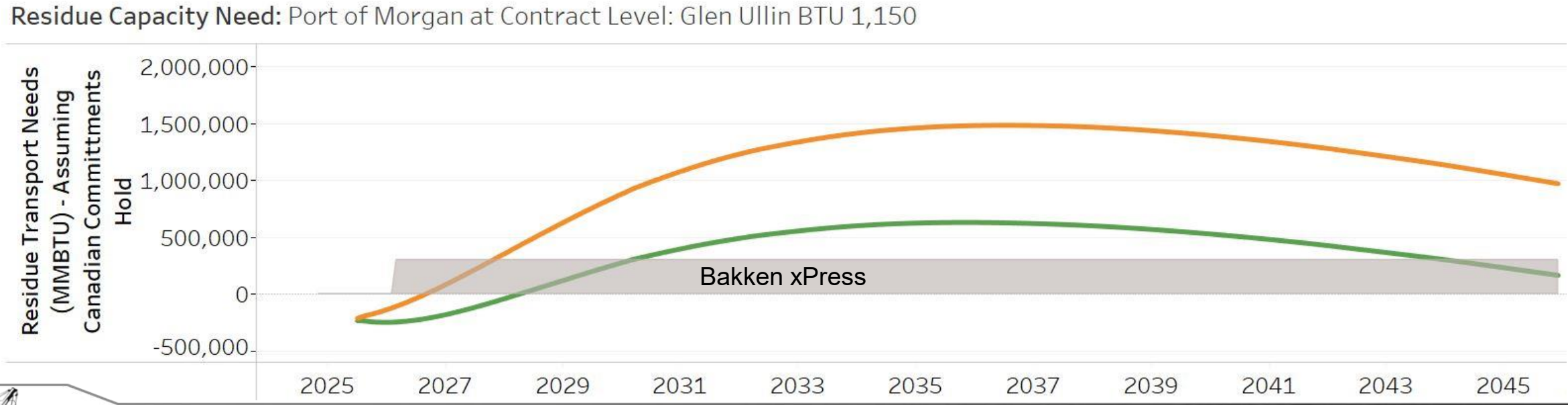
Northern Border Pipeline P.O.M. Shipper Mix: 2025



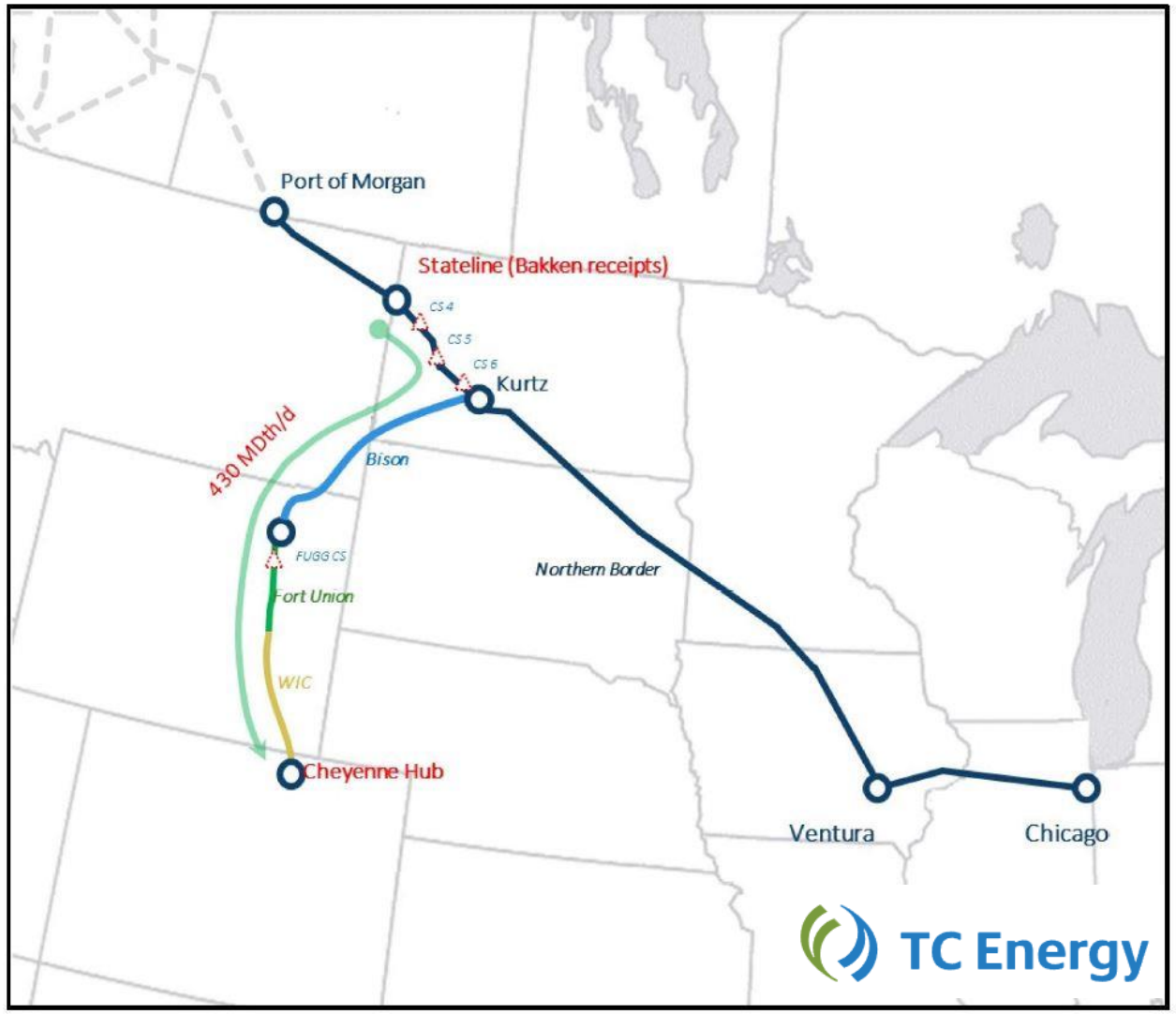


Residue Capacity Needs : **Glen Ullin BTU 1,100 & 1,150**





TC Energy / Kinder Morgan: Bakken xPress Project



Project Highlights

- Non-binding open season April 4 - May 6, 2022
- Binding Open Season: June 1-30, 2023
- Three compressor upgrades in North Dakota
- Reverse the idle Bison Pipeline (30” – 302 Mile)
- Capacity 300,000 Dth/Day (430,000 Offered)
- March 2026 targeted in-service date
- Fort Union Gas Gathering and Wyoming Interstate Company provide further transport to Cheyenne hub.
- Seeking commitments 10yrs or Longer
- $555 million: $347 Replacement/$208 Expansion

Proposed Rates

- NBPL/Bison $0.45/Dth + Fuel/Elec to WIC/FUG Interconnect
- WIC/FUG to Cheyenne $0.30/Dth + Fuel/Elec
- Anchor Shipper Minimum: 50,000 Dth/Day

Options Beyond 2026: The 5 “C’s”

Construction (Interstate)

- Long-haul Pipe to New or Expanded Markets

Compete

- Price Canadian Volumes to Flow Elsewhere

Compression

- Increase Capacity on Existing Interstate Systems

Consumption

- Intra Region Gas Demand Expansion

Contraction

- Reduce E&P Activity to Meet Limited Gas Options

Options Beyond 2026: The 5 “C’s”

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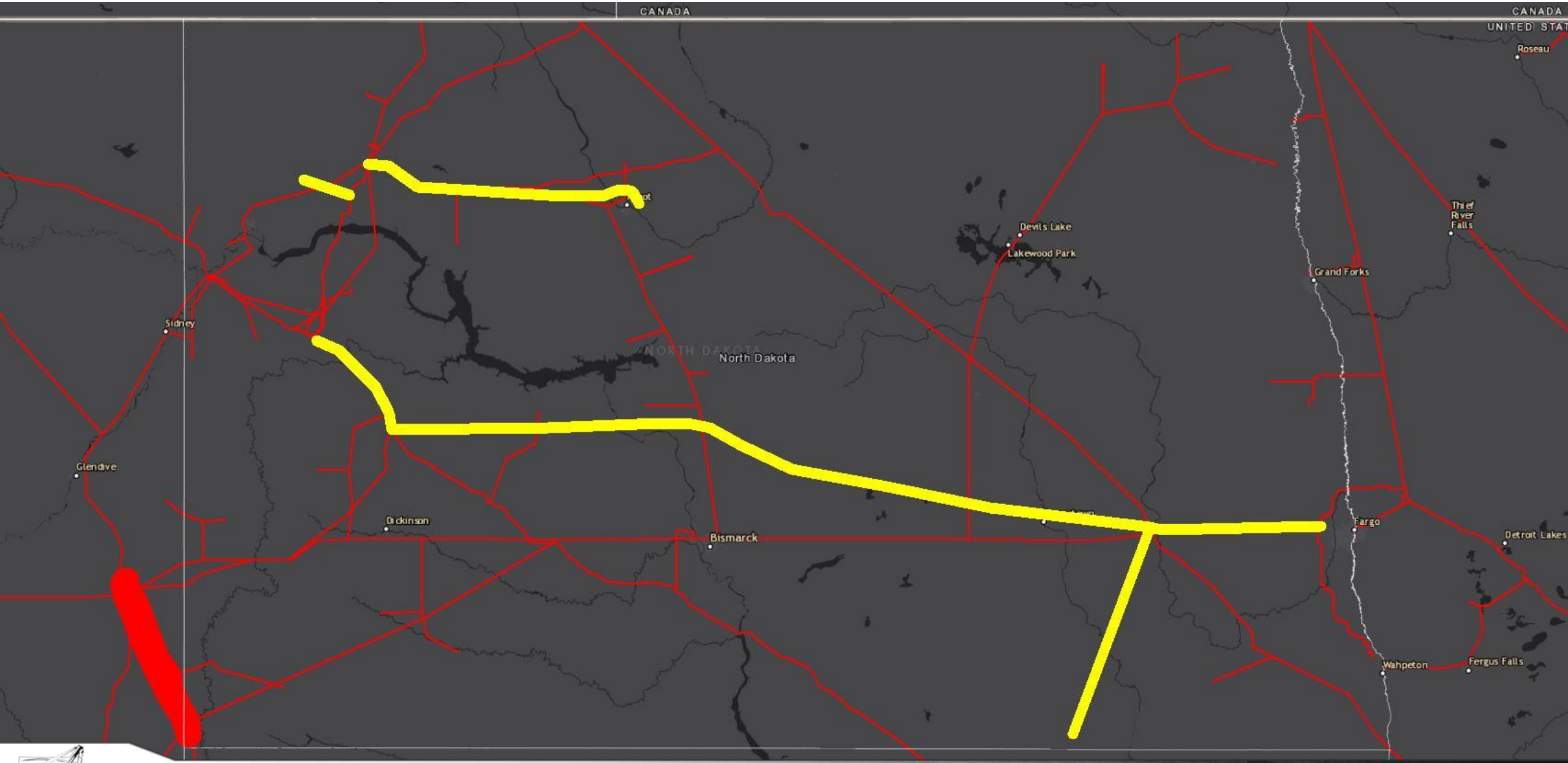
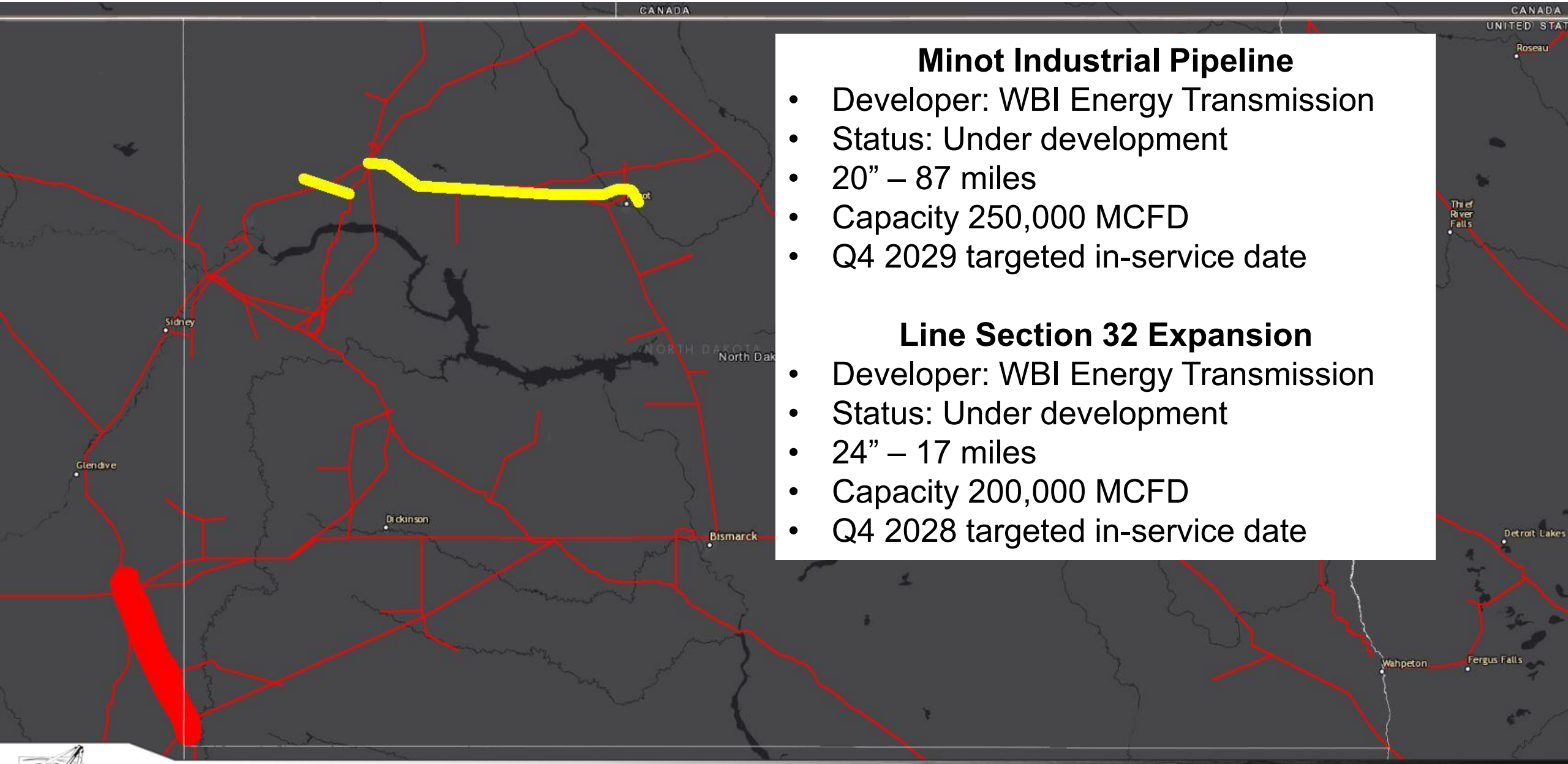
Beyond 2026: Gas Transmission Projects



Beyond 2026: Gas Transmission Projects



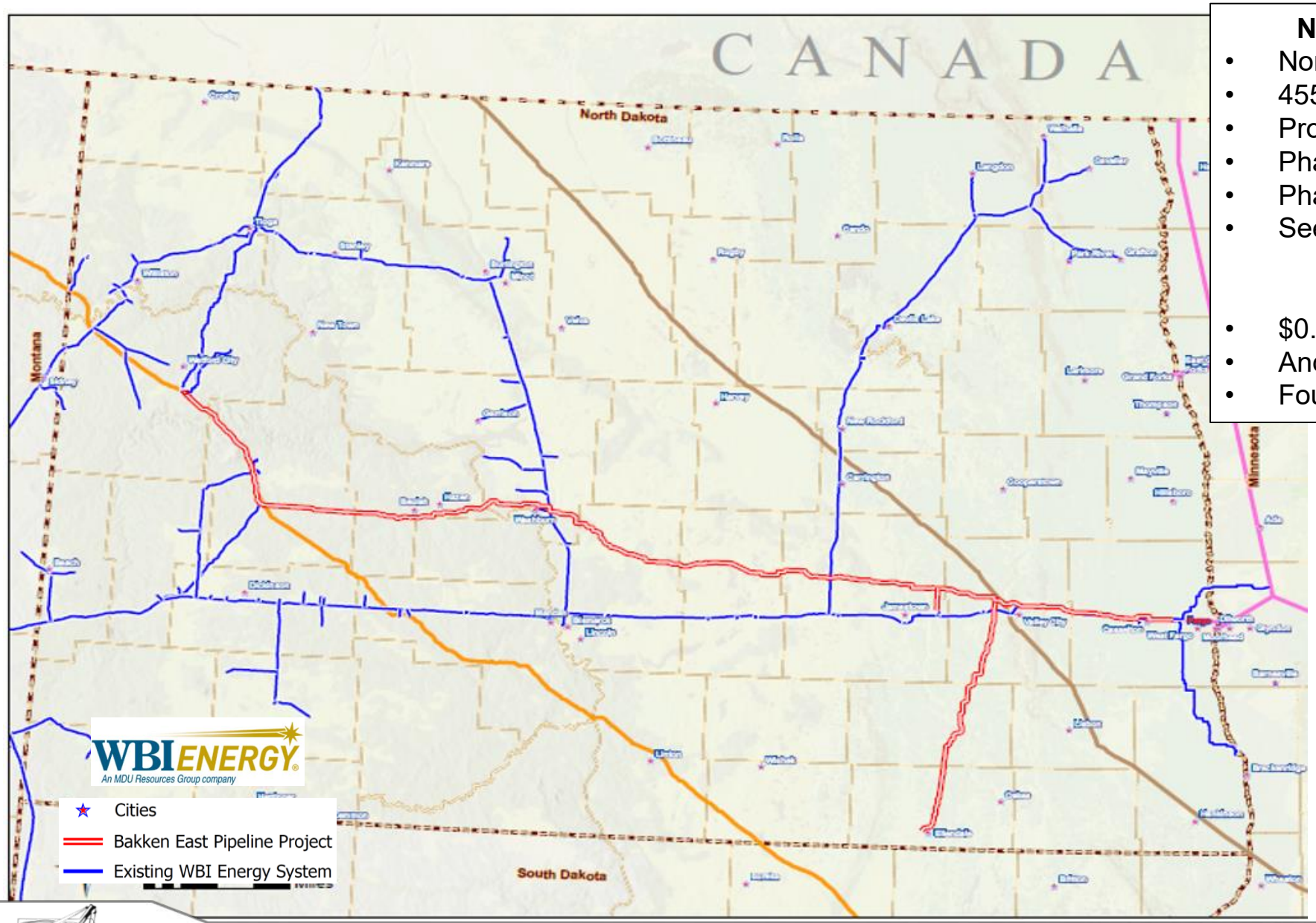
Minot Industrial Pipeline

- Developer: WBI Energy Transmission
- Status: Under development
- 20” – 87 miles
- Capacity 250,000 MCFD
- Q4 2029 targeted in-service date

Line Section 32 Expansion

- Developer: WBI Energy Transmission
- Status: Under development
- 24” – 17 miles
- Capacity 200,000 MCFD
- Q4 2028 targeted in-service date

WBI Energy: Proposed Bakken East Project



Natural Gas Pipeline Project Highlights

- Non-binding open season Dec 16 – Jan 31, 2025
- 455 Miles: 36”, 30”, & 20” Pipe
- Proposed Capacity (East) 1,000,000 Dth/Day
- Phase 1 (West) : Nov 2029 targeted in-service
- Phase 2 (East) : Nov 2030 targeted in-service
- Seeking commitments 20yrs or Longer

Estimated Rates

- $0.85 to $0.90/Dth + Fuel/Electric/Commodity
- Anchor Shipper Minimum: 100,000 Dth/Day
- Foundation Shipper Minimum: 250,000 Dth/Day

Intensity Infrastructure Partners Proposed Pipeline

Phase 1 Project Highlights

- Non-binding open season Feb 3 – Mar 7, 2025
- 136 Miles: 36” Pipe
- Proposed Capacity 1,100,000 Dth/Day
- July 2029 targeted in-service
- Seeking commitments 10yrs or Longer

Phase 1 Estimated Rates

- Sub-$0.40/Dth + Fuel/Electric/Commodity
- Anchor Shipper Minimum: 100,000 Dth/Day
- Foundation Shipper Minimum: 250,000 Dth/Day

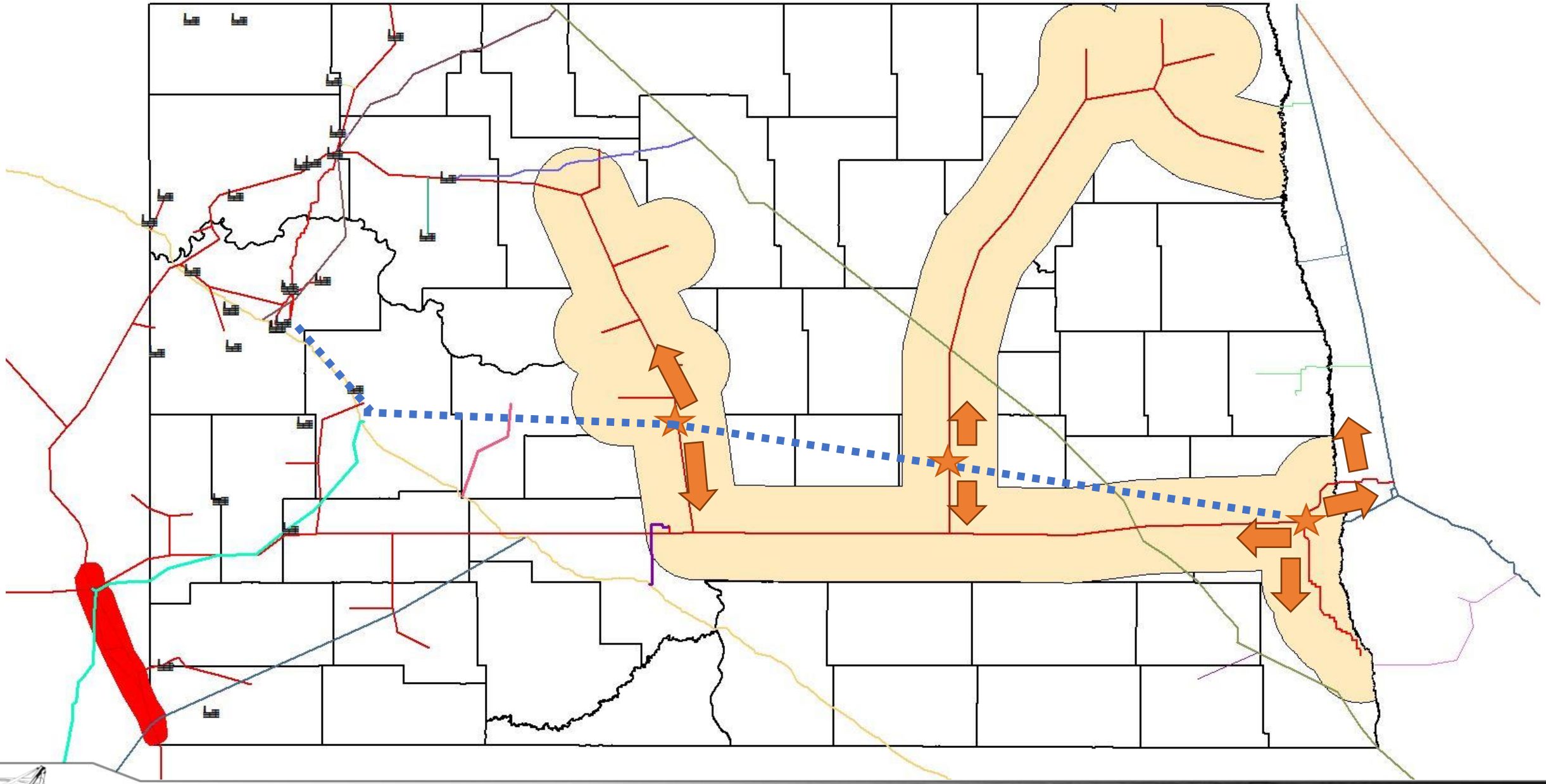
Phase 2 Project Highlights

- Non-binding open season Apr 17 – May 23, 2025
- 208 Miles: 30” Pipe
- Proposed Capacity 430,000 Dth/Day
- January 2030 targeted in-service
- Seeking commitments 10yrs or Longer

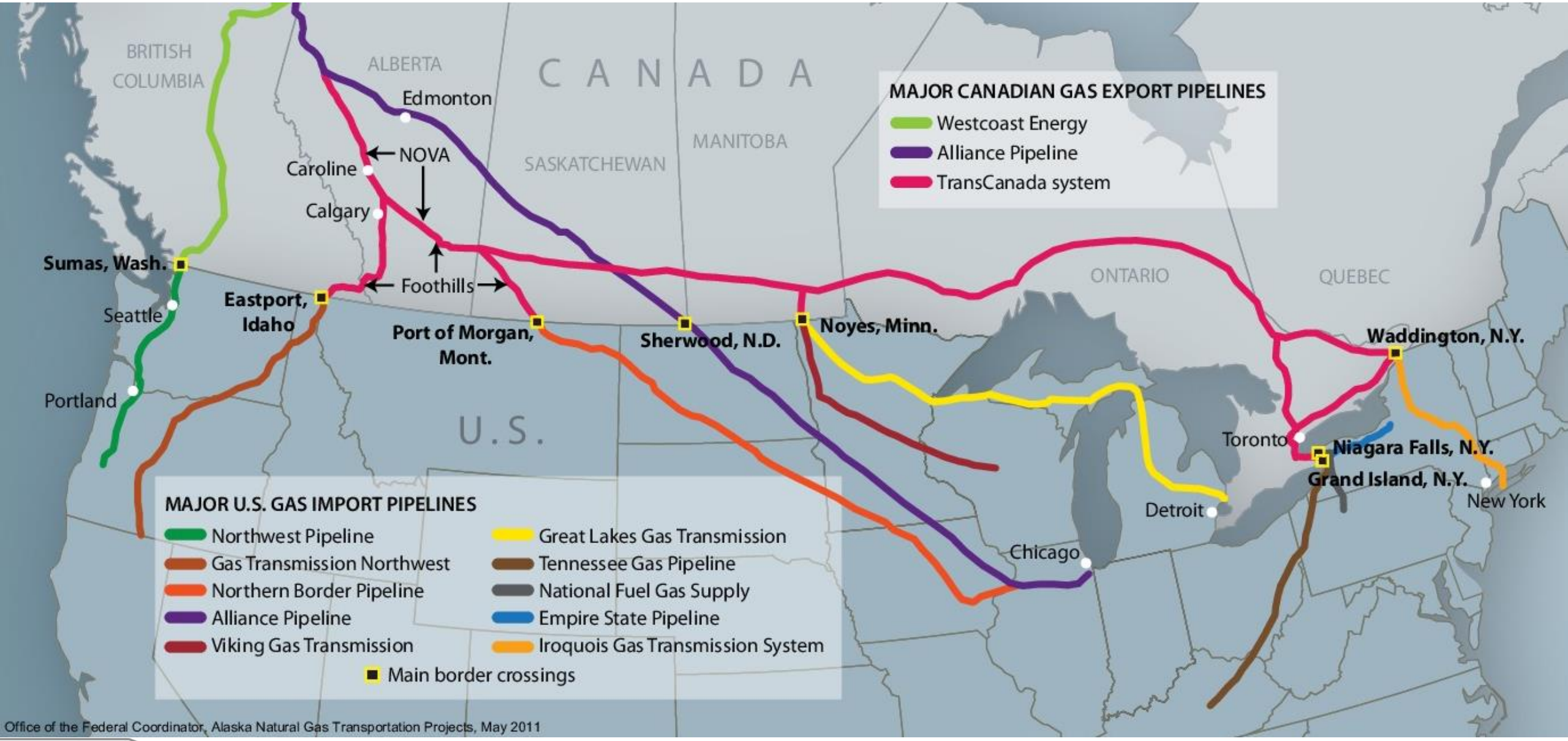
Phase 2 Estimated Rates

- $0.80/Dth + Fuel/Electric/Commodity
- Anchor Shipper Minimum: 100,000 Dth/Day
- Foundation Shipper Minimum: 250,000 Dth/Day

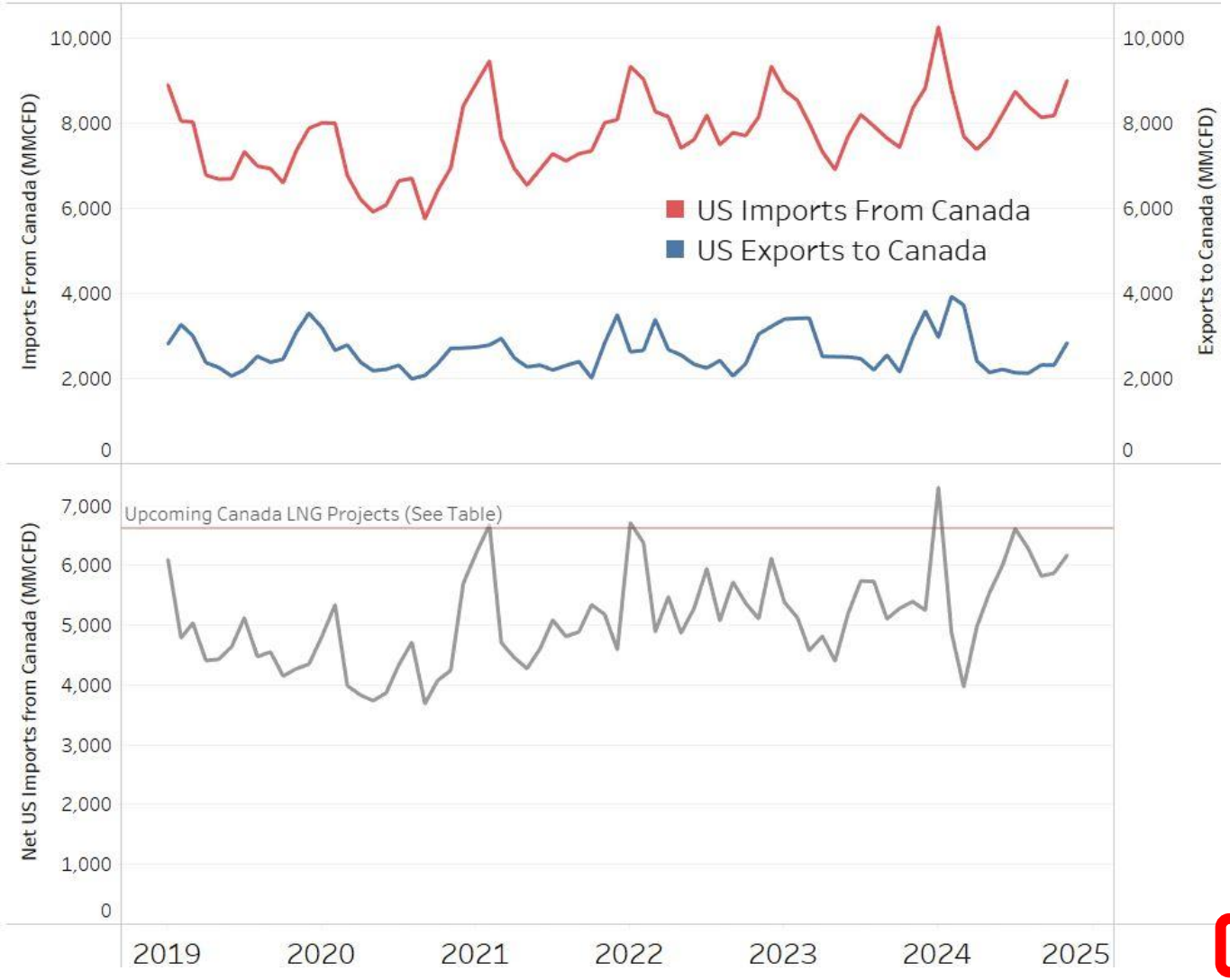
Going East: Statewide Benefits of Interconnections



Canadian Gas Pipeline Connectivity



United States Canada Gas Movements & LNG

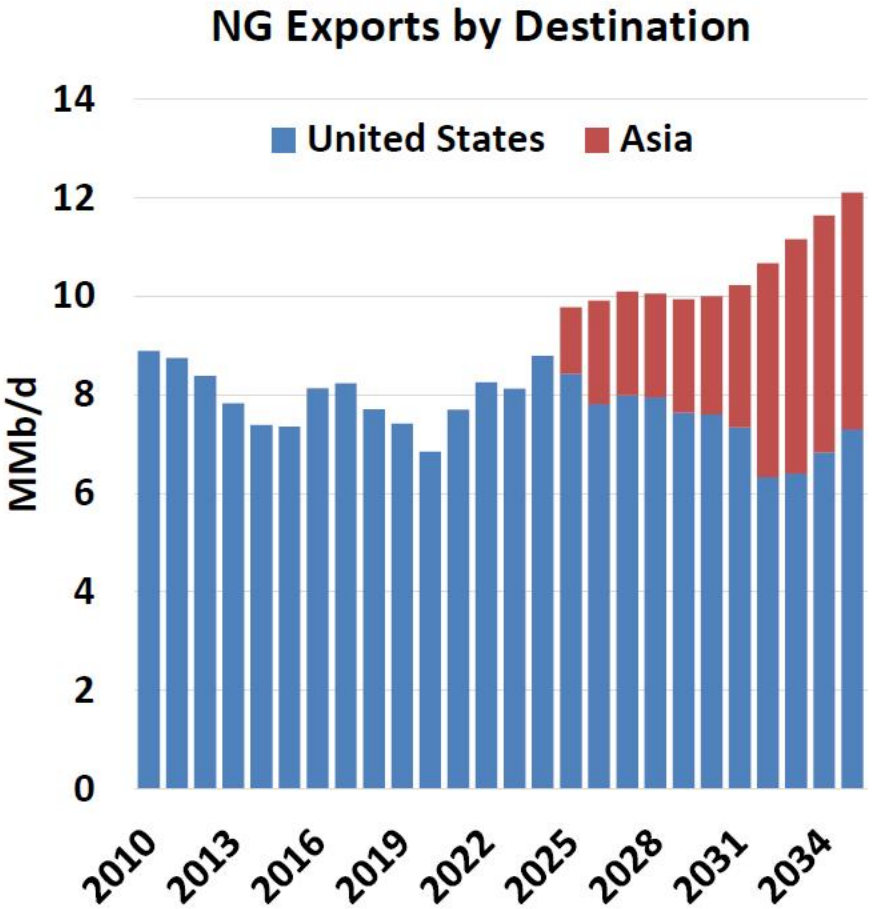


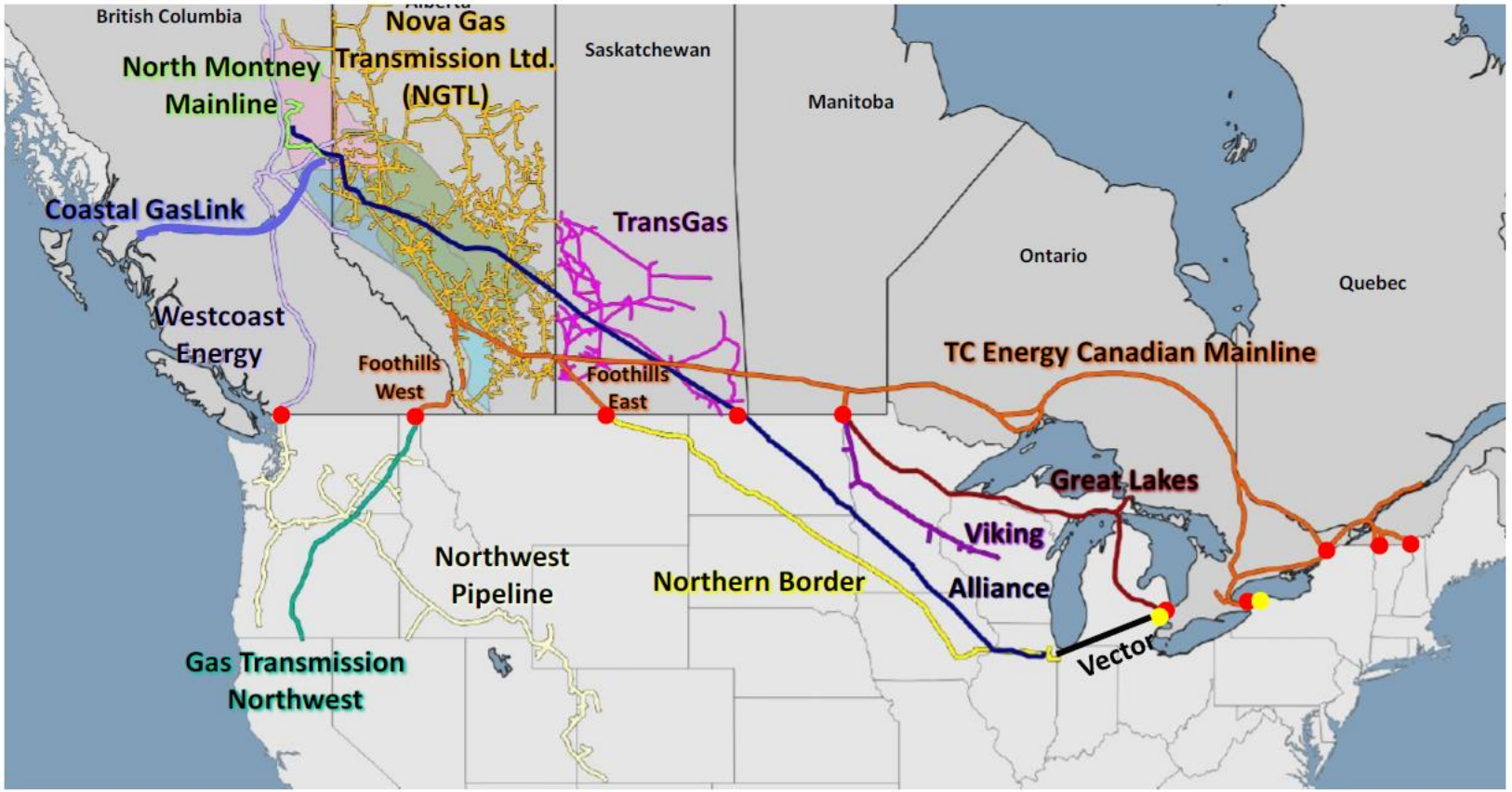
Projects proposed and under construction

Project	LNG Export Volumes, Million Tonnes per Annum (MTPA)	LNG Export Volumes, Billion Cubic Feet per Day (Bcf/d)
Export Licence – 40 years		
LNG Canada Phase 1 Kitimat, BC	14	1.84
LNG Canada Phase 2 Kitimat, BC	14	1.84
Woodfibre LNG Squamish, BC	2.1	0.28
Ksi Lisims LNG Gingolx, BC	12	1.58
Export Licence – 25 years		
Tilbury LNG Phase 2 Delta, B.C.	2.5	0.33
Cedar LNG Kitimat, BC	3	0.39
Yet to apply for an Export Licence		
Summit Lake PG LNG Prince George, BC	2.7	0.36
Export Licence Not applicable (n/a)		
Tilbury Marine Jetty Delta, BC	n/a	n/a
Total	50.3	6.62

Natural Gas Exports and Export Options

- Gas production growth is insufficient to meet a combination of LNG export needs, Alberta demand growth and sustaining pipeline exports.





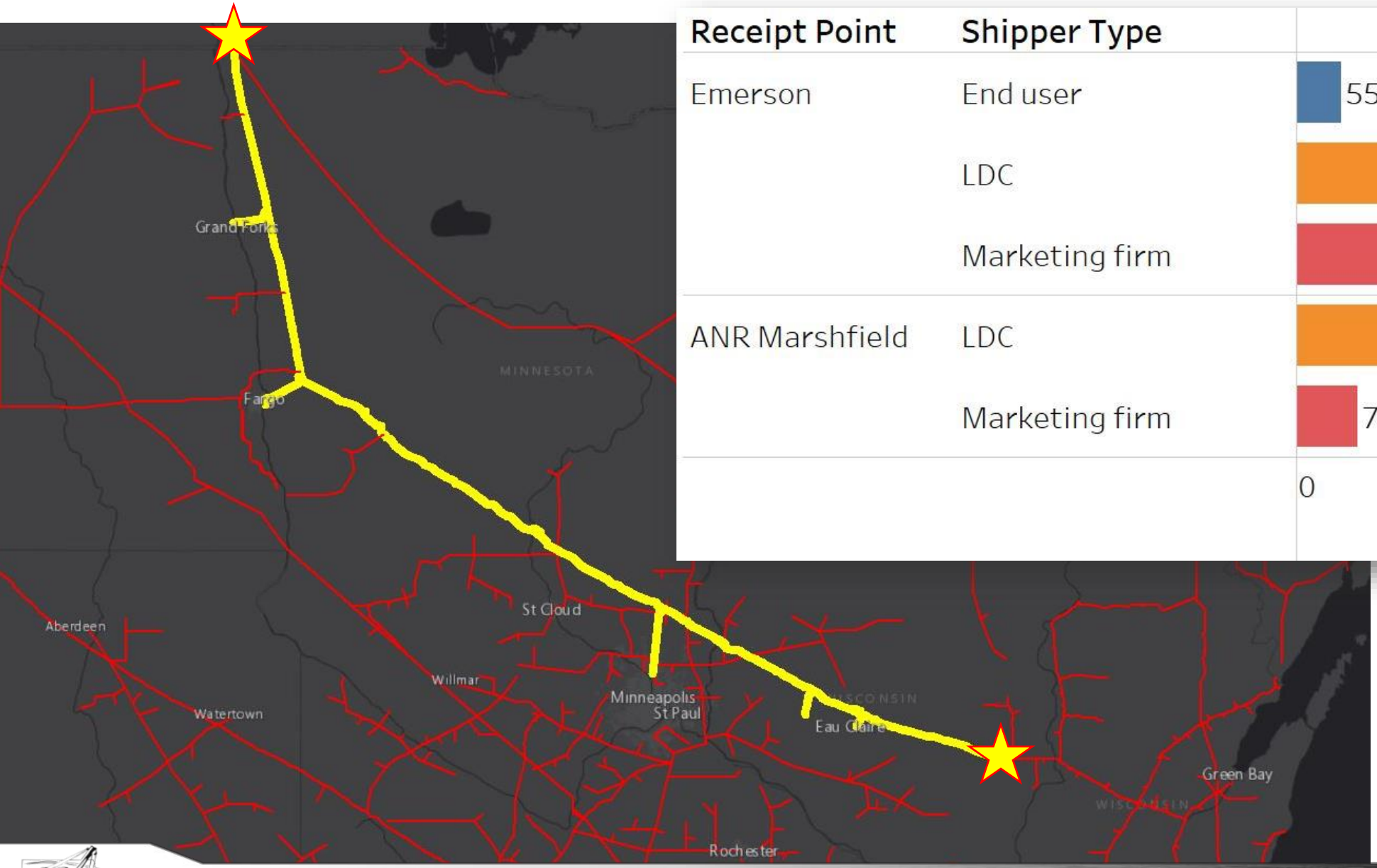
- Potential end result is a reduction in gas pipeline exports to the U.S. as LNG and Alberta demand will take precedence.

RBN Energy LLC

Source: RBN, CER

Eastern North Dakota Interstate Pipeline Interconnection Options

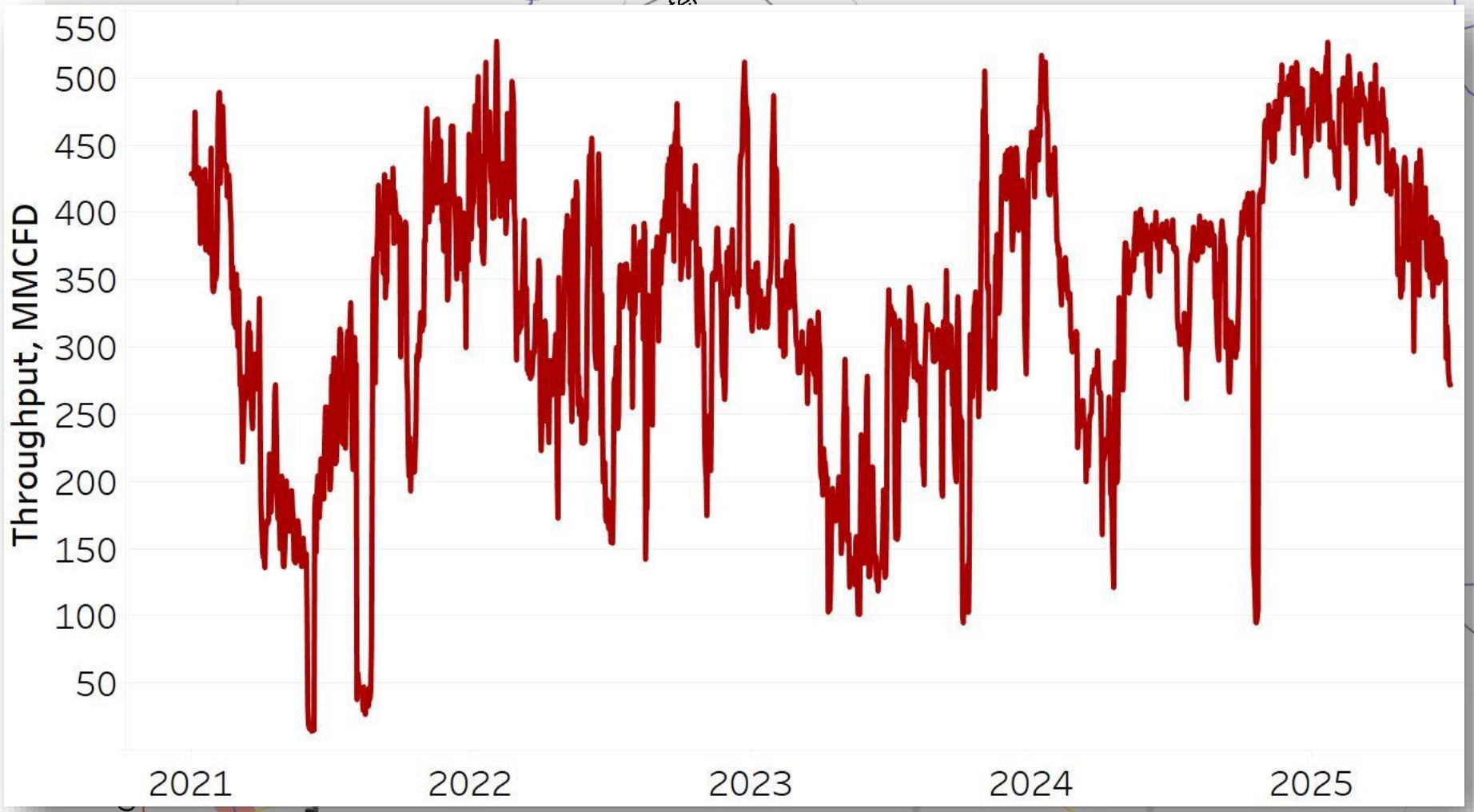
Viking Pipeline Shipper Mix: 2025



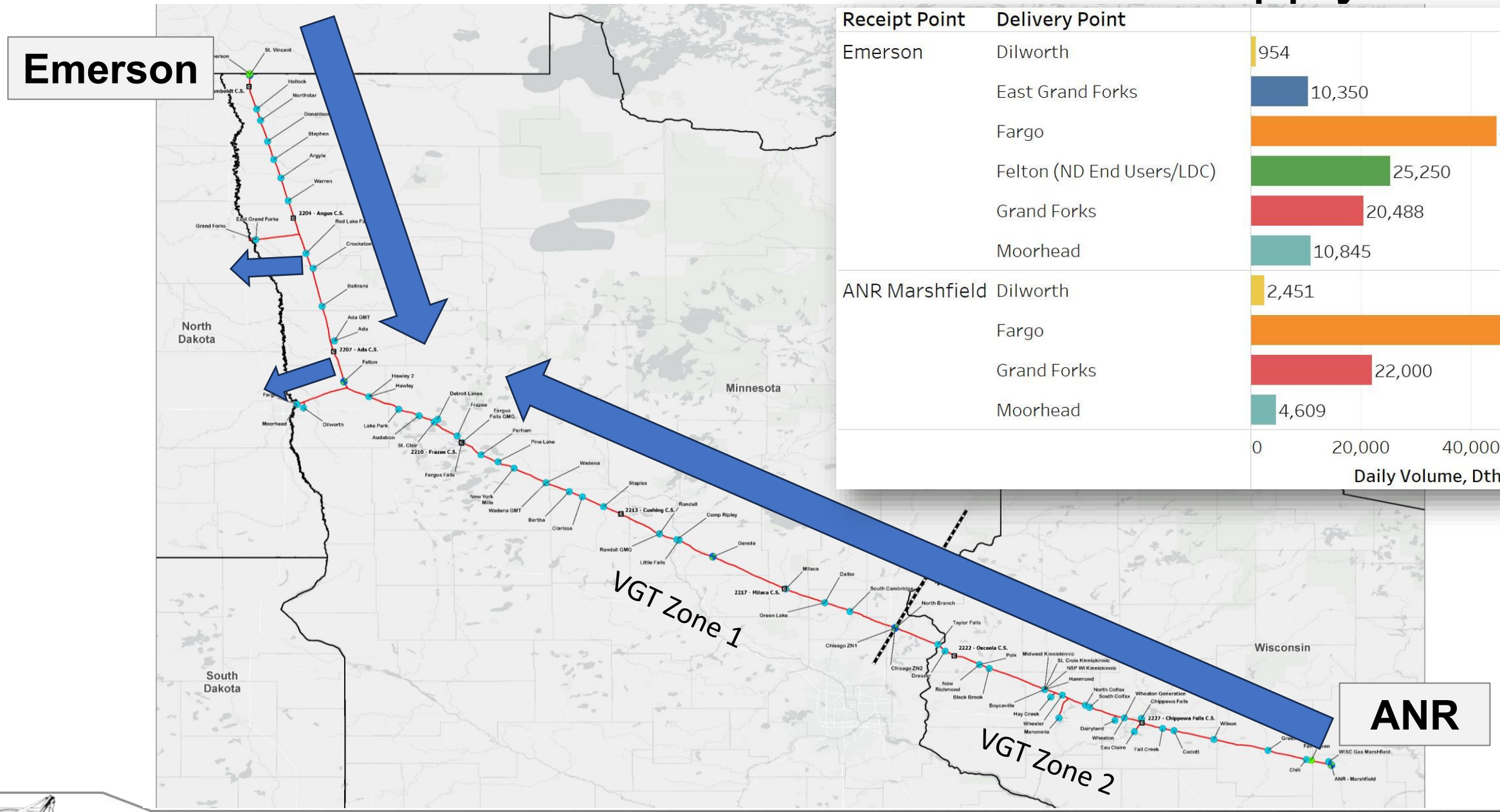
Receipt Point	Shipper Type	Daily Volume, Dth
Emerson	End user	55,235
	LDC	388,257
	Marketing firm	132,148
ANR Marshfield	LDC	125,713
	Marketing firm	76,000

0 200,000 400,000

Viking South Volumes (~500 MMCFD Cap.)



Current Eastern North Dakota Gas Supply

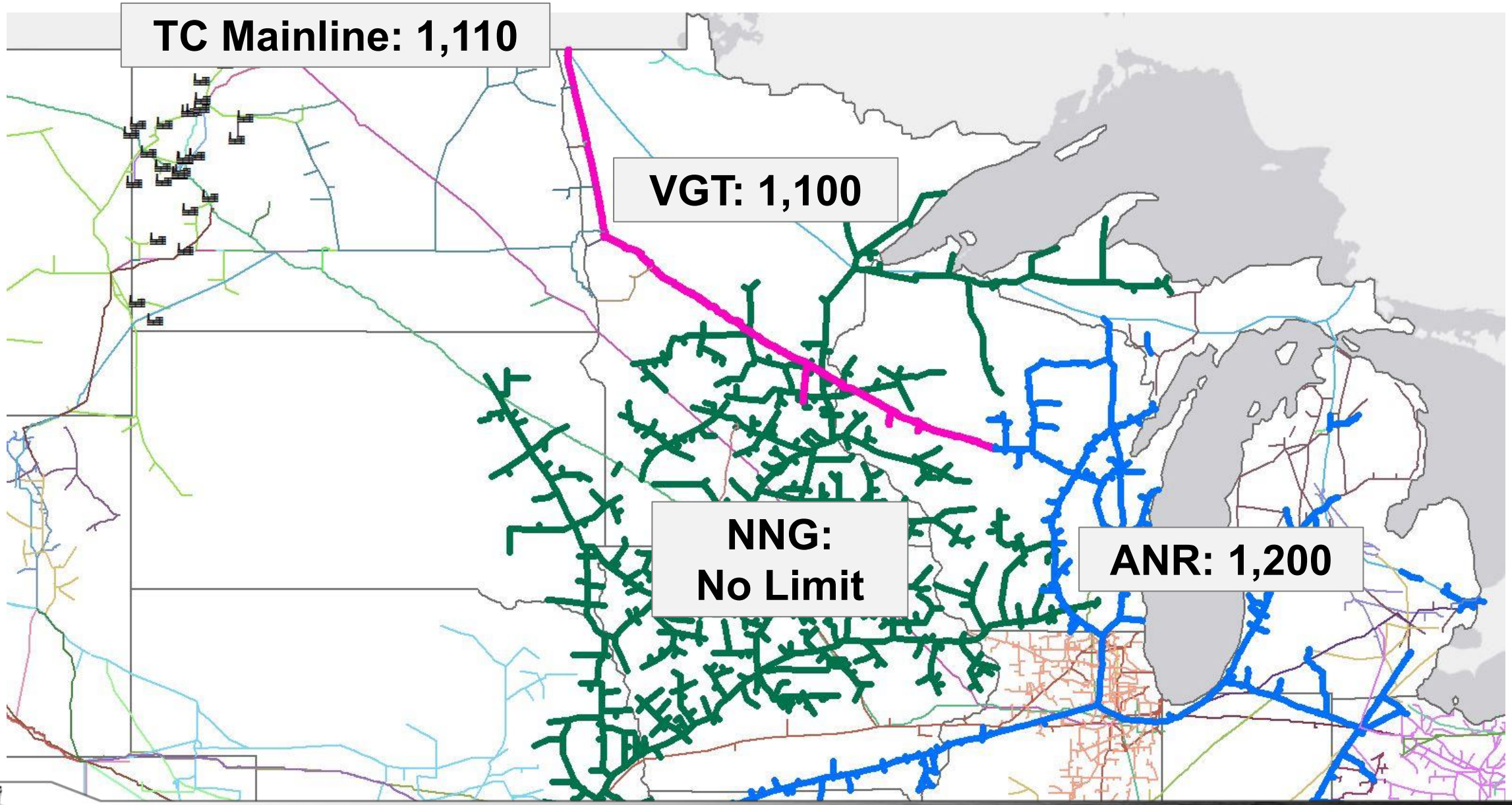


Receipt Point	Delivery Point	Daily Volume, Dth
Emerson	Dilworth	954
	East Grand Forks	10,350
	Fargo	44,568
	Felton (ND End Users/LDC)	25,250
	Grand Forks	20,488
	Moorhead	10,845
ANR Marshfield	Dilworth	2,451
	Fargo	50,118
	Grand Forks	22,000
	Moorhead	4,609

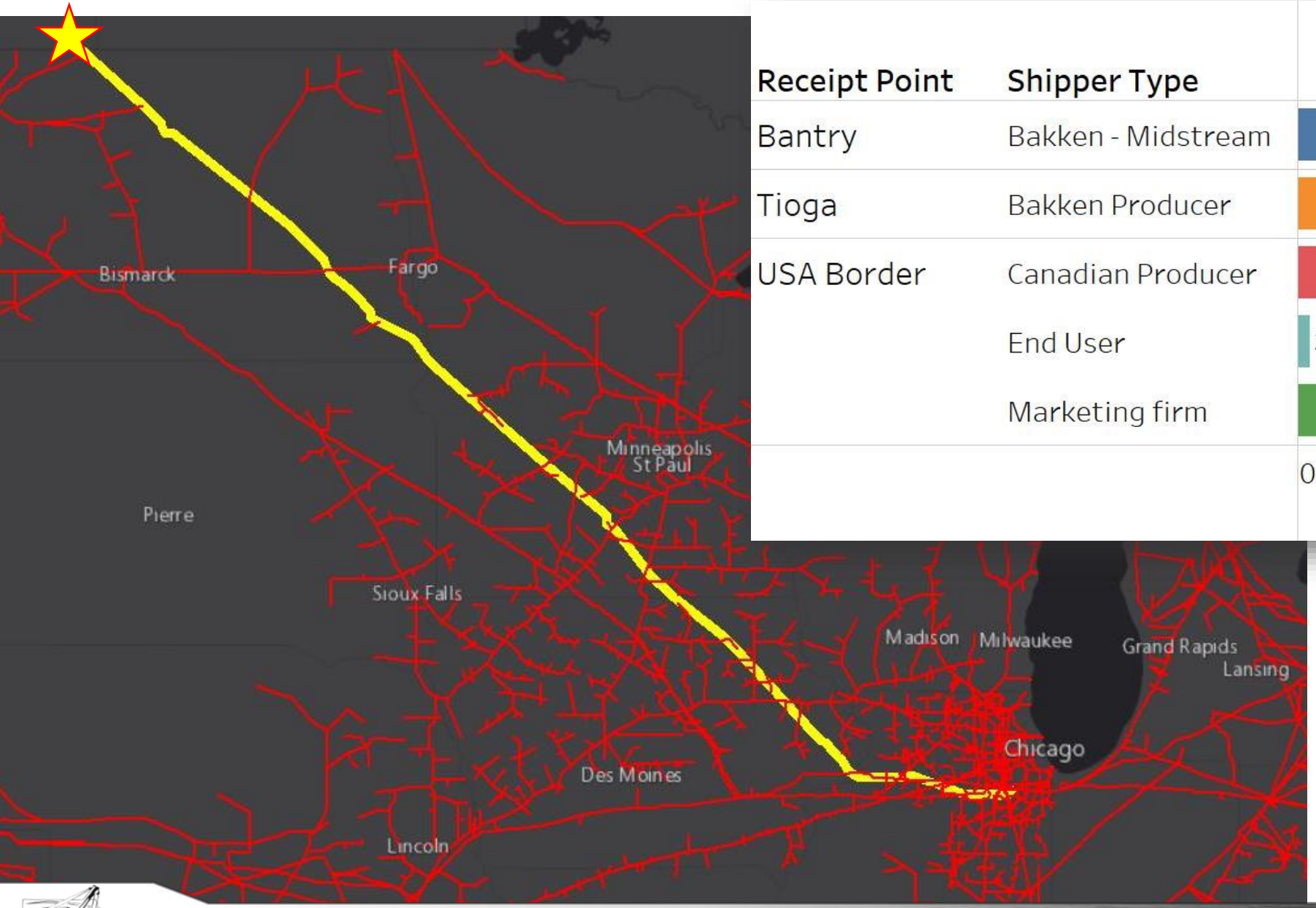
0 20,000 40,000 60,000

Daily Volume, Dth

The Need to Modernize Viking's BTU Limit



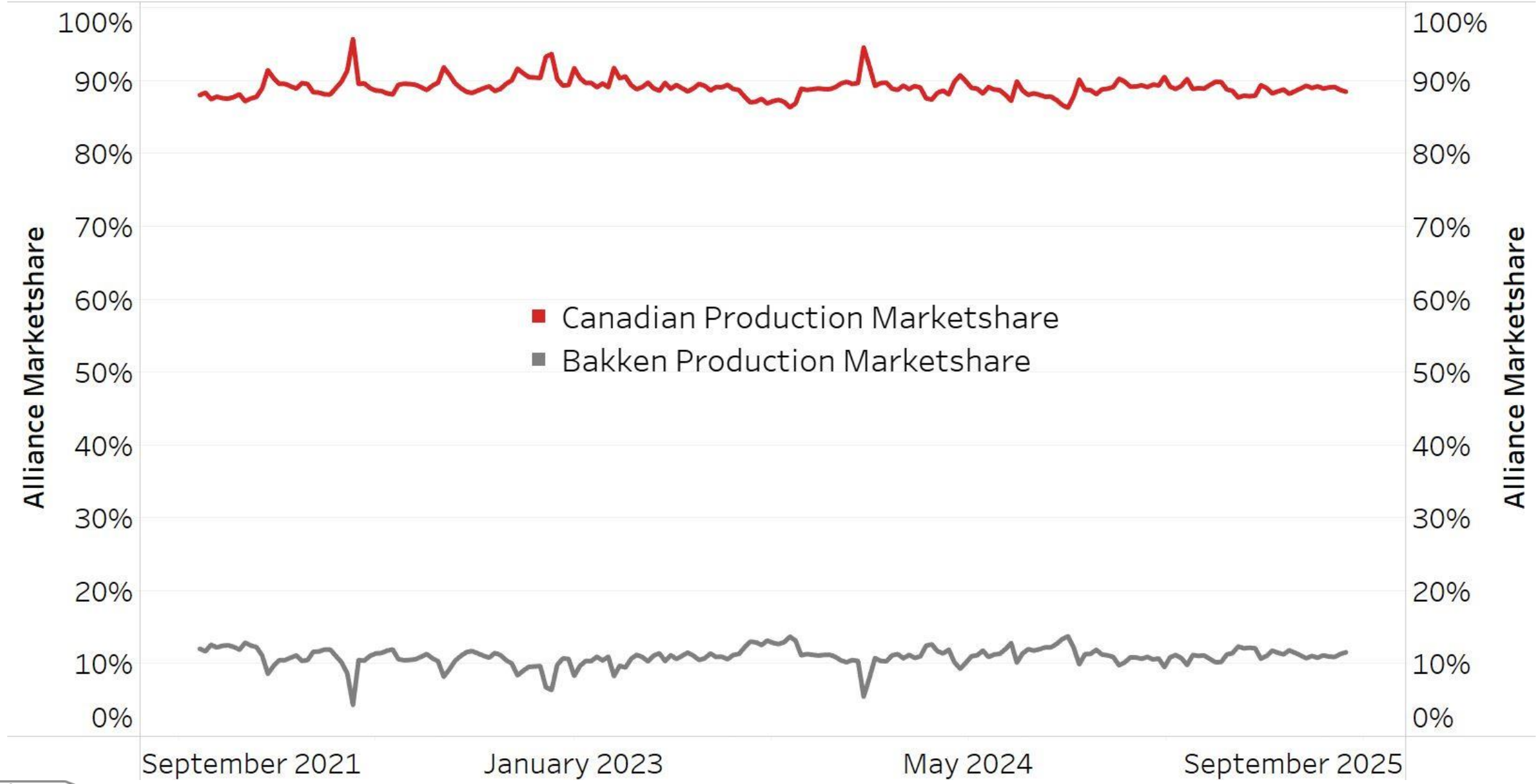
Alliance Pipeline US Shipper Mix: 2025



Receipt Point	Shipper Type	Daily Quantity, Dth
Bantry	Bakken - Midstream	116,000
Tioga	Bakken Producer	88,002
USA Border	Canadian Producer	1,188,088
	End User	39,820
	Marketing firm	400,843

0 500,000 1,000,000

Alliance Pipeline Market Share: ~1.6 BCFD Capacity



Signing Up For Pipeline Capacity

Shippers Types

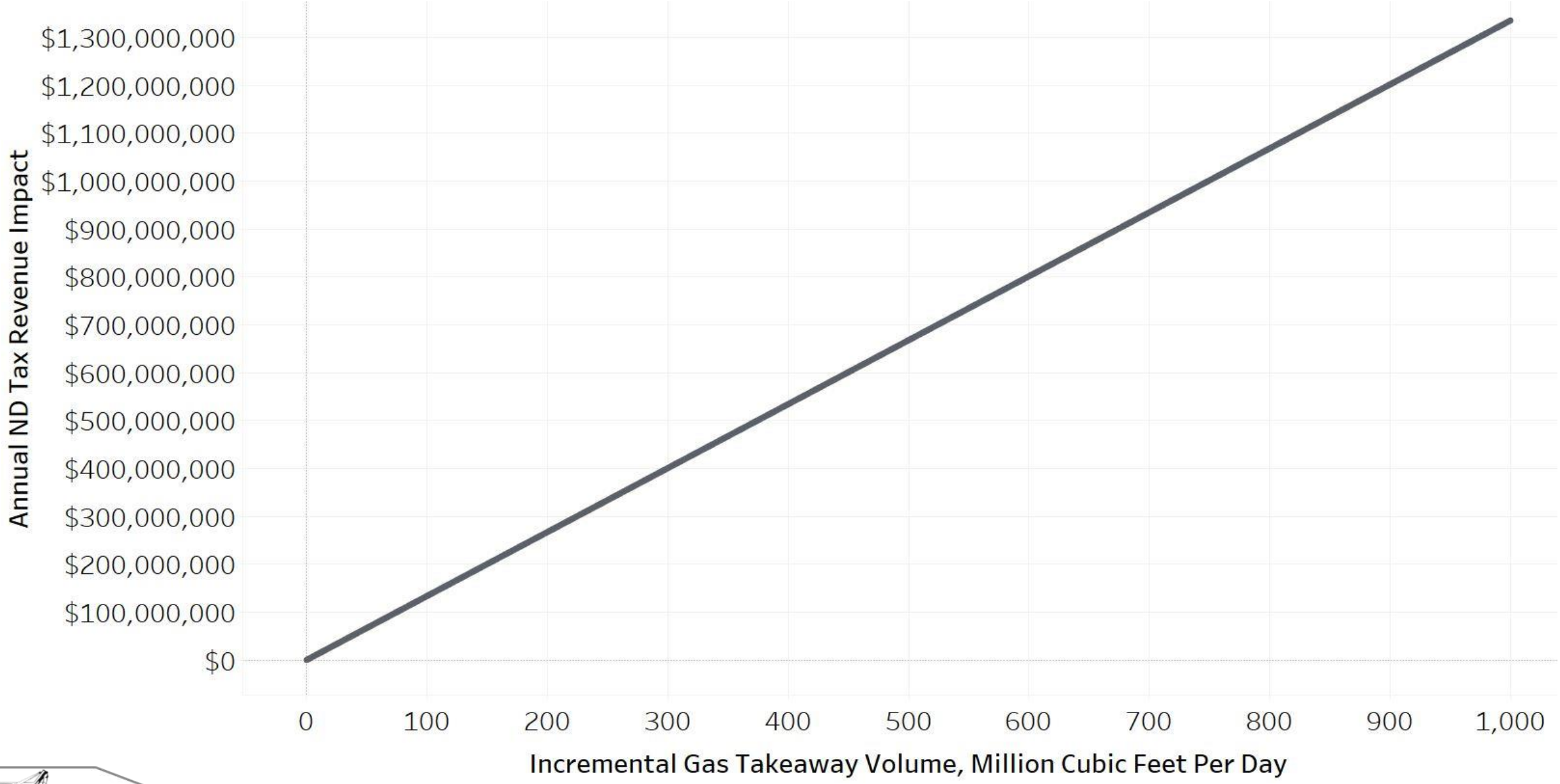
Producers/Midstream

Marketing Firms

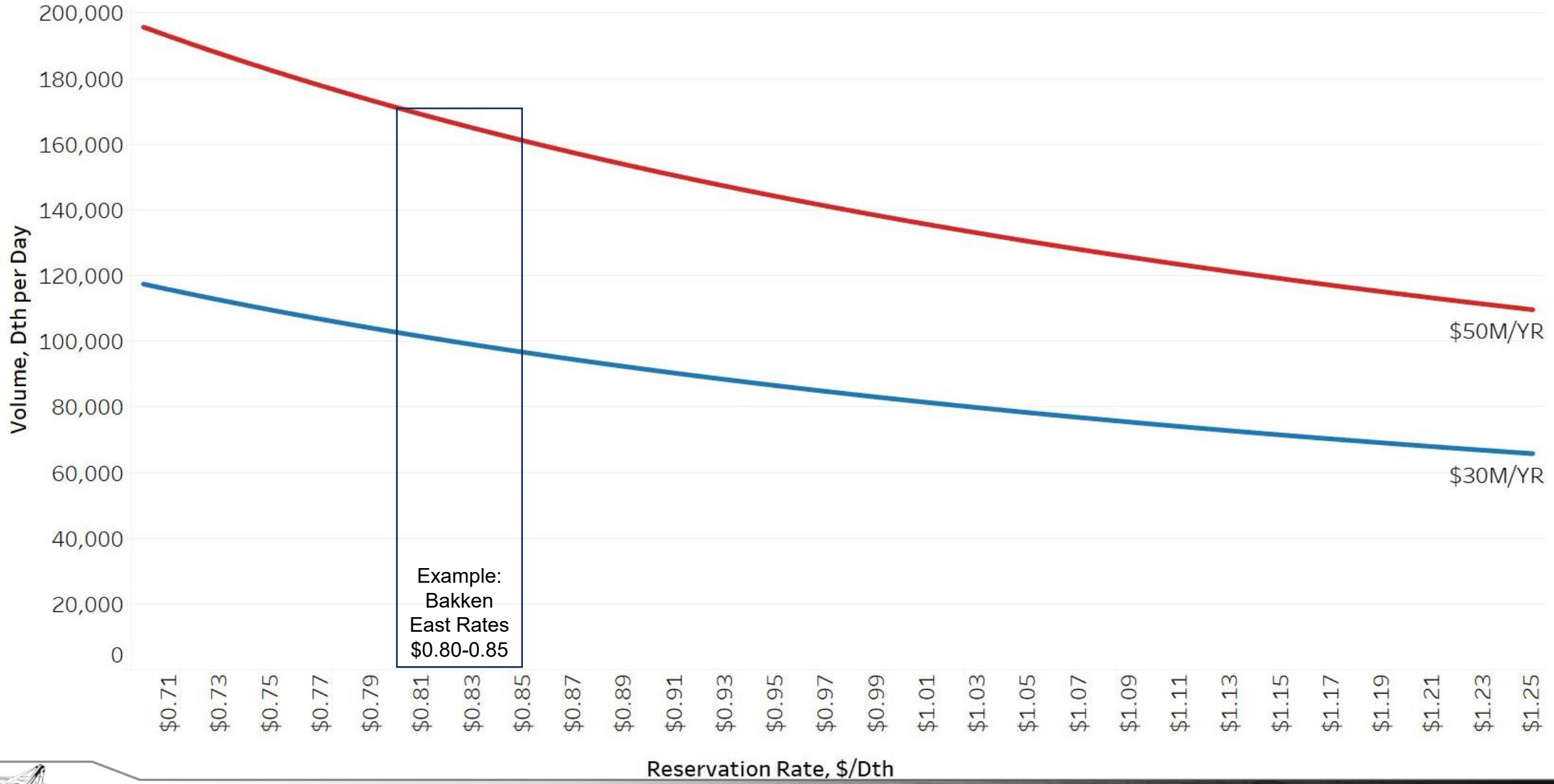
Industrial Consumers/LDC

State of North Dakota (PA/IC)

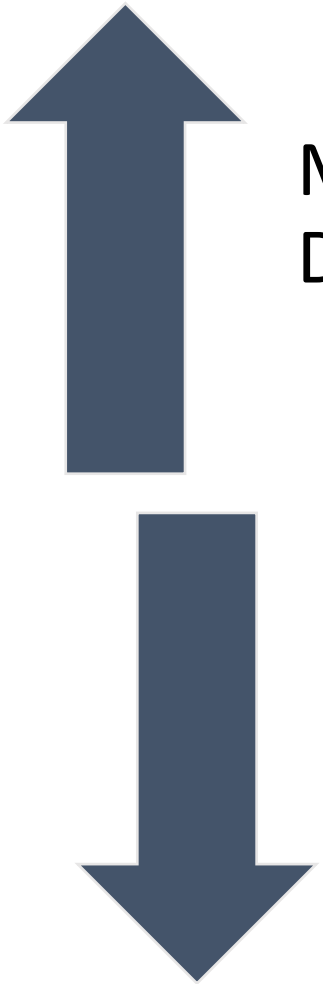
ND Tax Impact of Incremental Gas Capacity



Capacity and Reservation Rate



How Will NDPA Manage Contracted Capacity?



Most Desirable

Least Desirable

Release capacity to replacement shipper(s) in increments greater than one year at FERC required rate structure

Release capacity to replacement shipper(s) in increments less than one year at bid rates *(Limited by 54-17.7-04 Subsection 3)*

Release of capacity to an asset manager for an appropriate term length

Pay obligated precedent agreement rates until a release or asset management agreement is established

Options Beyond 2026: The 5 “C’s”

Construction (Interstate)

- Long-haul Pipe to New or Expanded Markets

Compete

- Price Canadian Volumes to Flow Elsewhere

Compression

- Increase Capacity on Existing Interstate Systems

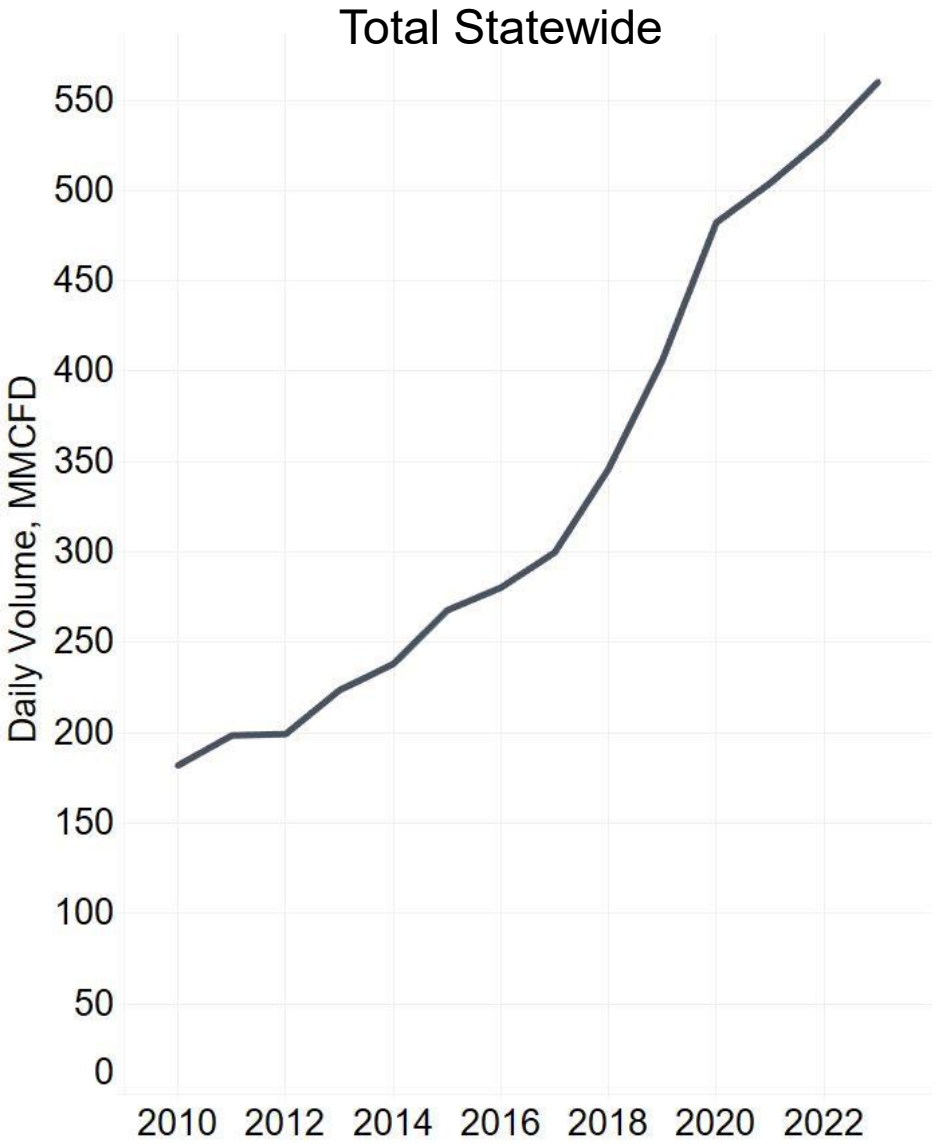
Consumption

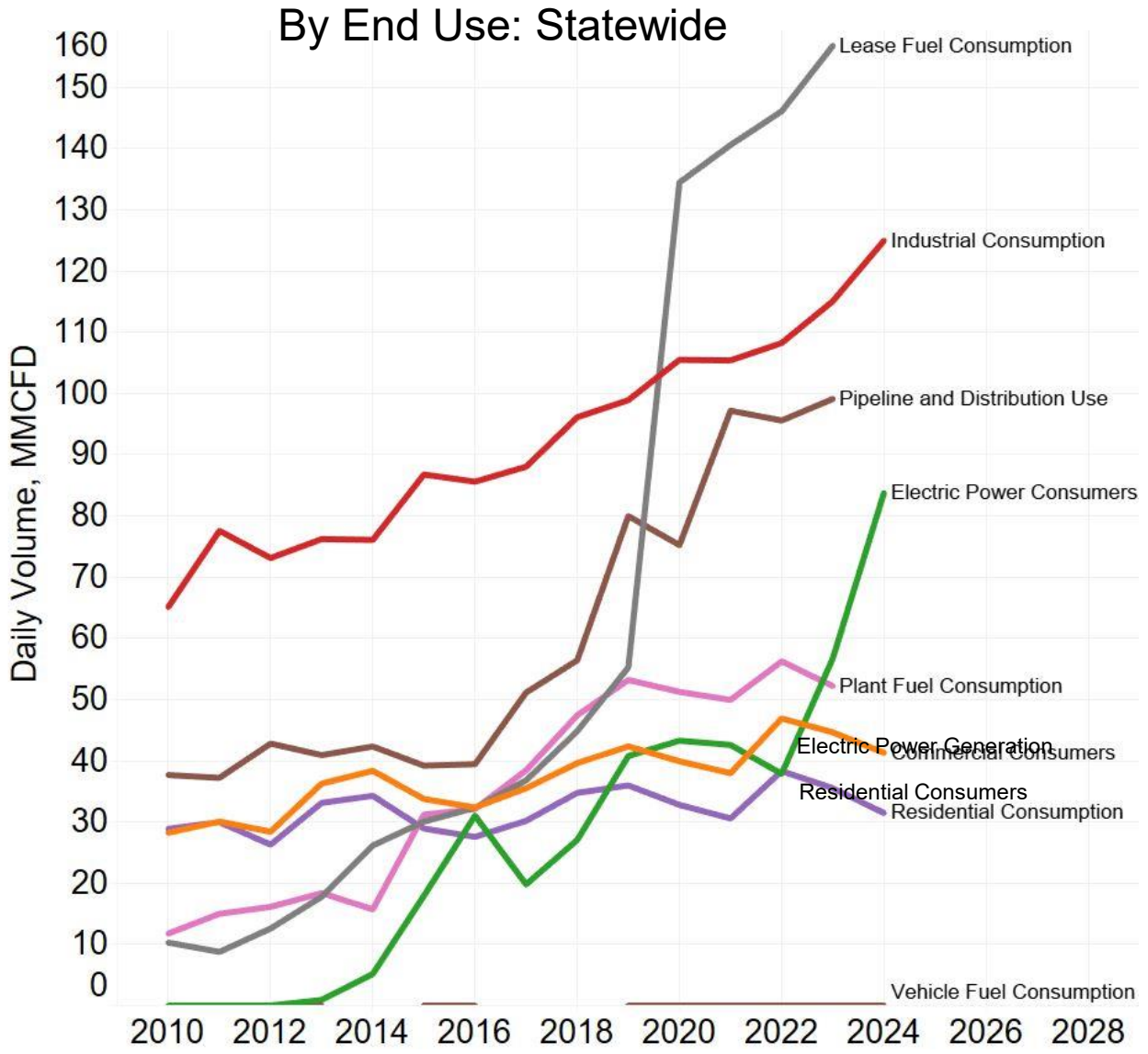
- Intra Region Gas Demand Expansion

Contraction

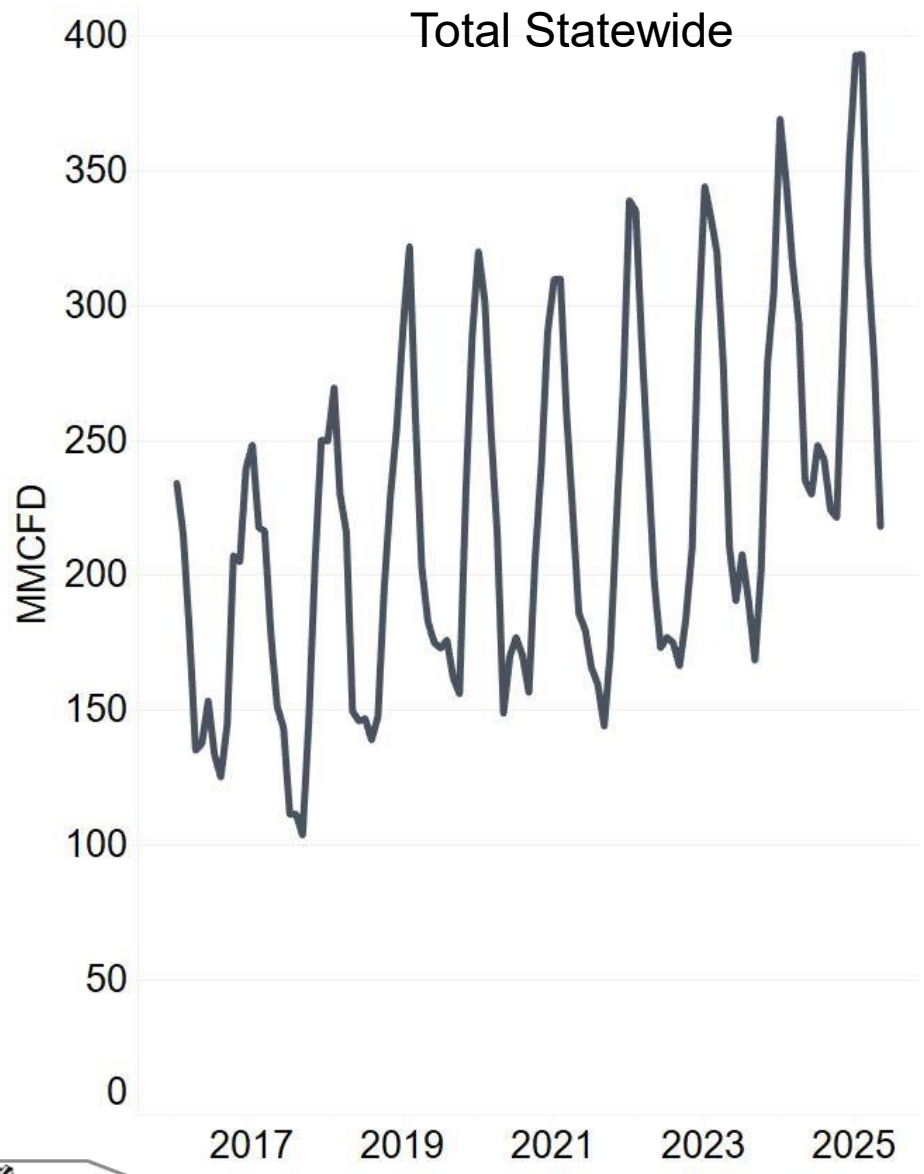
- Reduce E&P Activity to Meet Limited Gas Options

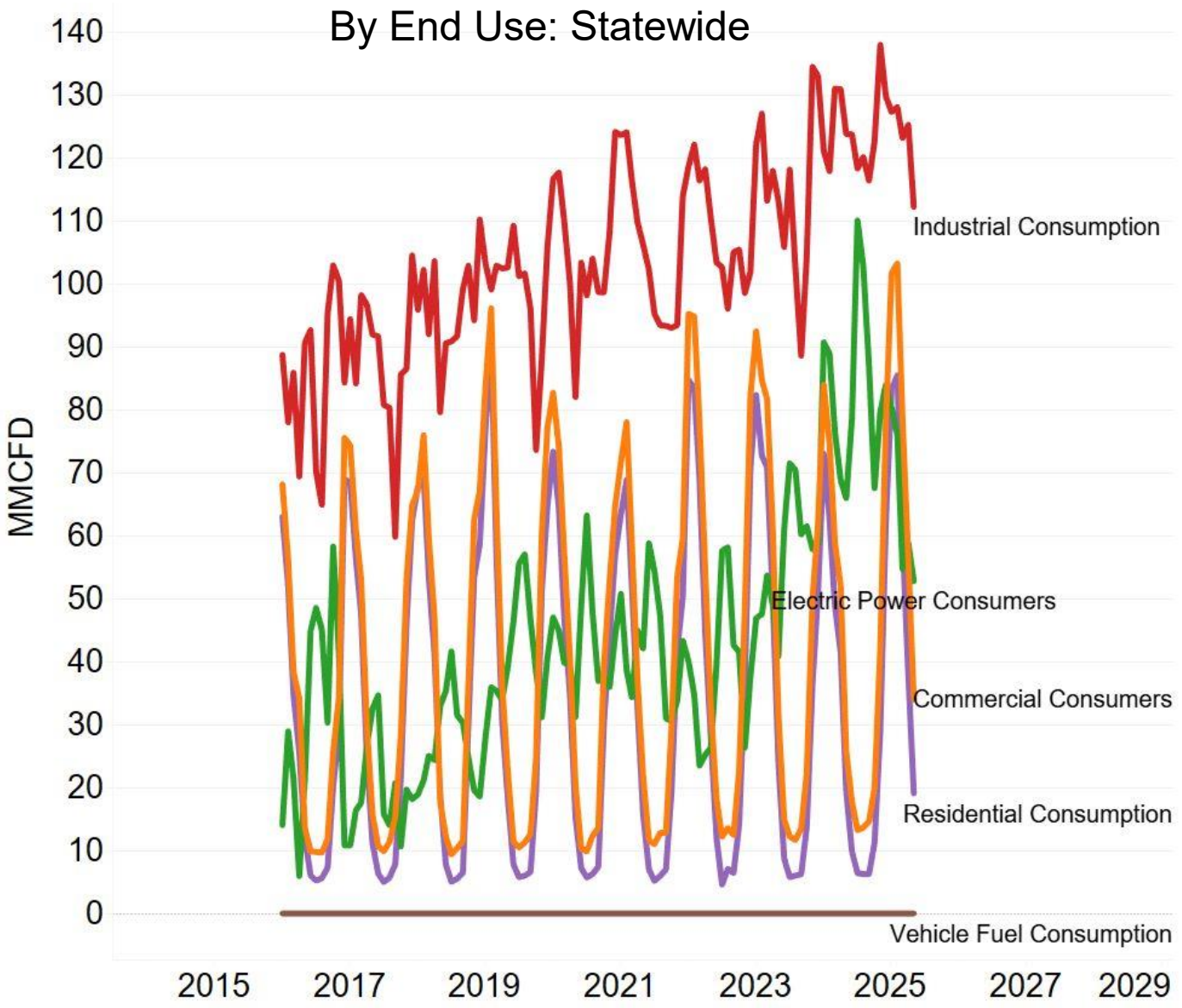
North Dakota Gas Consumption (Annual)





Non-Midstream Consumption (Monthly)





Regional Gas Demand Outlook Changing Rapidly

AI Agenda

Two AI Developers Are Plotting $125 Billi Supercomputers

Photo via Adobe Stock

By Anissa Gardizy

The Information

Sep 3, 2024, 7:00am PDT

Developers of artificial intelligence say they need bigger and bigger data centers to concentrate processing power so that it produces better versions of the technology.

The companies are notoriously secretive about the details of those plans, though, which is

Company announces plan for $3 billion data center north of Fargo

BY: JEFF BEACH - AUGUST 18, 2025 11:50 AM

A rendering of the planned data center near Harwood, North Dakota. (Courtesy of Applied Digital)

North Dakota Monitor

Company proposes to upcycle Minnesota iron mine waste in central North Dakota

$10M in state funding awarded to effort to produce low-carbon pig iron

BY: JEFF BEACH - FEBRUARY 8, 2024 5:00 AM

North Dakota Monitor

North Dakota green lights natural gas power plant

BY: JEFF BEACH - AUGUST 8, 2025 4:30 AM

North Dakota Monitor

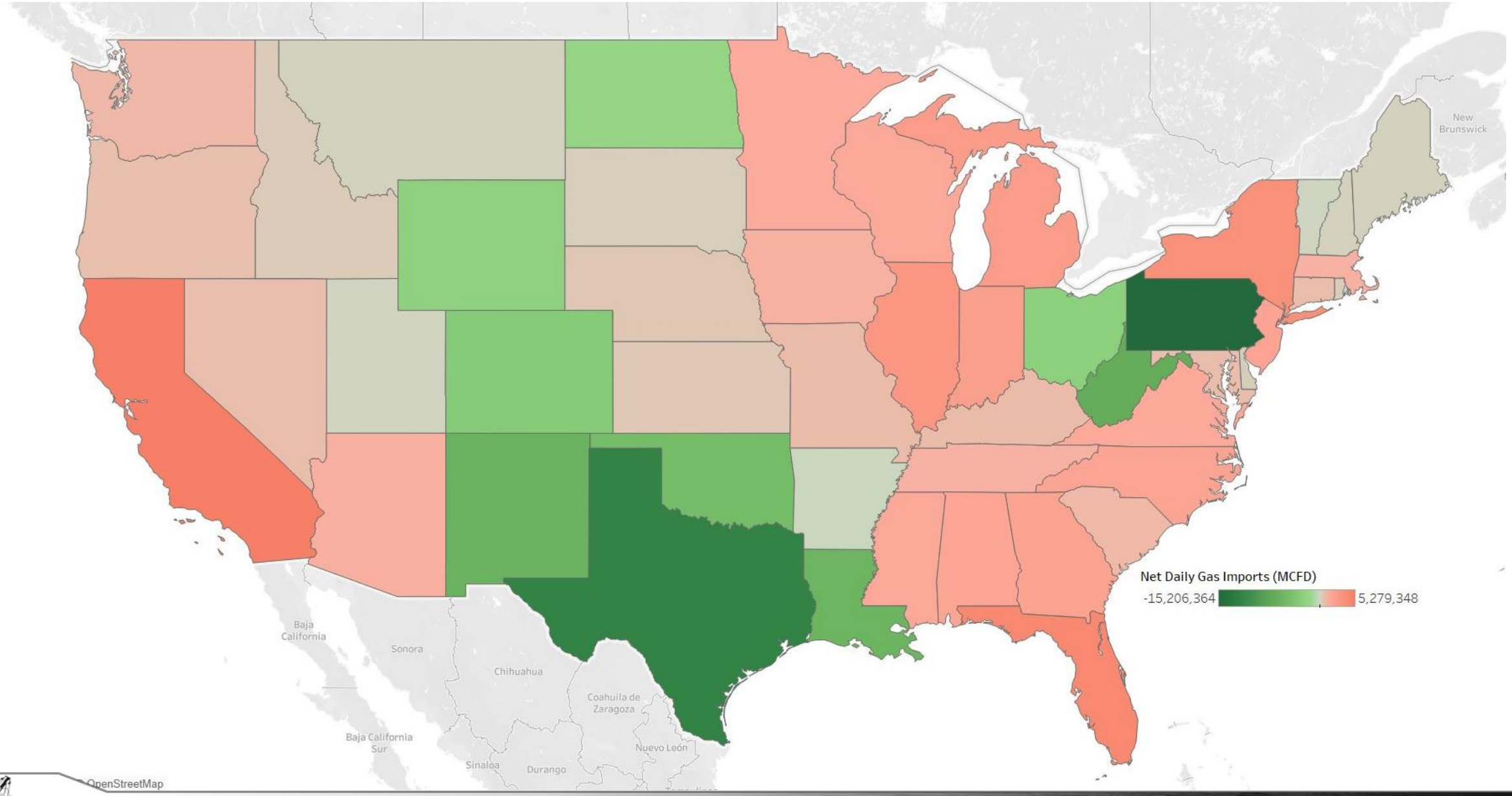
Natural gas conversion project near Williston also includes carbon capture

BY: JEFF BEACH - JUNE 17, 2024 5:00 AM

A rendering of a natural gas-to-liquids plant proposed at Trenton, North Dakota, by the Canadian company Cerilon. (Courtesy of Cerilon)

North Dakota Monitor

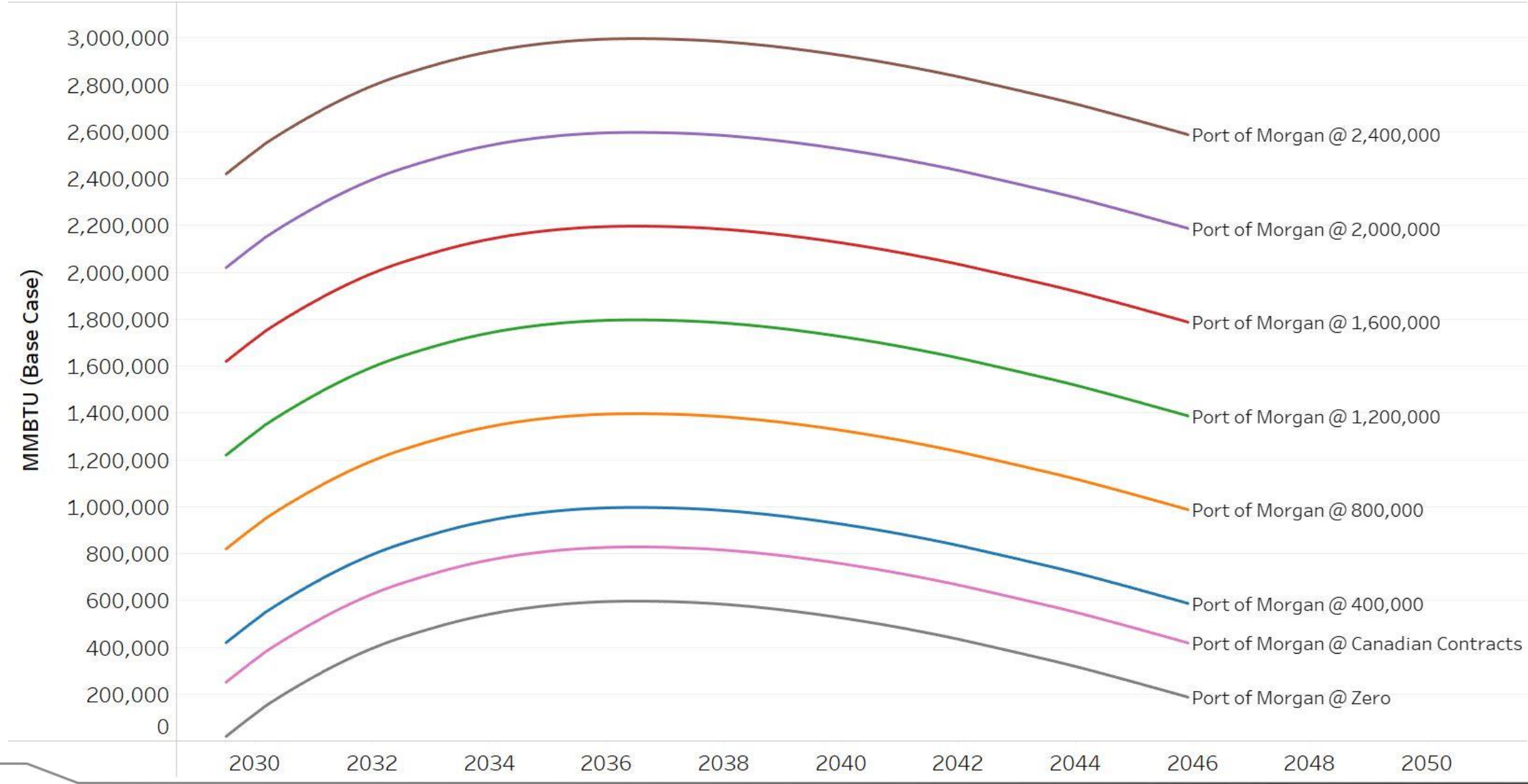
Natural Gas Production/Consumption



Harnessing Gas for a New Era of Industrial Expansion

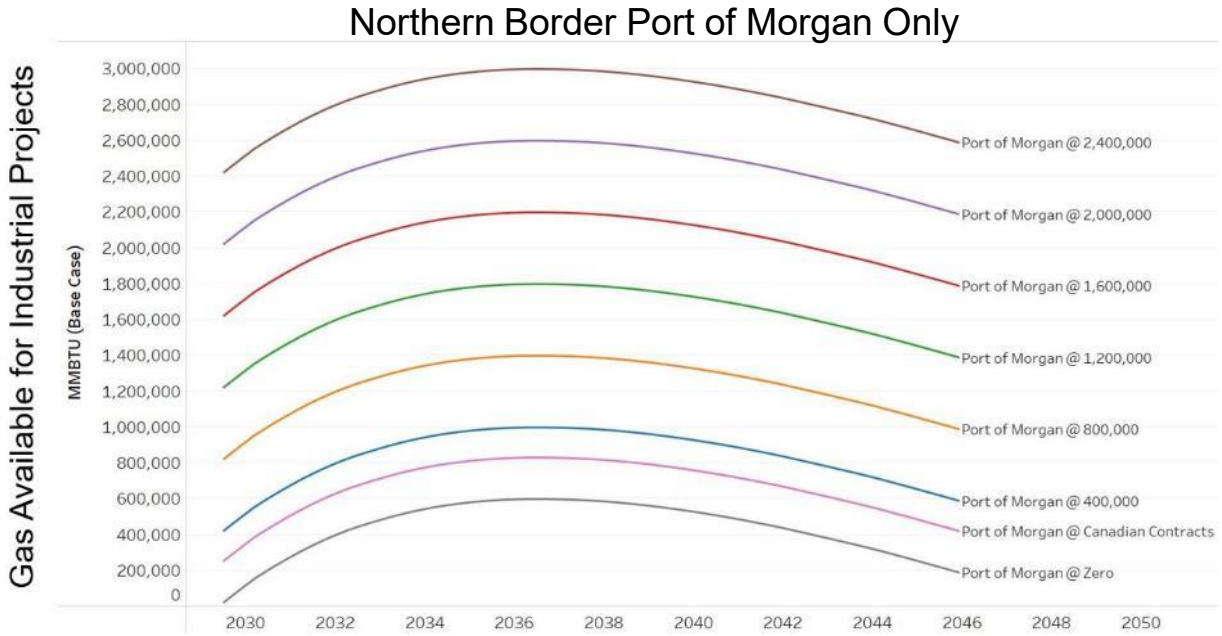
Exploring Northern Border Port of Morgan Flows Combined With Bakken Growth

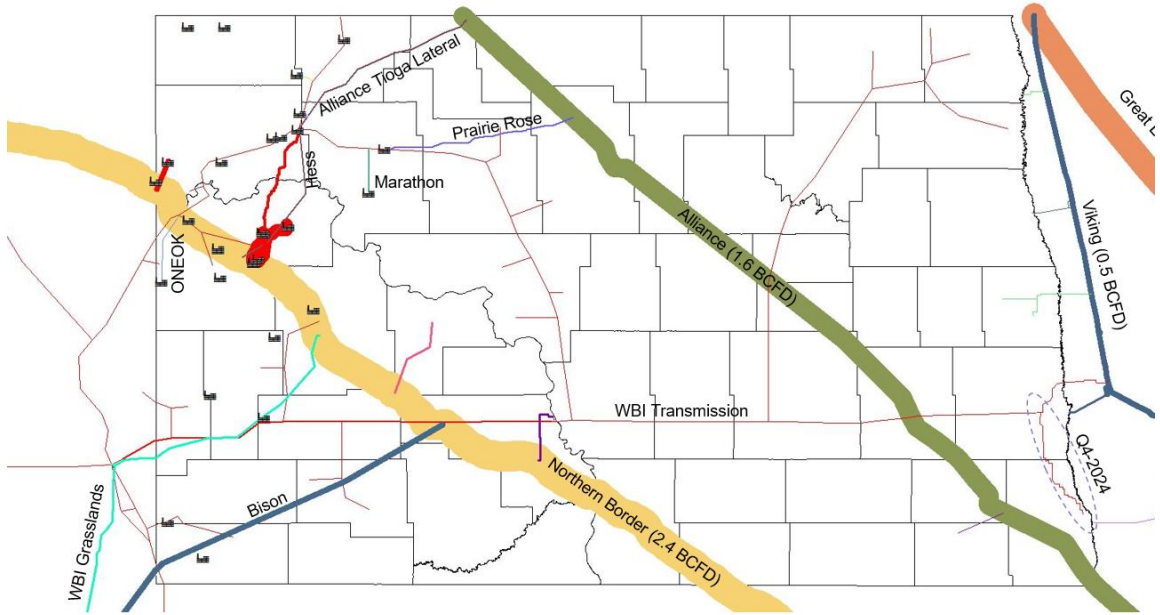
Gas Available for Industrial Projects



⚠ *Assumes No Other Pipe Reversals or Reconfigurations*

Regional Gas Availability: Reimagining What's Possible

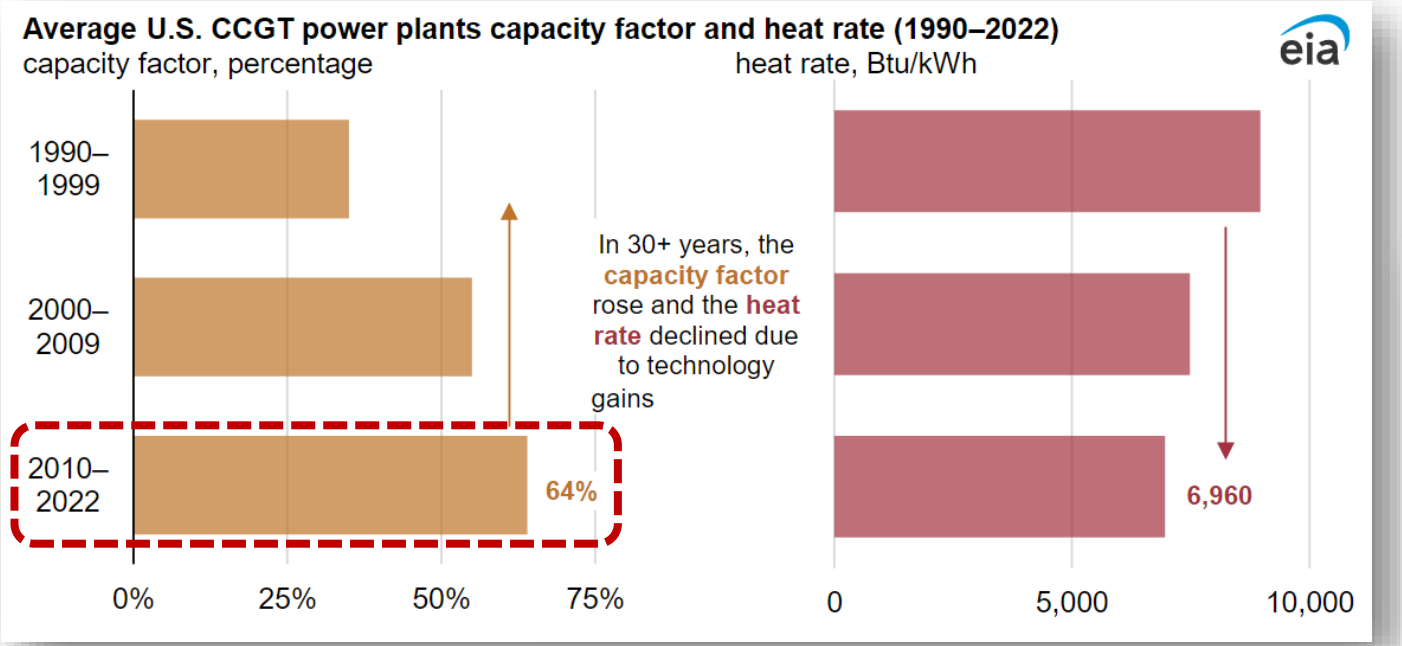




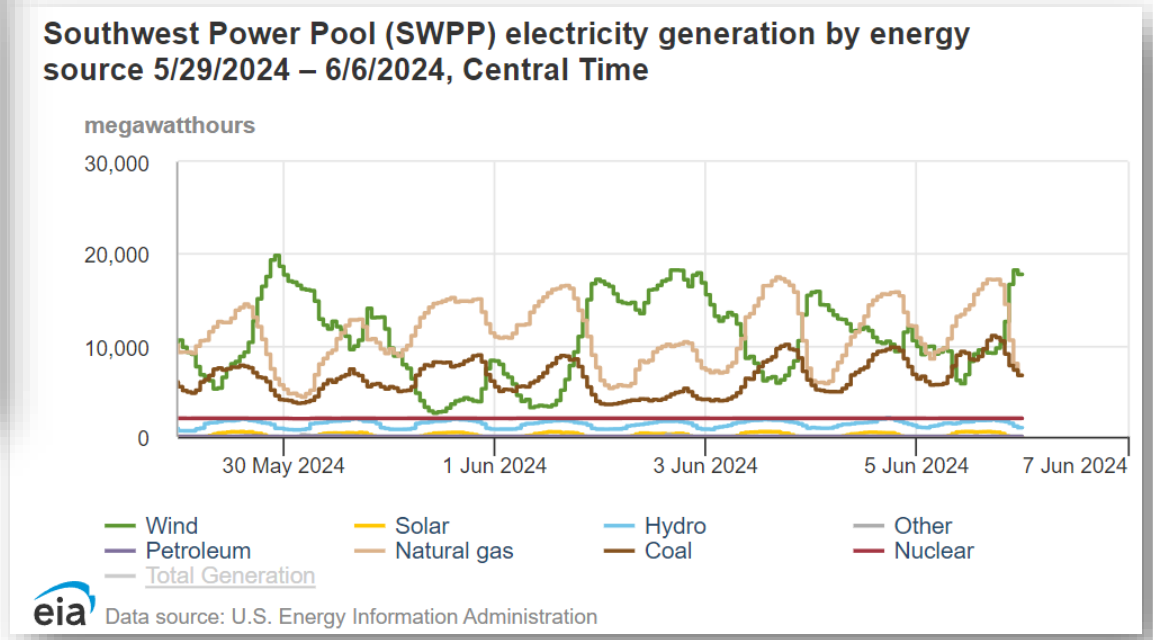
Other Theoretically Possible Scenarios W/Out Any New Pipe

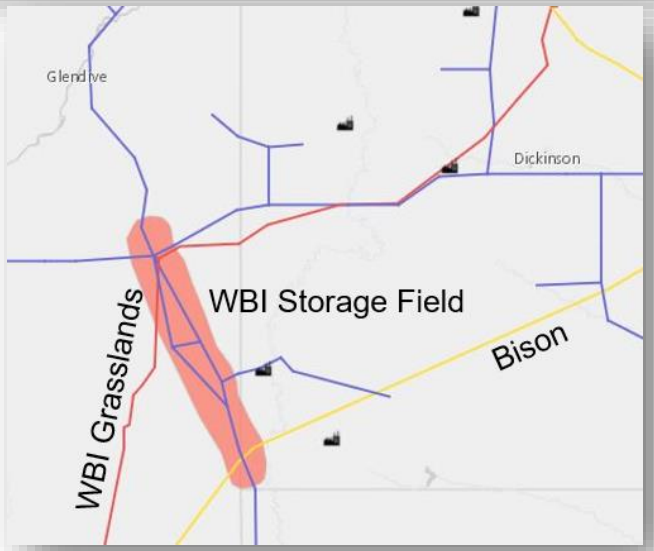
- Bison (re)Reversal: Net 800,000-1,300,000 MMBTU
- Grasslands (re)Reversal: Net 180,000 MMBTU
- Reduced Northern Border Flows Exit North Dakota
- New/Increased Alliance and/or Viking Receipts
- CIG/Elk Basin Movements East to North Dakota

Intermittent Gas-Fired Generation Challenging to Match Oilfield Output



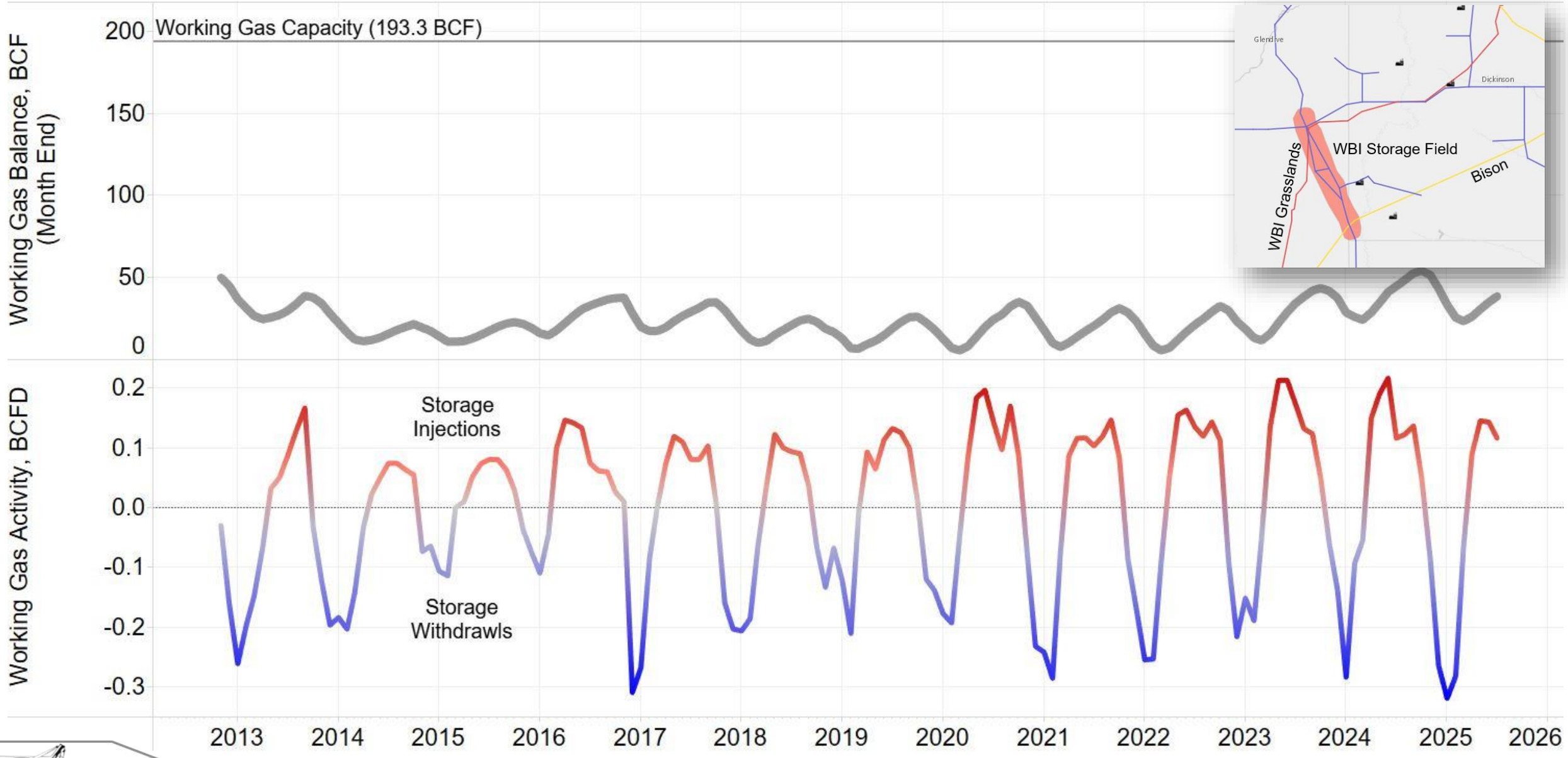
Gas-fired demand can fluctuate hourly, daily, and weekly, depending on system load, weather, etc.





Regional gas storage could provide a balancing solution for intermittent generation, but who pays for the required expansion?

Residue Gas Storage – WBI Energy*



*WBI Energy Storage Fields: Baker & Elk Basin

Options Beyond 2026: The 5 “C’s”

Construction (Interstate)

- Long-haul Pipe to New or Expanded Markets

Compete

- Price Canadian Volumes to Flow Elsewhere

Compression

- Increase Capacity on Existing Interstate Systems

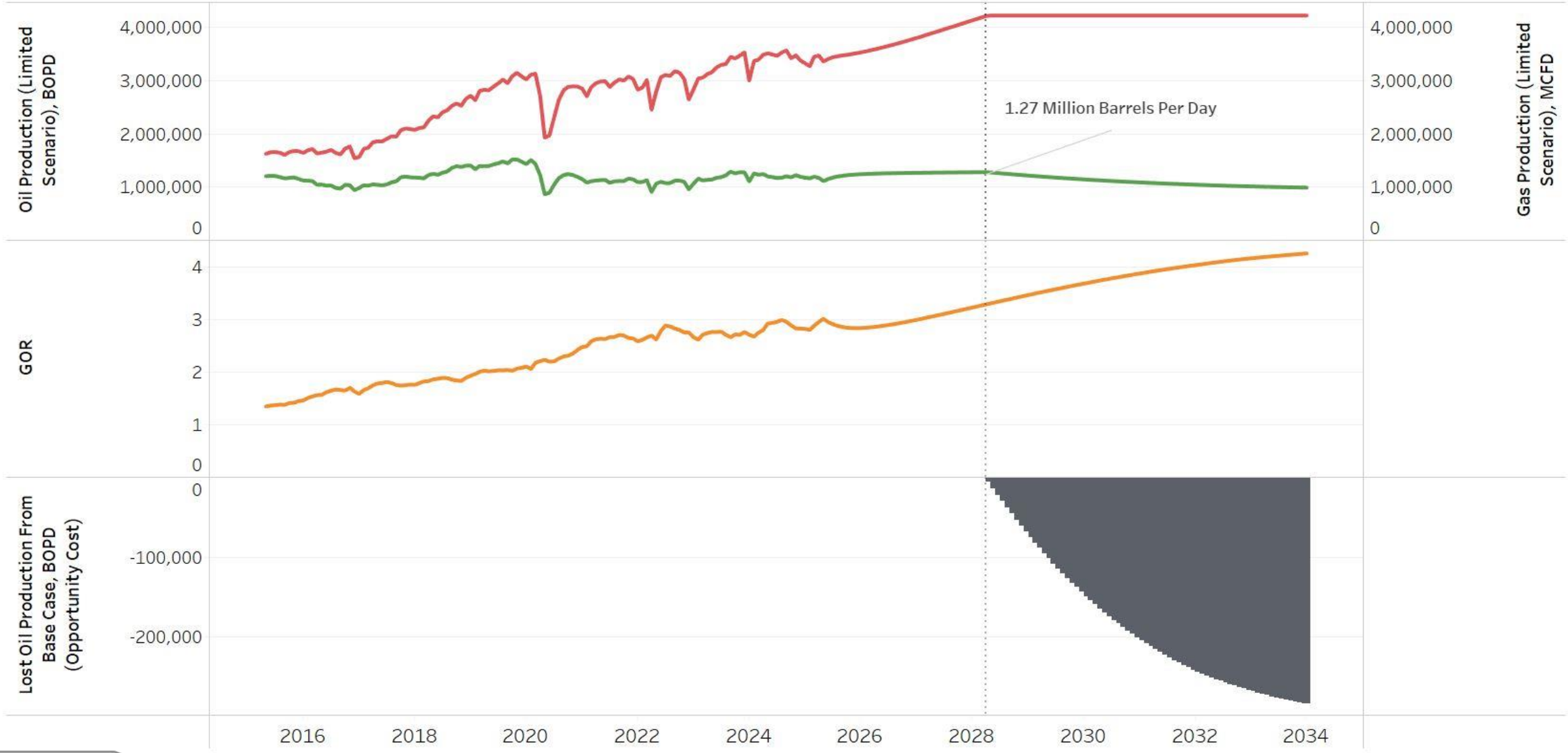
Consumption

- Intra Region Gas Demand Expansion

Contraction

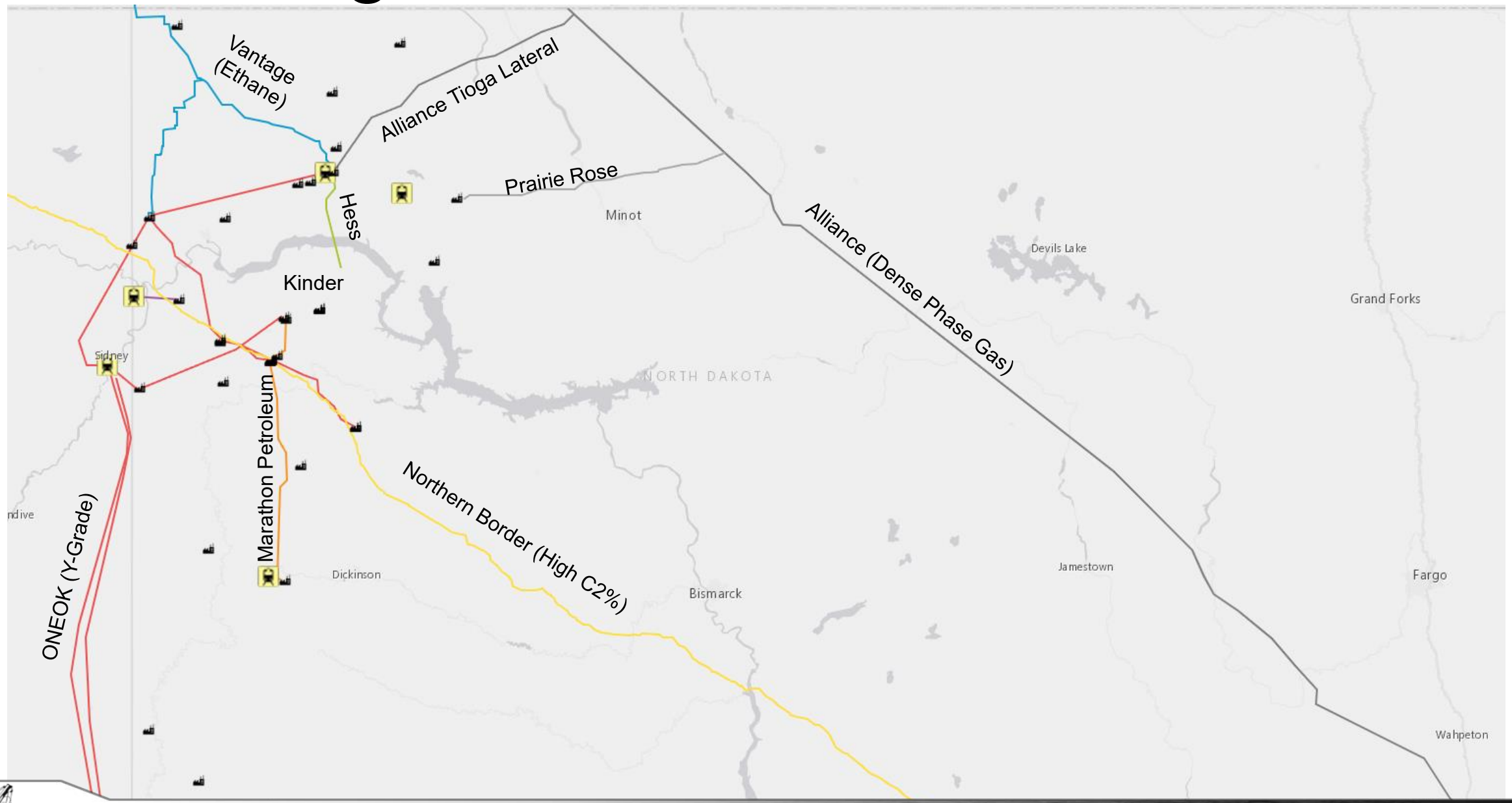
- Reduce E&P Activity to Meet Limited Gas Options

Gas Limitations Could Force Oil Production Down As GOR Rises

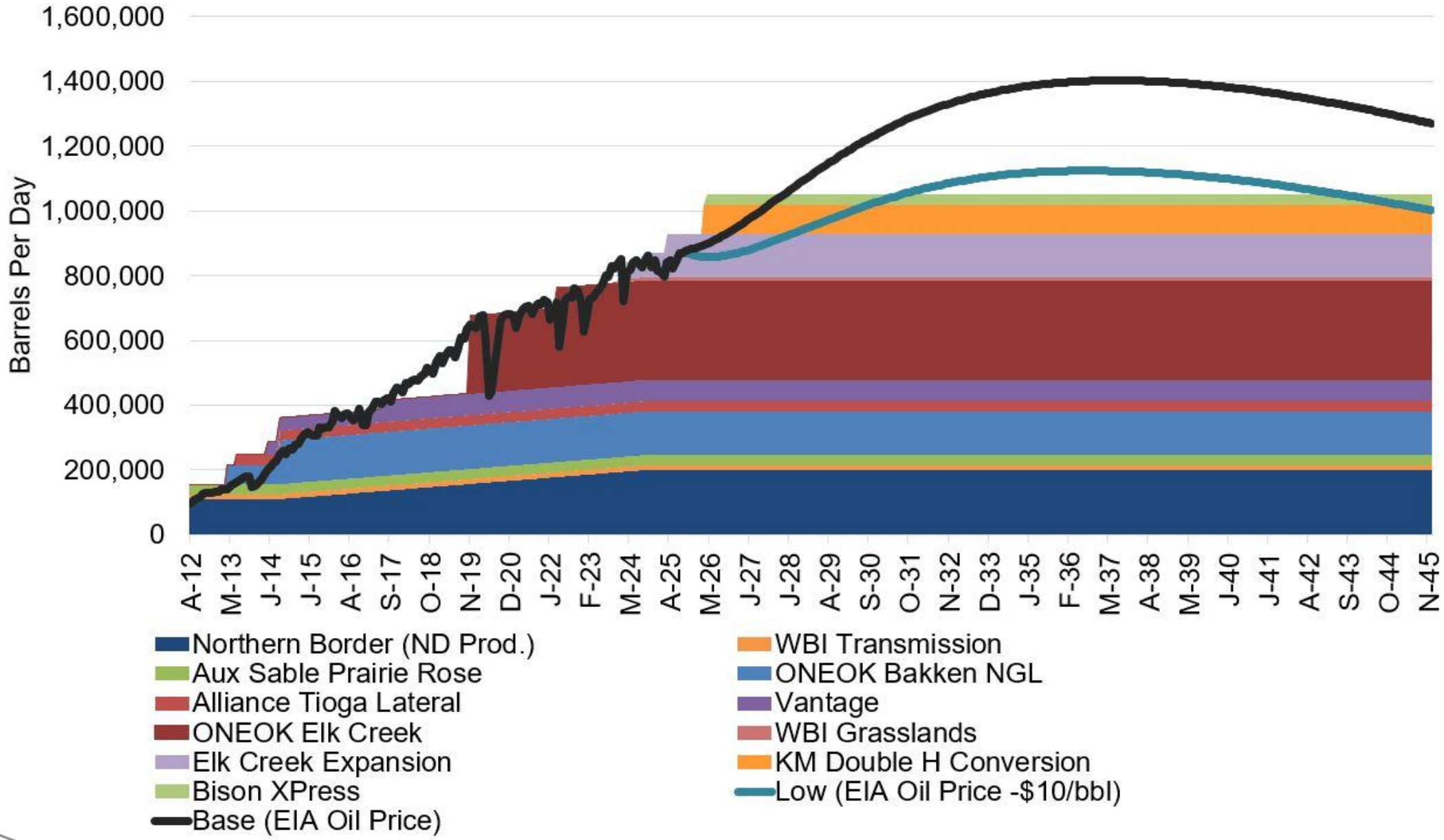


⚠ *Assumes NB Canadian Flows at 231,000 MMBTU & 1,100 BTU (Aug-2025)*

Regional NGL Infrastructure



NGL Transport Needs* – With New Cheyenne Pipes



*Rail and Local Trucking Not Included

Contact Information

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Bismarck, ND 58505-0840

Phone: (701)220-6227
E-mail: jjkringstad@ndpipelines.com

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