

North Dakota Natural Gas Update



Image: Library of Congress

September 18, 2025



Justin J. Kringstad - North Dakota Pipeline Authority

A Complete Natural Gas Solution



Production

- Technology
- Markets
- Forecasting



Gathering

- Capacity
- Connections
- Compression



Processing

- Capacity
- Location
- Configuration



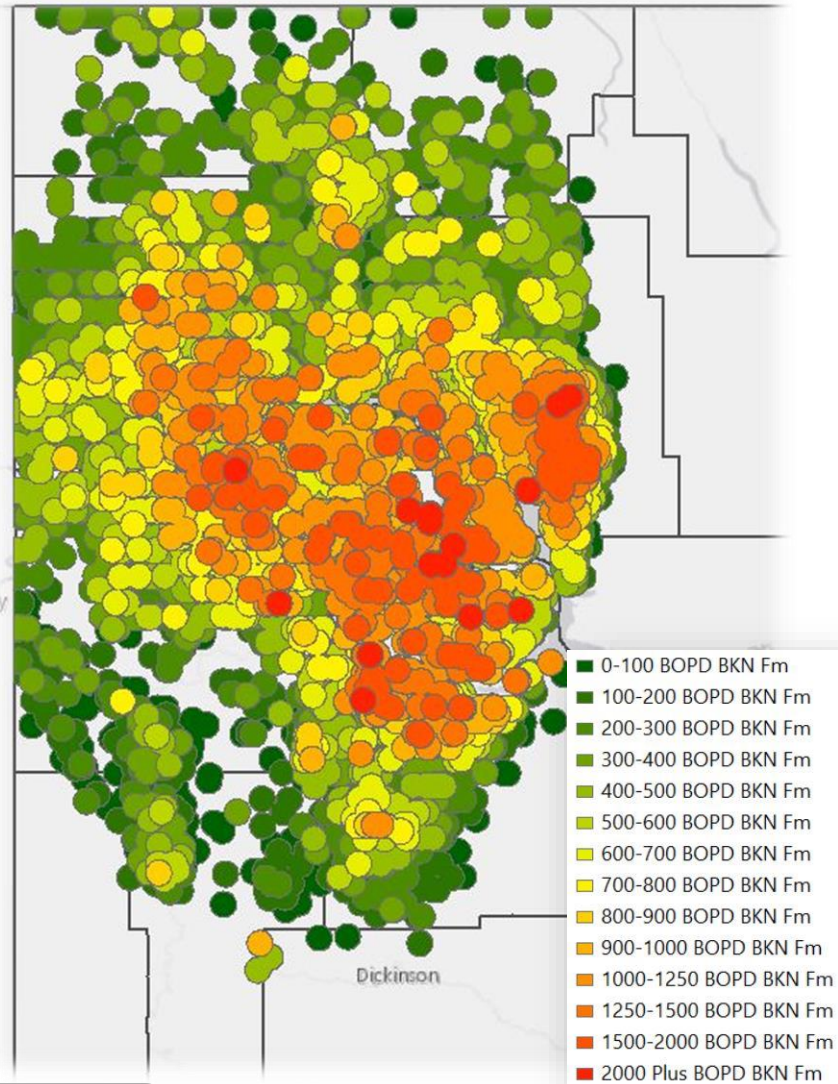
Transmission

- Dry Gas
- Natural Gas Liquids
- Storage

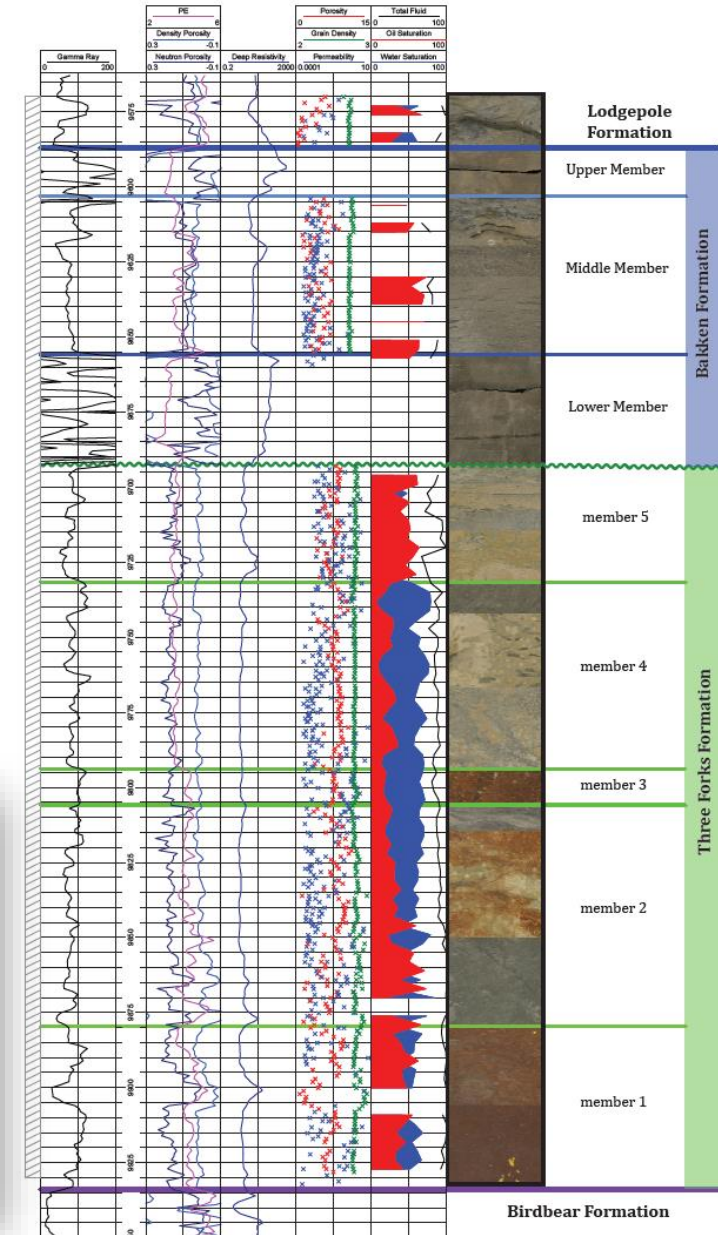
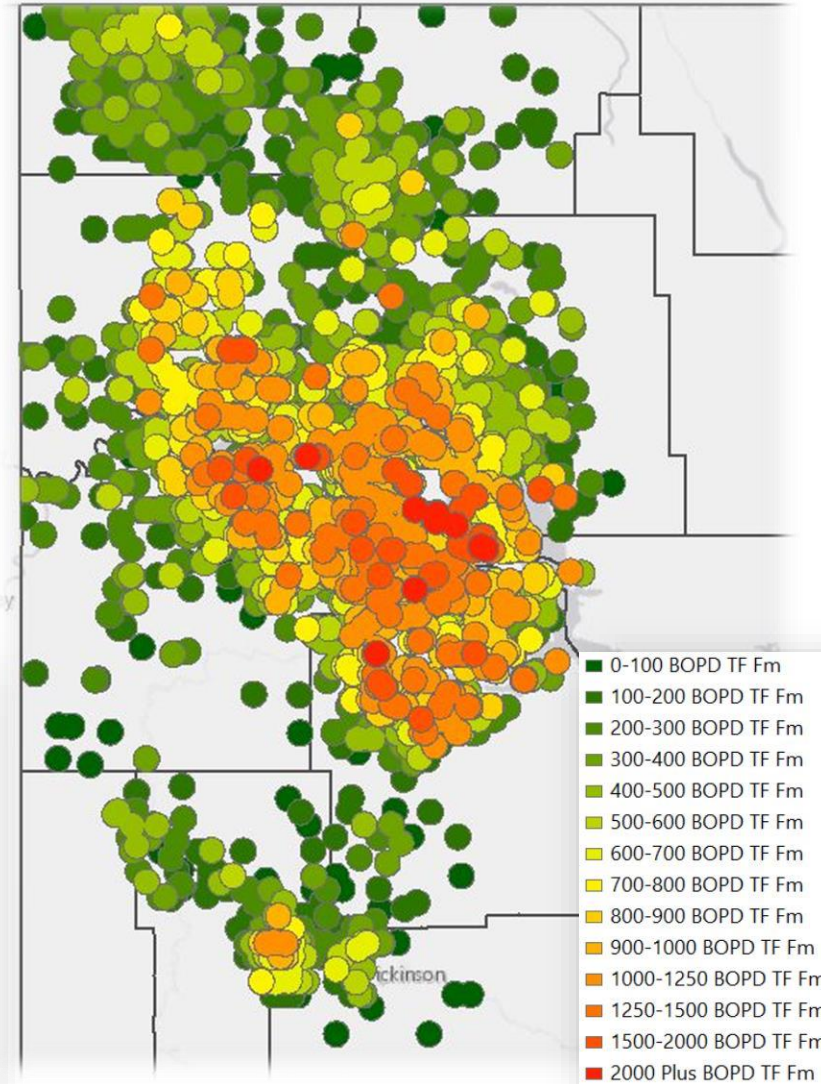


Bakken & Three Forks Formations

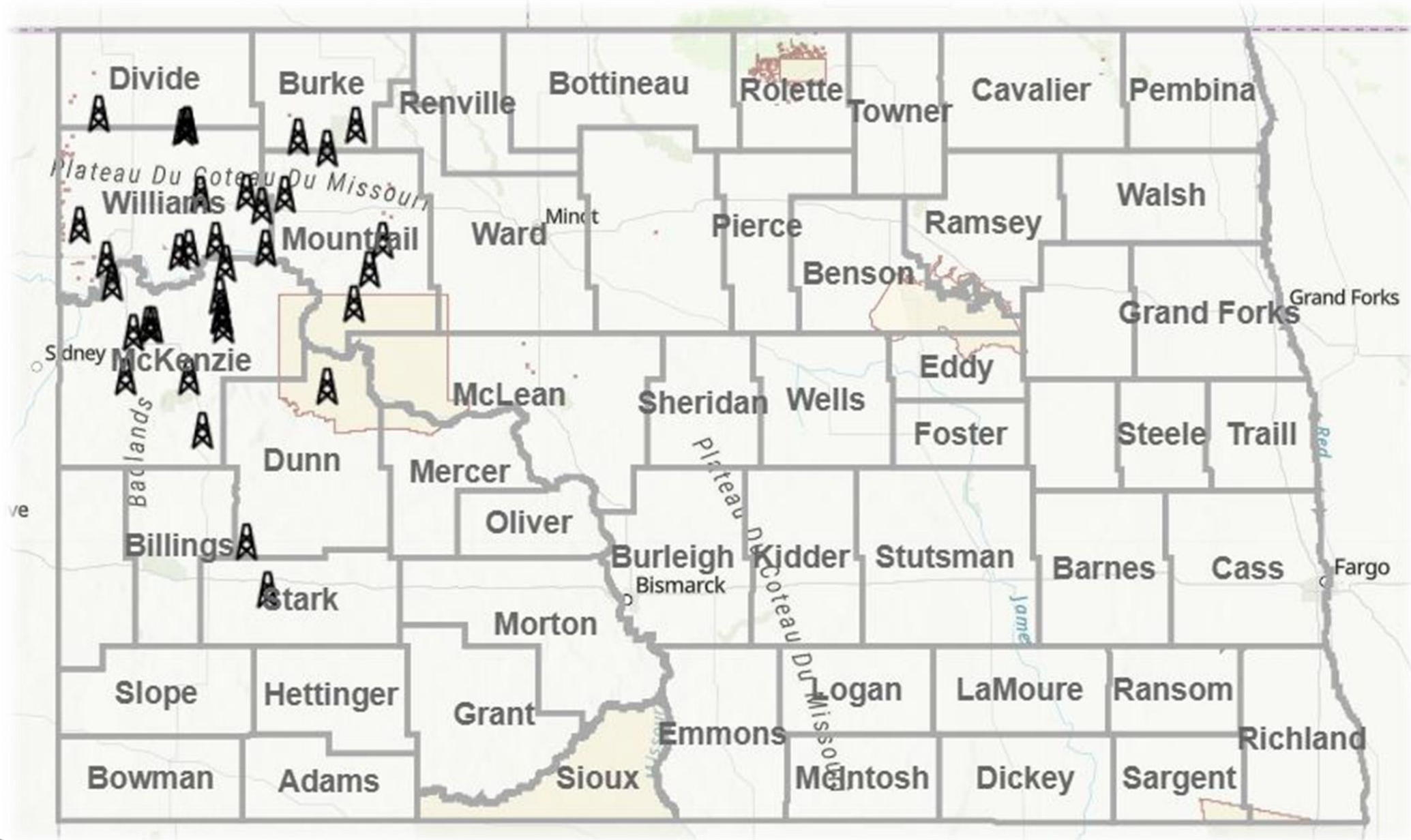
Bakken Formation



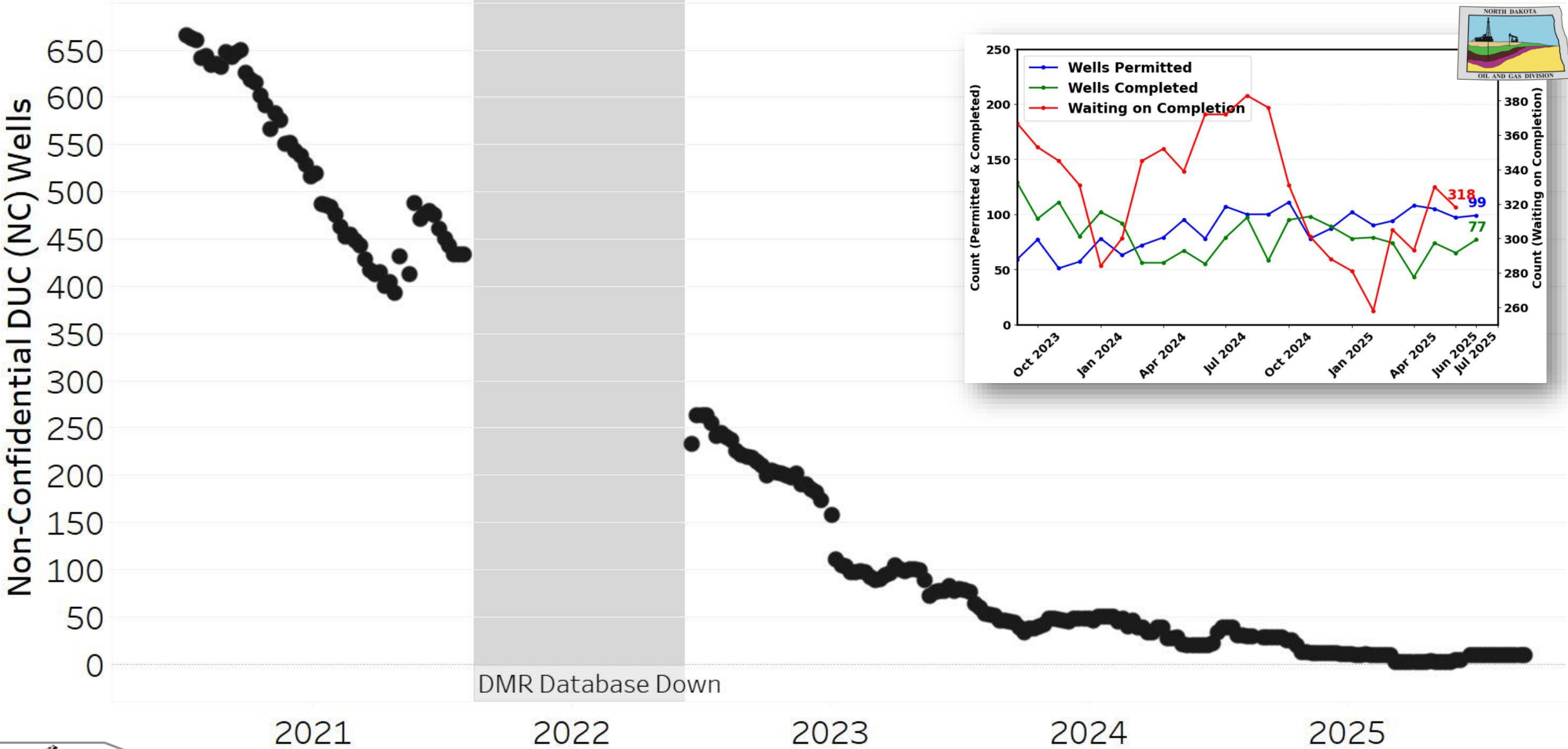
Three Forks Formation



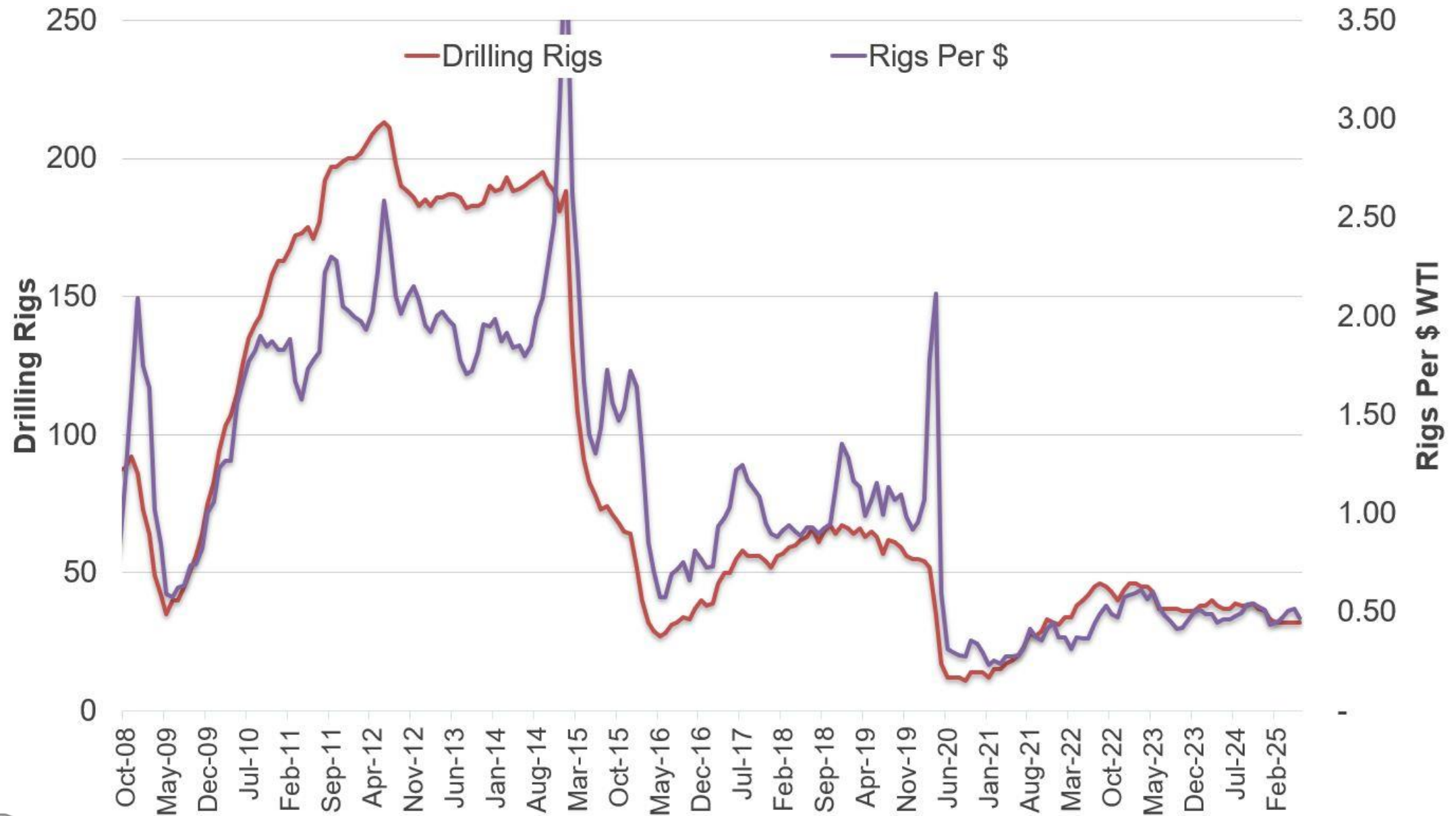
North Dakota Drilling Rigs: 35 (September 11, 2025)



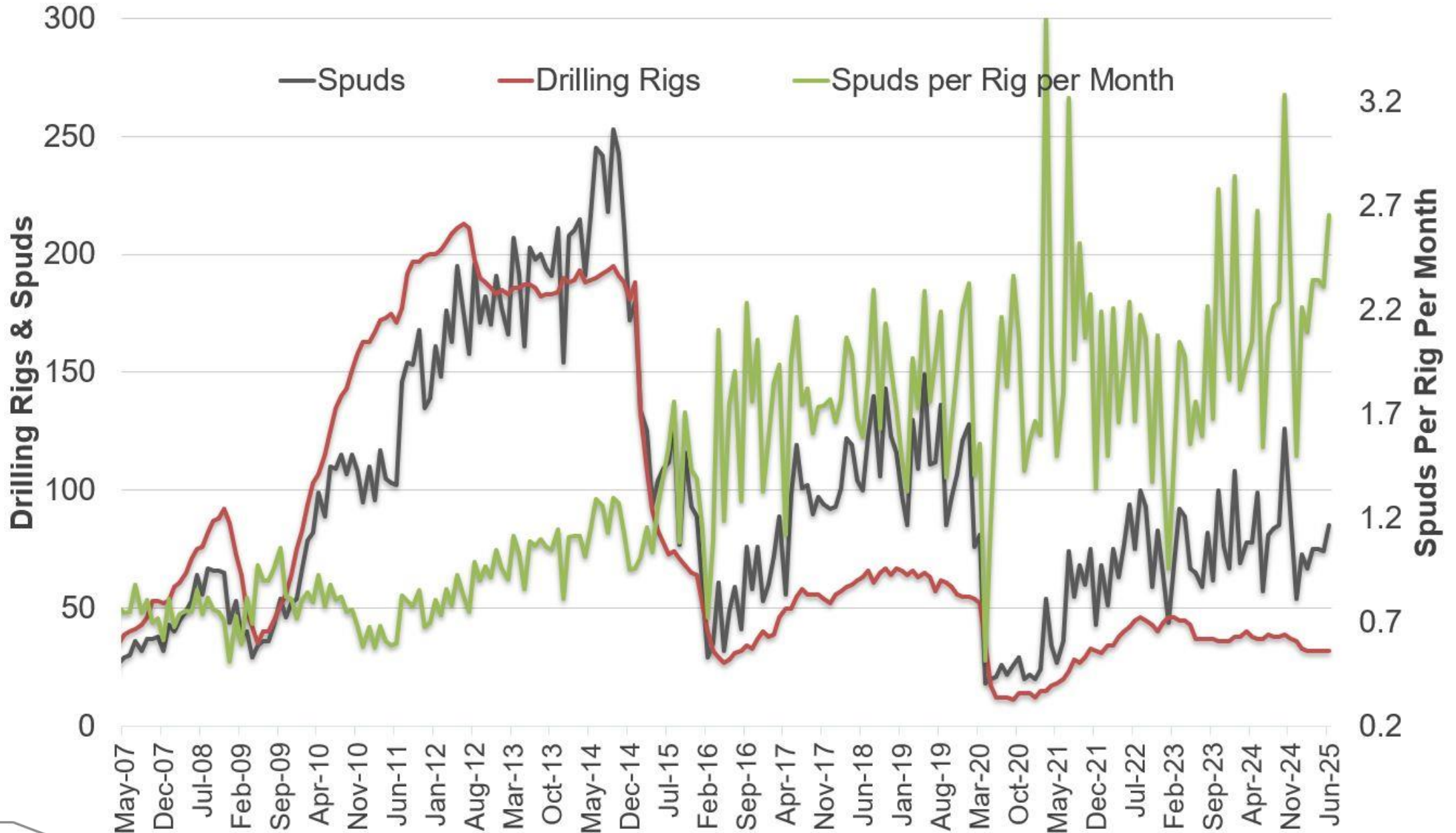
North Dakota DUC/NC Well Counts



North Dakota Drilling Rig Relationship With Oil Price

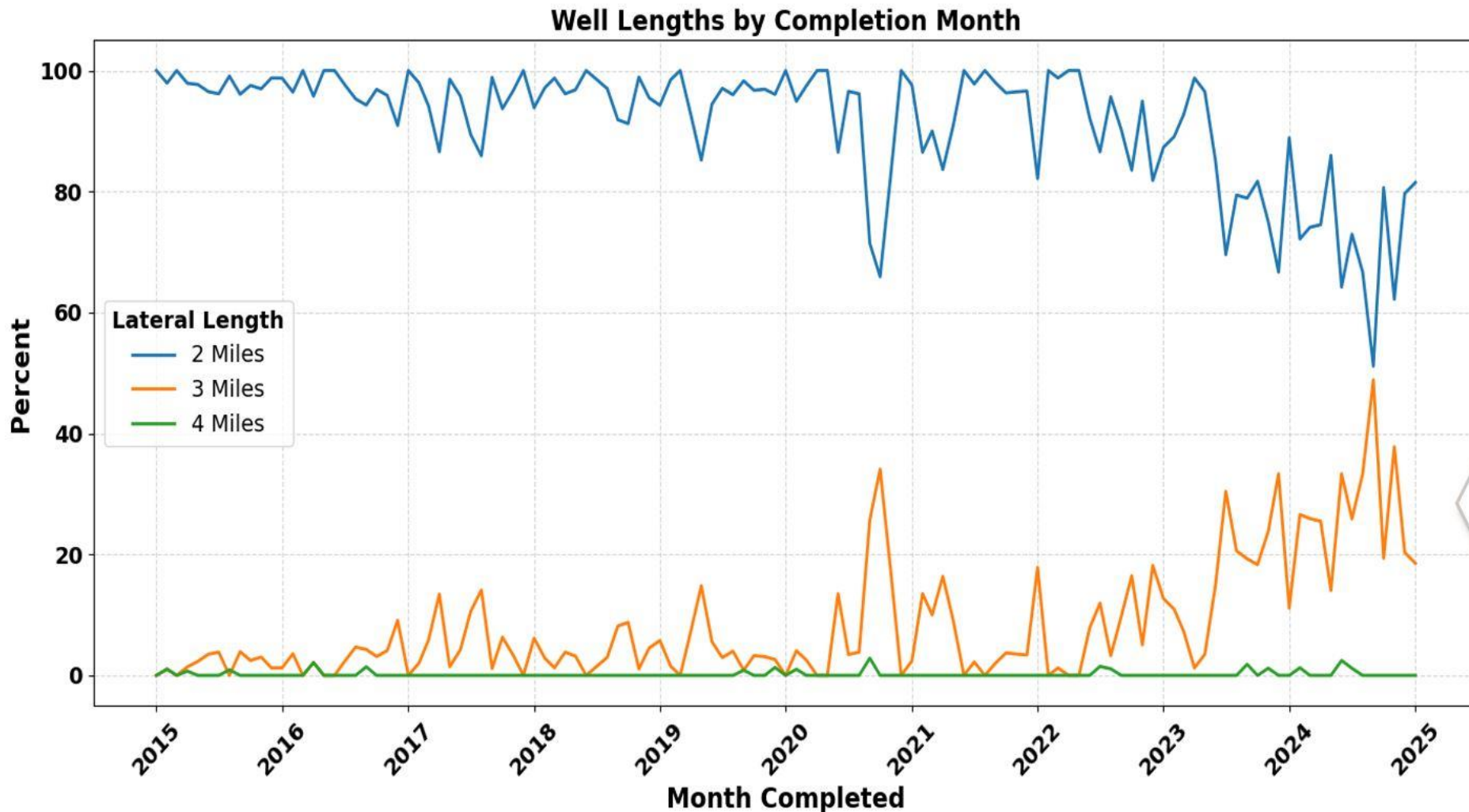


North Dakota Drilling Rig Efficiency



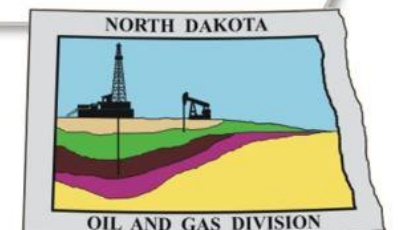
LATERAL LENGTHS OVER TIME

- The total percentage of 2-mile laterals has decreased to ~70%
- The total percentage of 3-mile laterals has increased to ~30%
- 4-mile lateral development began in 2024; we continue to see an increase in 4-mile permits



Lateral Length Categorization:
(First to last perforation)

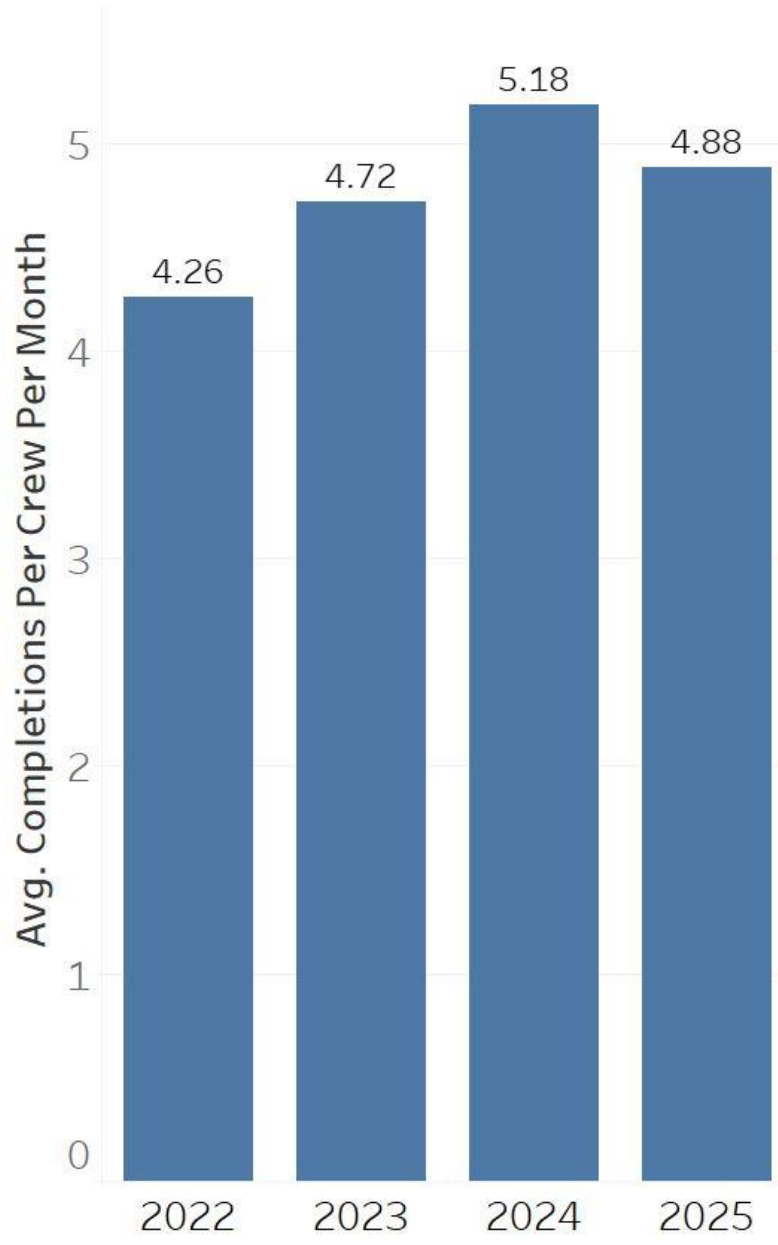
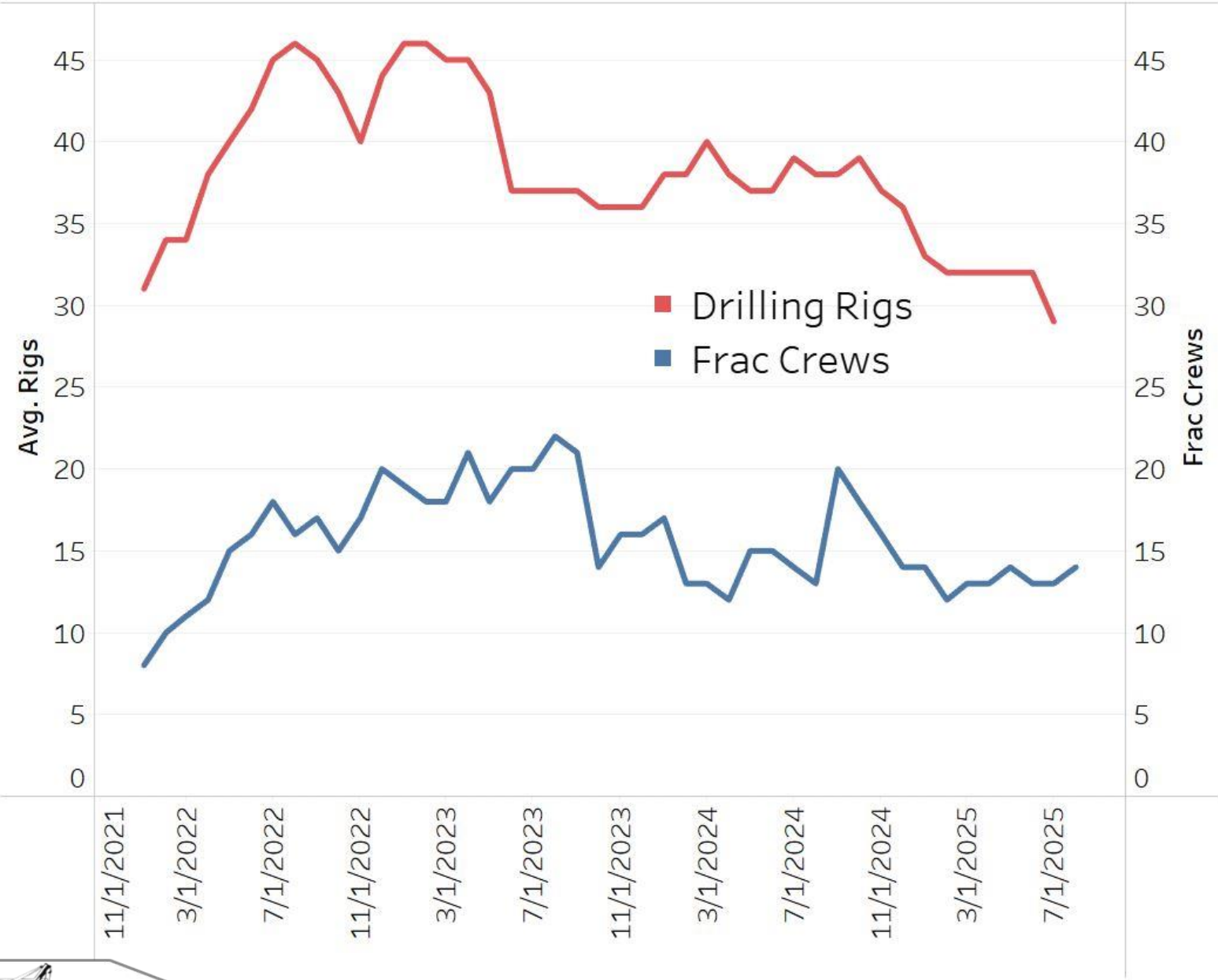
- 1.5-2.24 miles = 2-mile
- 2.25-3.24 miles = 3-mile
- 3.25-4.24 miles = 4-mile



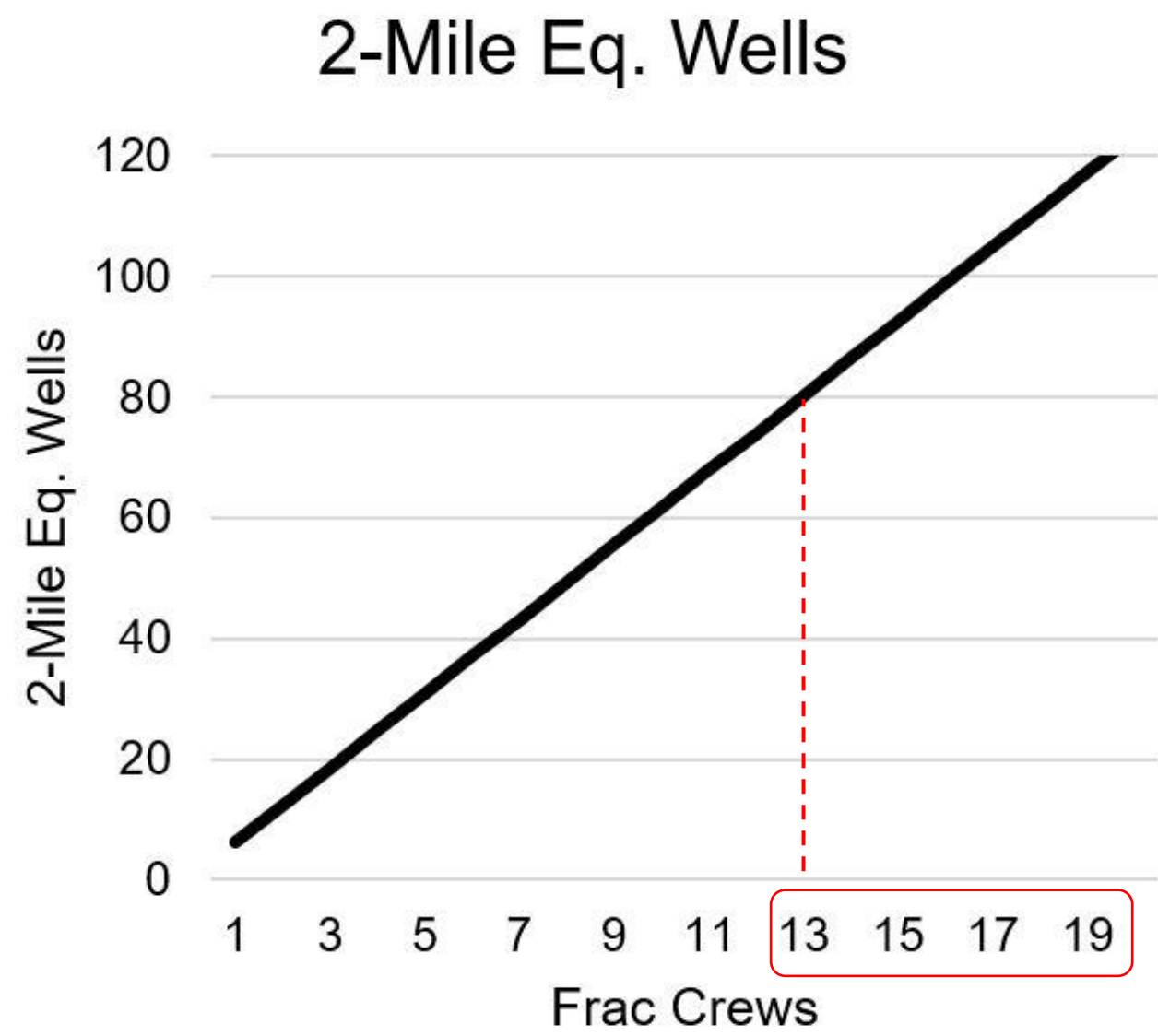
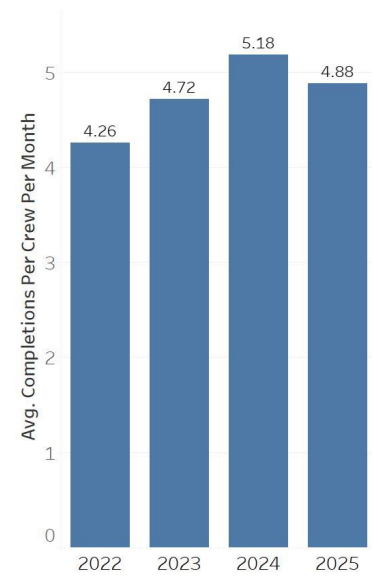
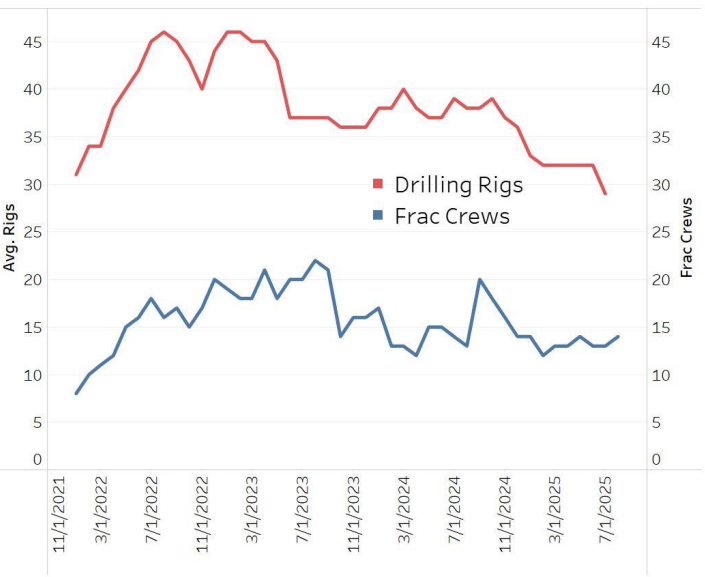
Monthly Completion* Scenarios - Oil



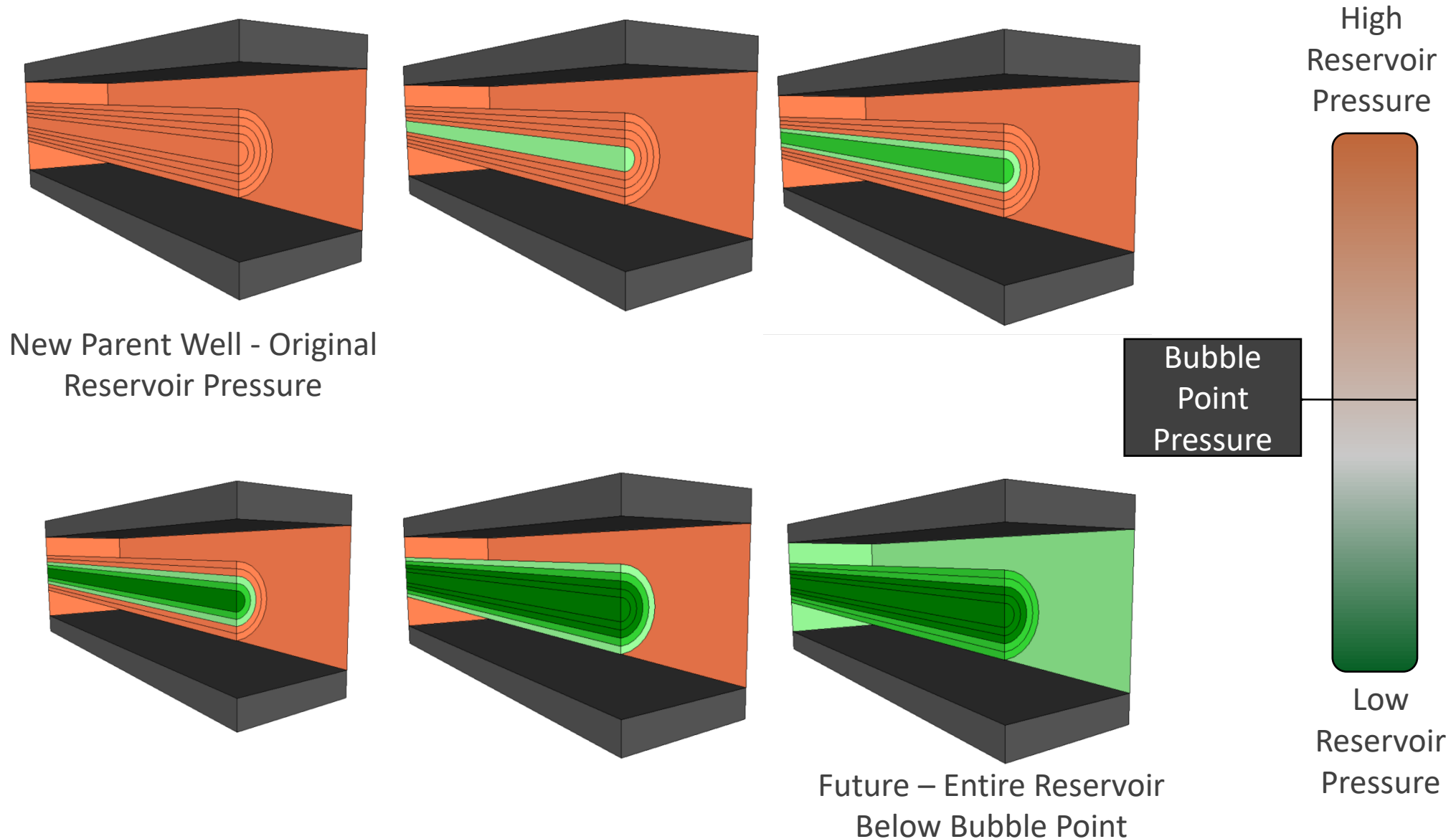
North Dakota Frac Crew Efficiency



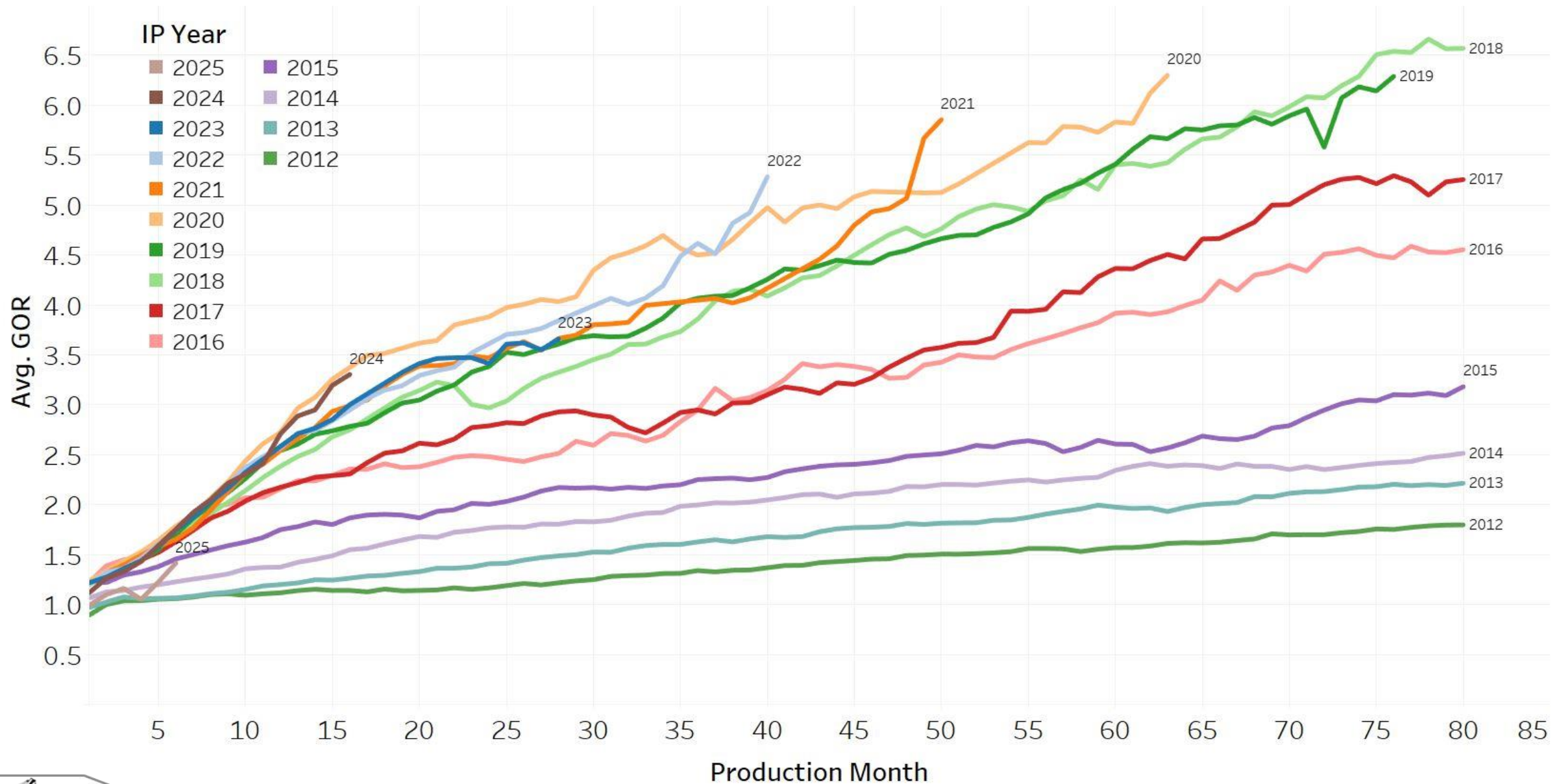
What is the Optimal Frac Crew Count? (Assuming 30% 3-Mile & 5% 4-Mile)



Statewide Bakken Gas/Oil Ratios

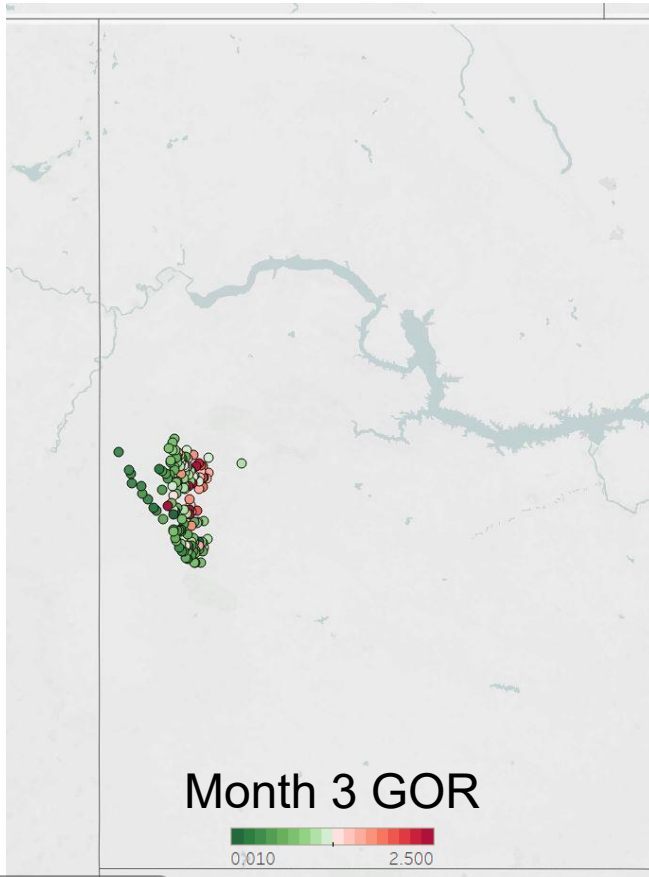


Statewide Bakken Gas/Oil Ratios



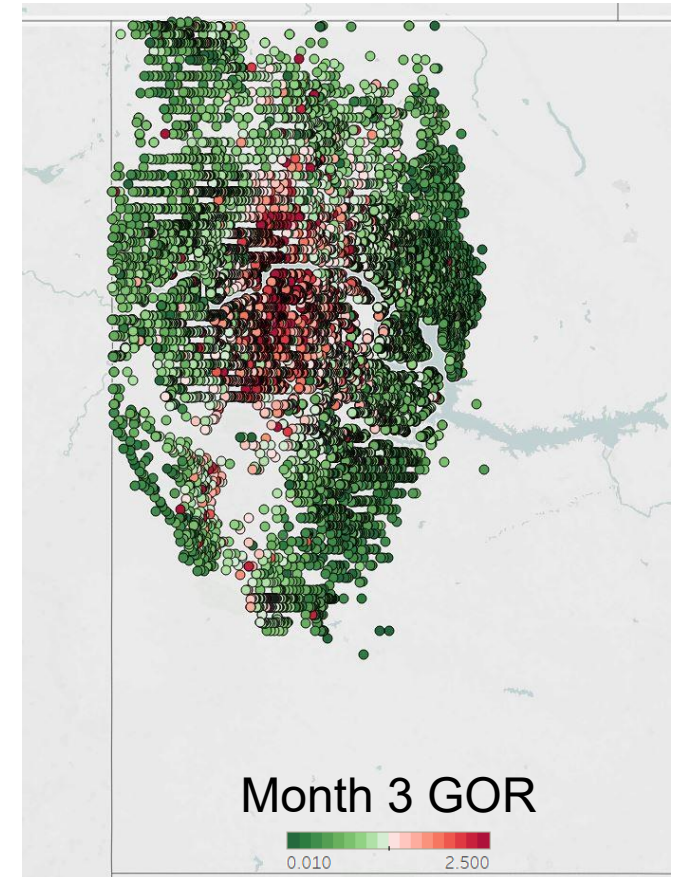
The GOR “Reset” and Forward Expectations

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



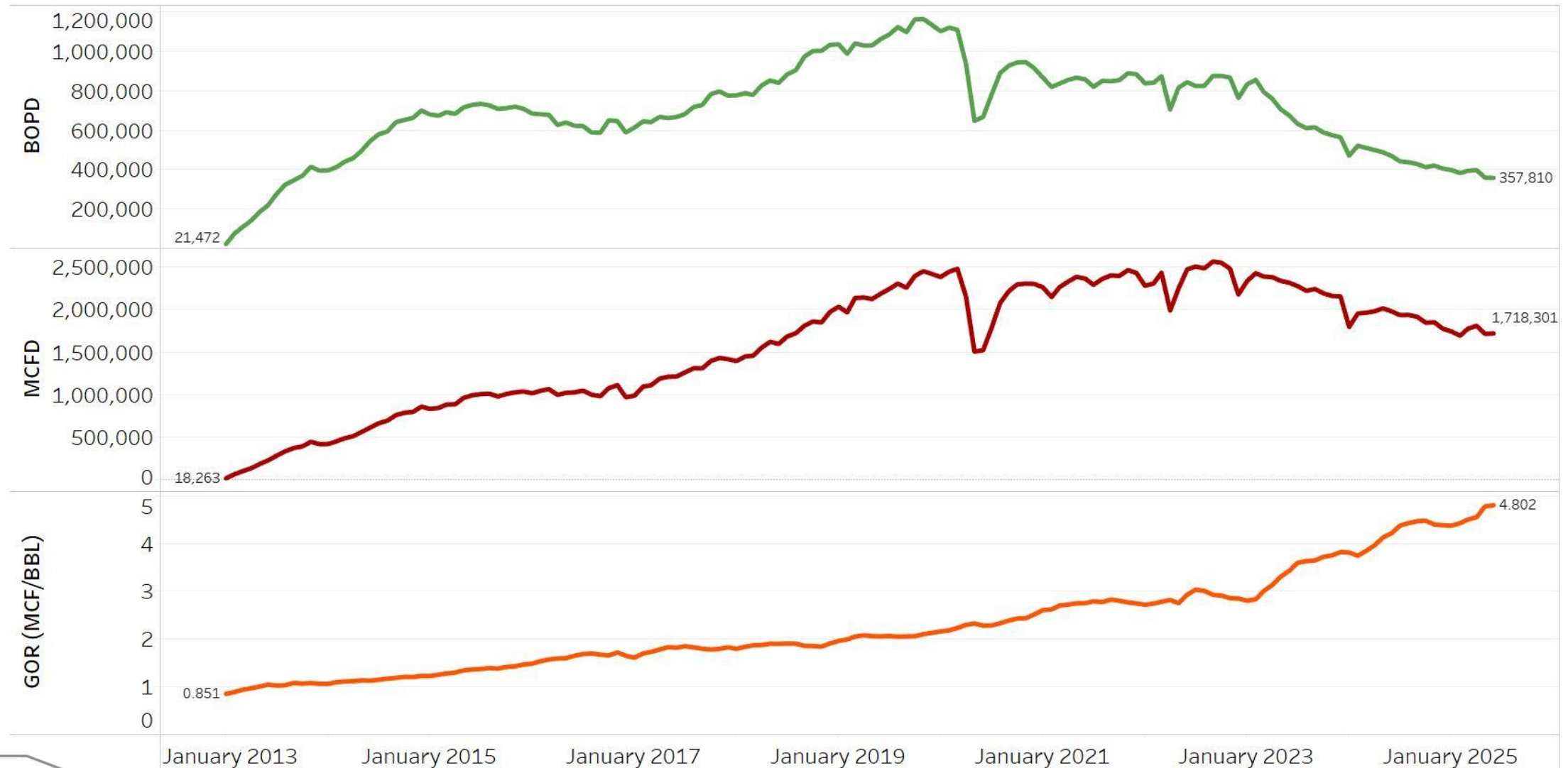
Mid-2000's: Modern Bakken development begins and statewide average GOR is “reset” with large volumes of new gas production

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

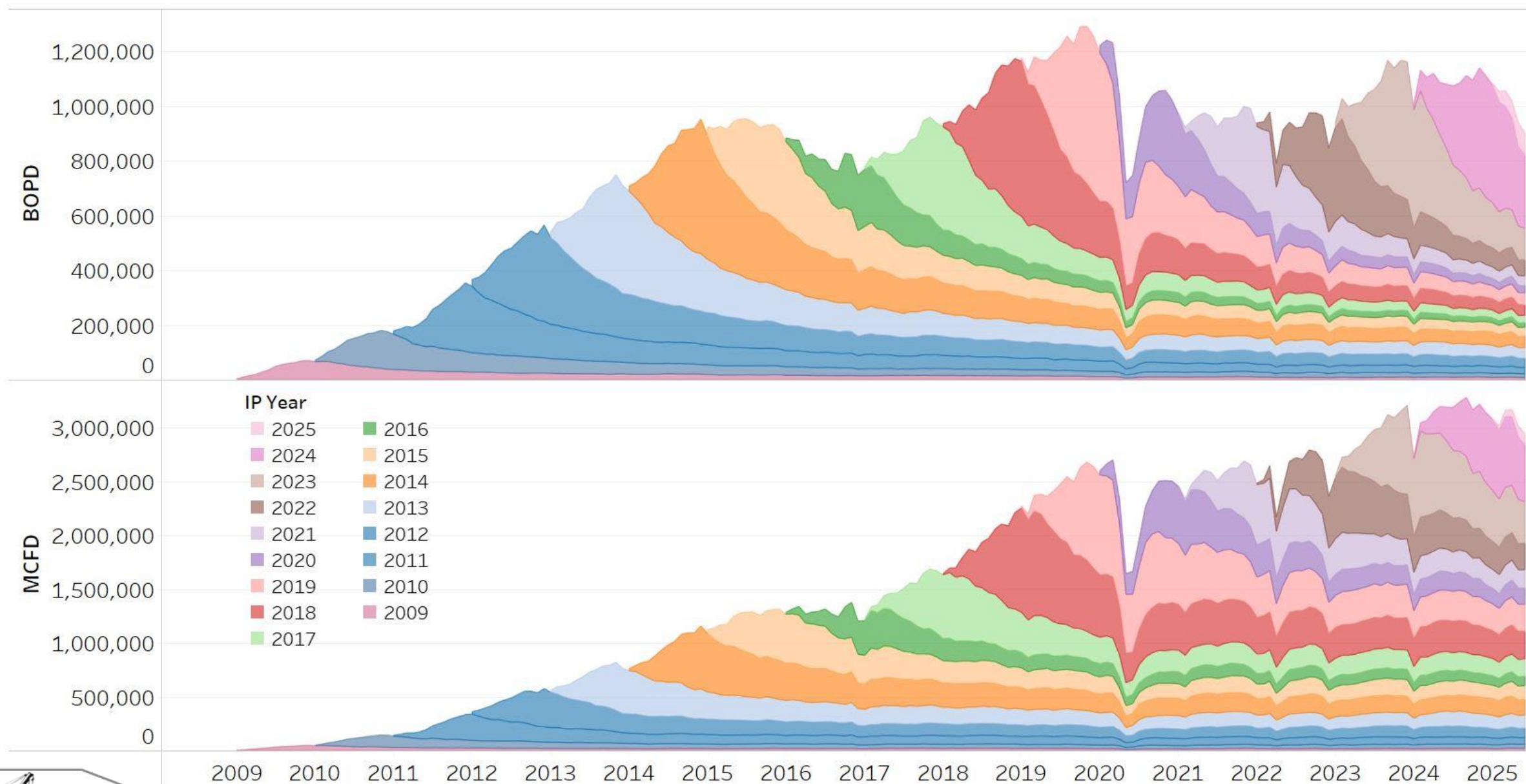


Removing Flush Production

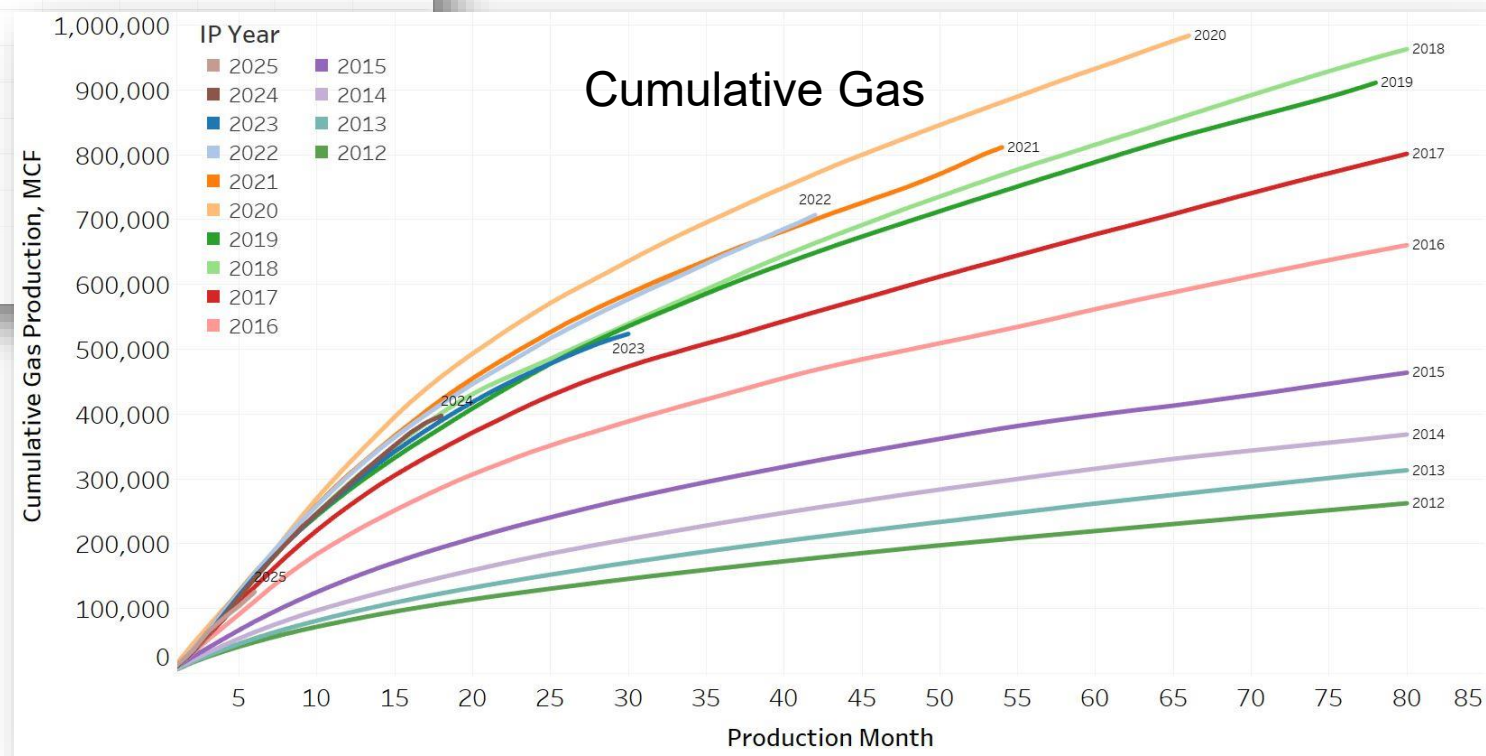
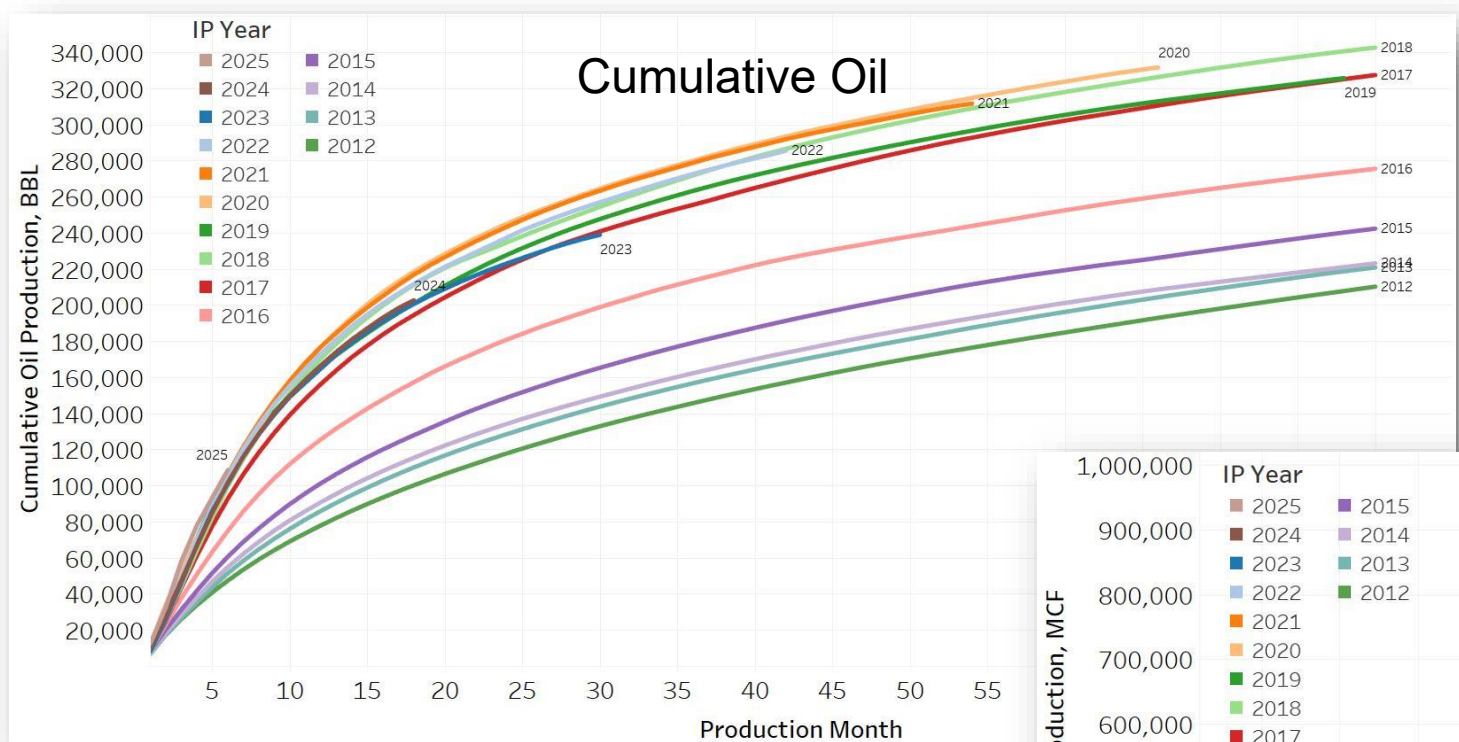
Modern Bakken Gas/Oil Ratios – Wells Drilled 2013-2022



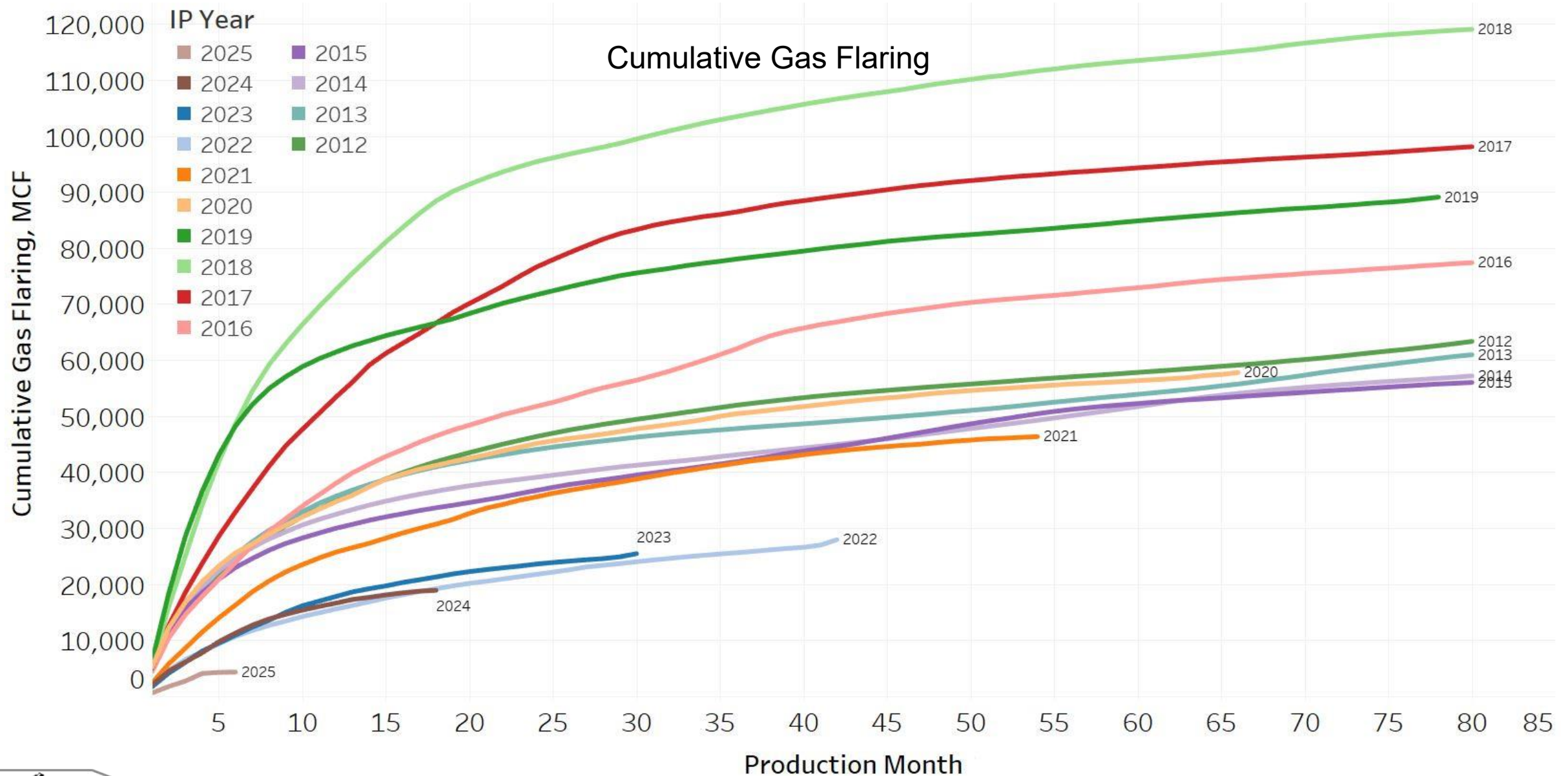
Bakken Base Decline By Well Vintage



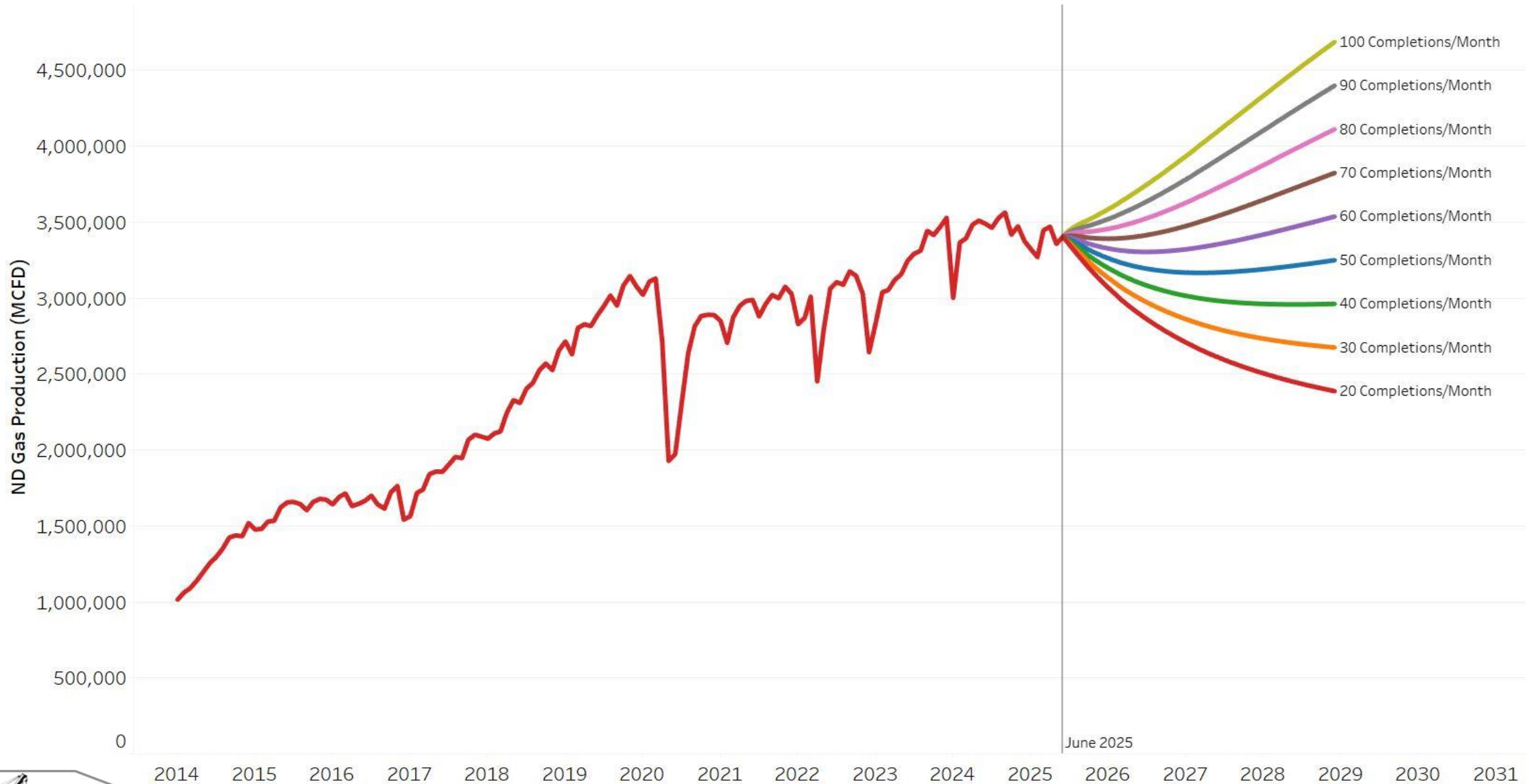
Statewide Bakken Production



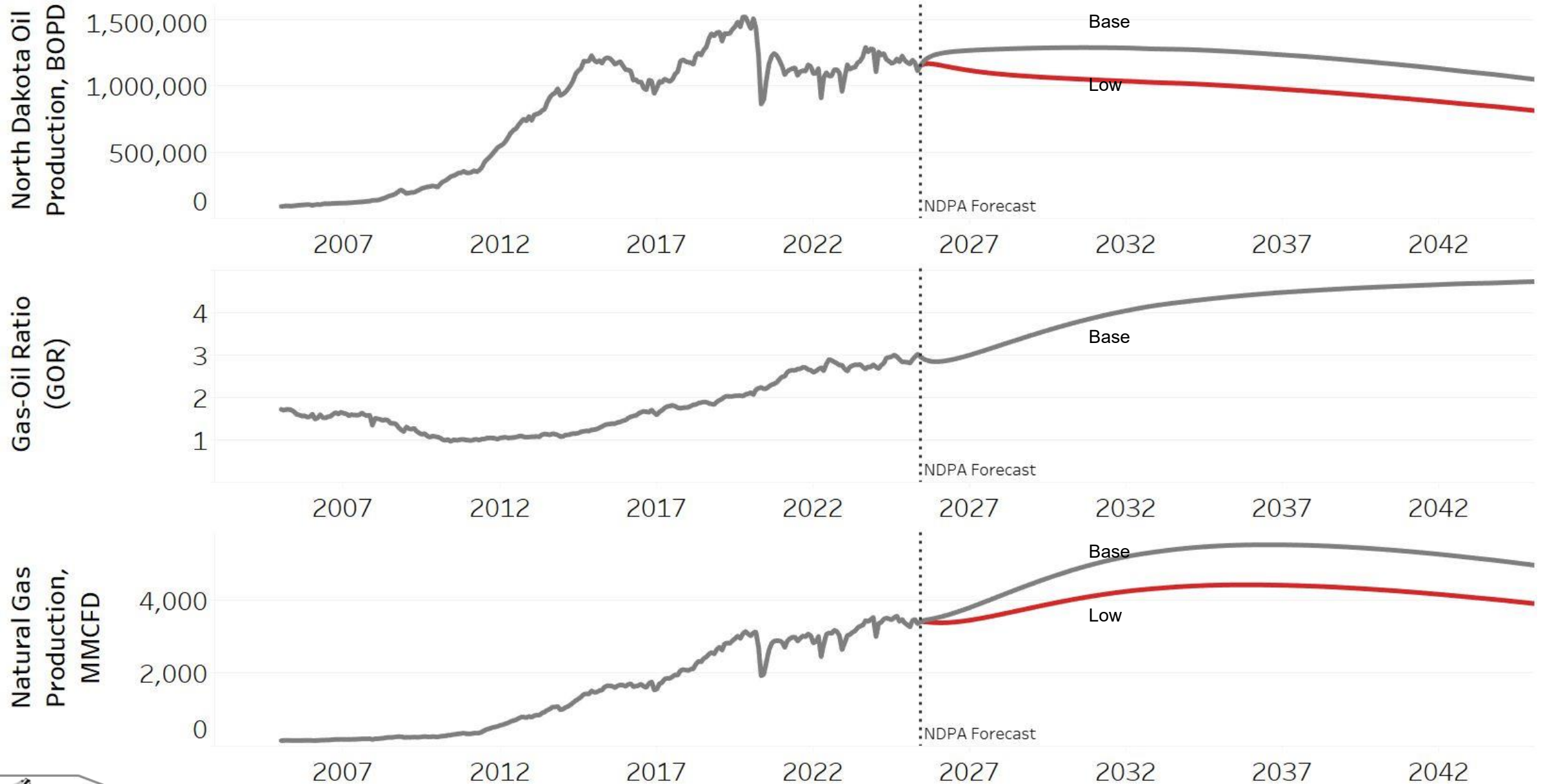
Record Low Gas Flaring



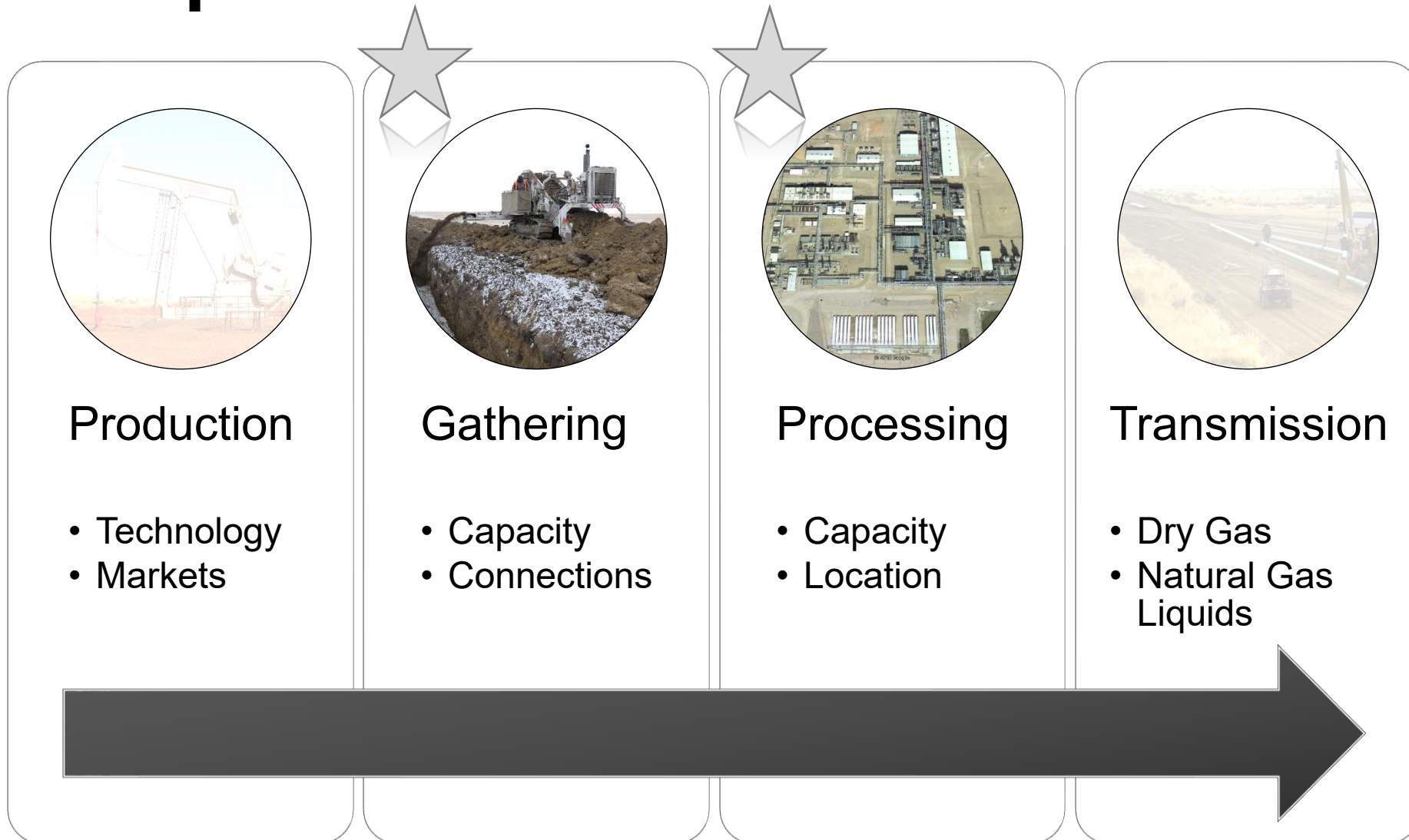
Monthly Completion* Scenarios - Gas



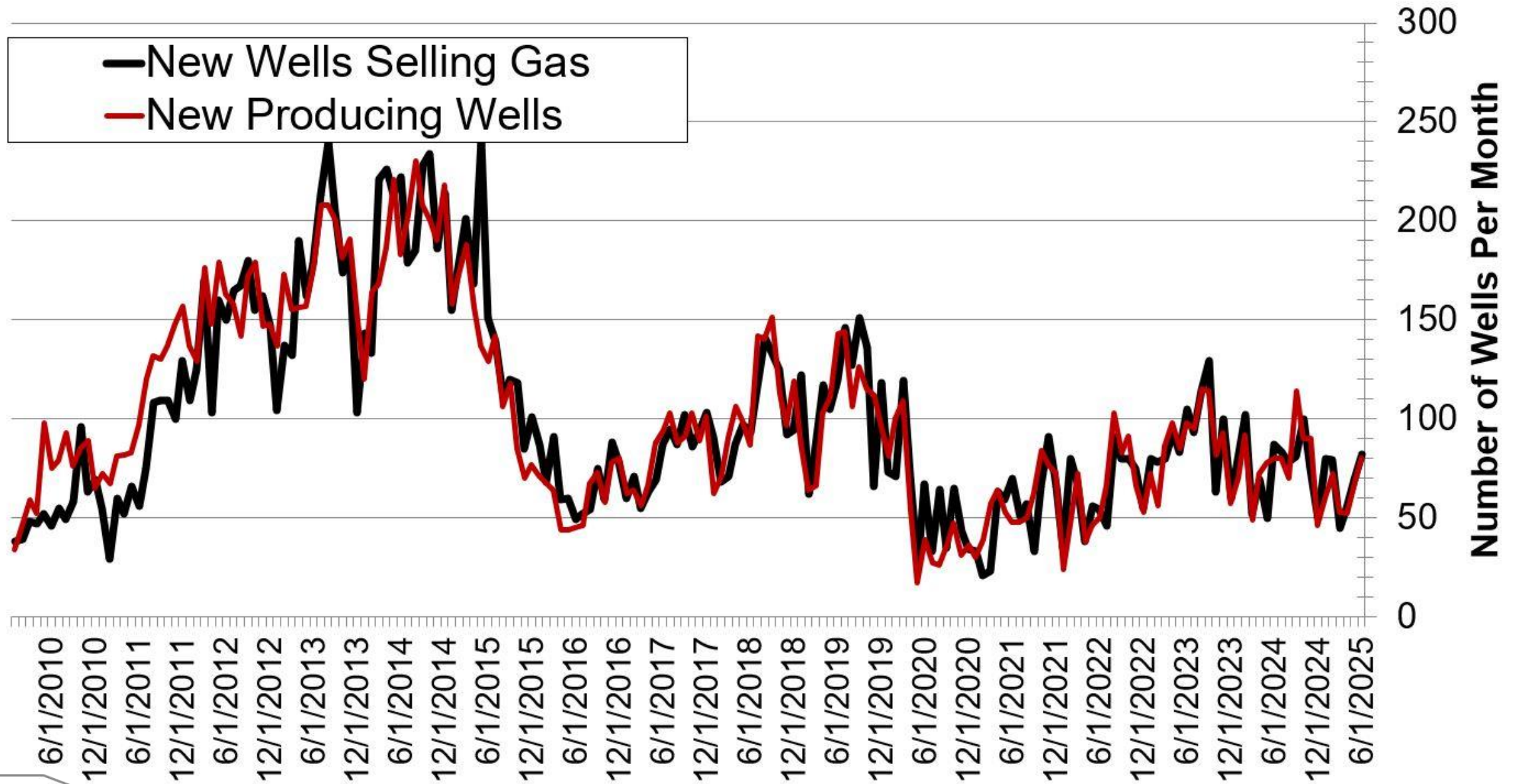
ND Production Forecast: EIA Price Deck



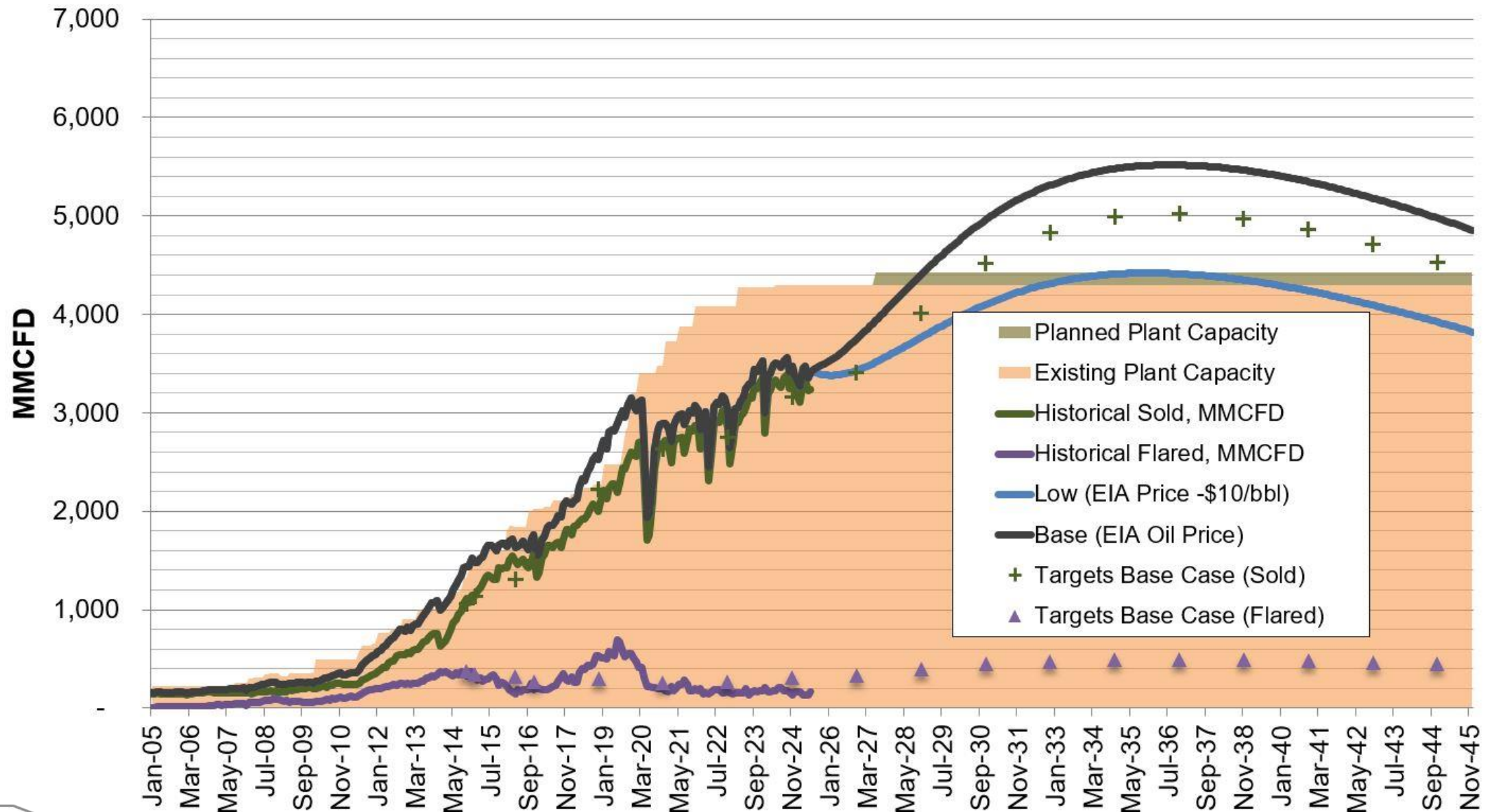
A Complete Natural Gas Solution



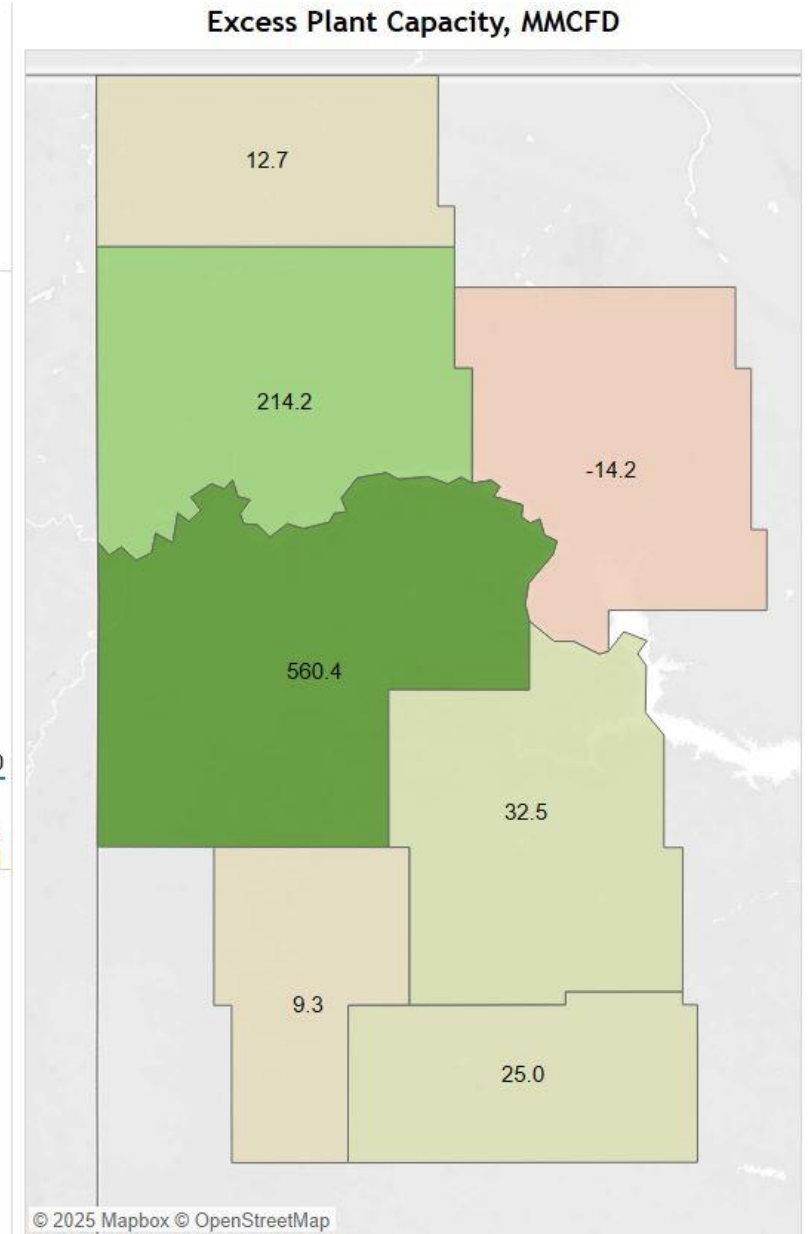
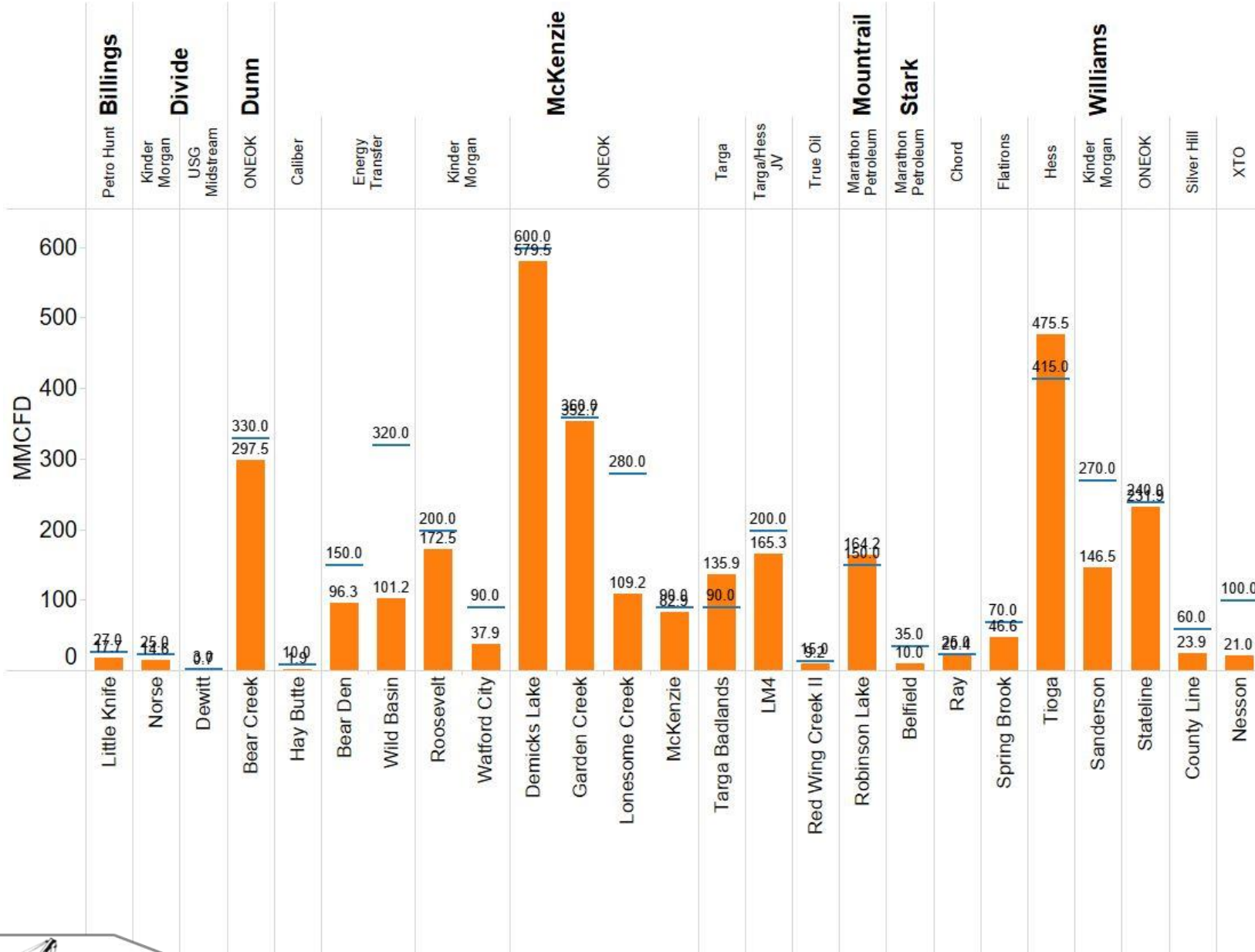
Solving the Flaring Challenge



North Dakota Gas Processing Outlook

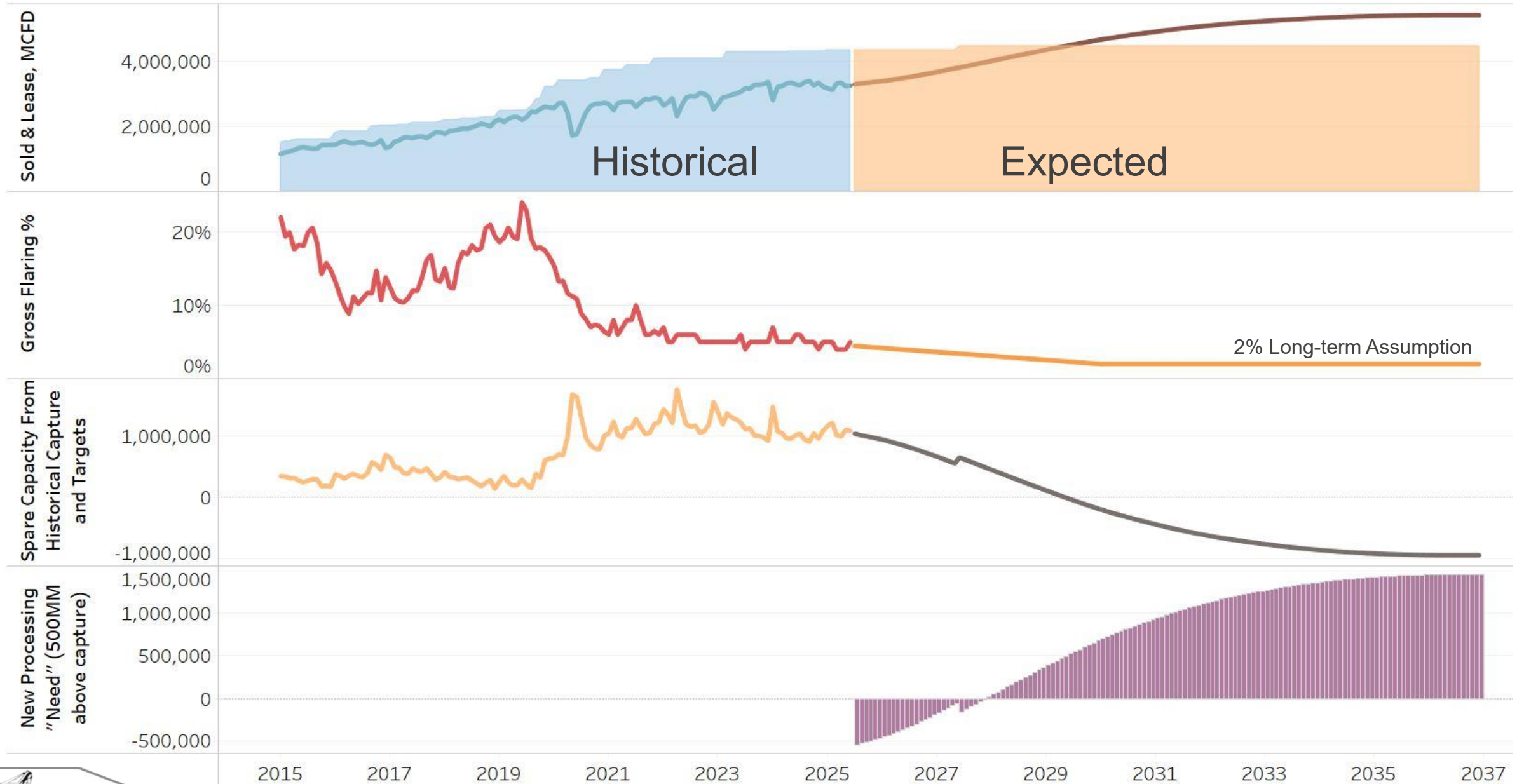


Gas Plant Intake Volumes & Capacity*

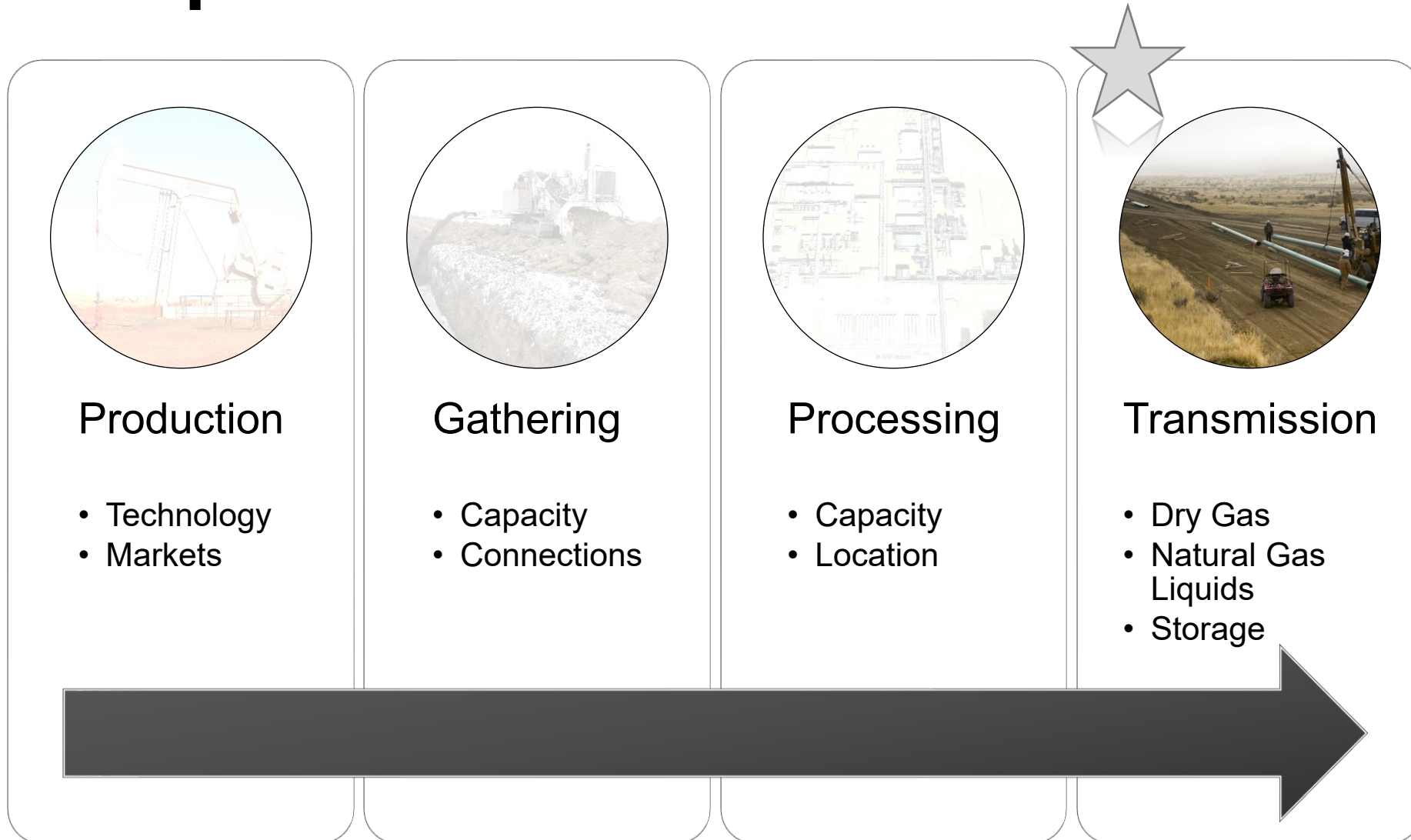


© 2025 Mapbox © OpenStreetMap

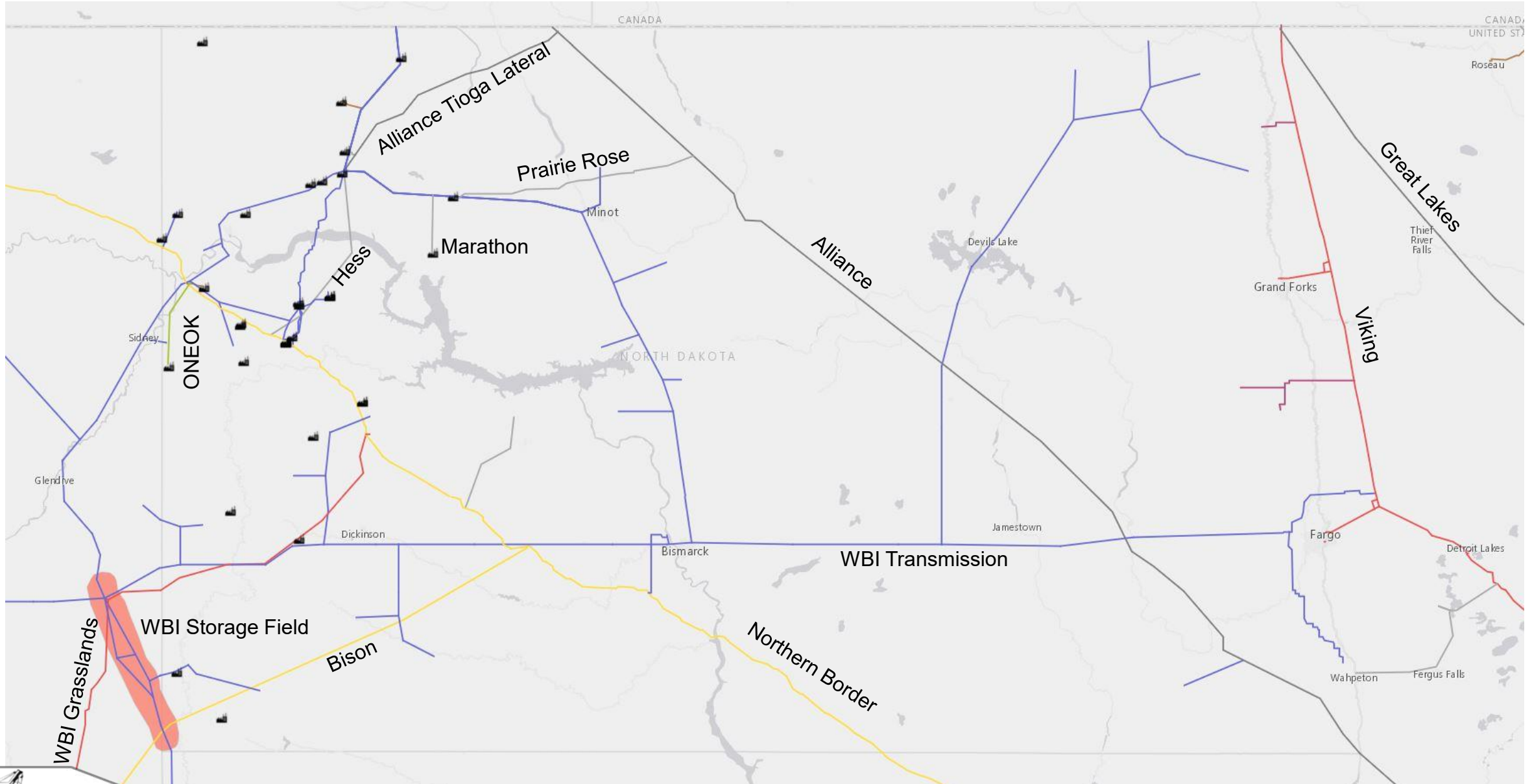
Gas Processing Capacity & Spare Capacity*



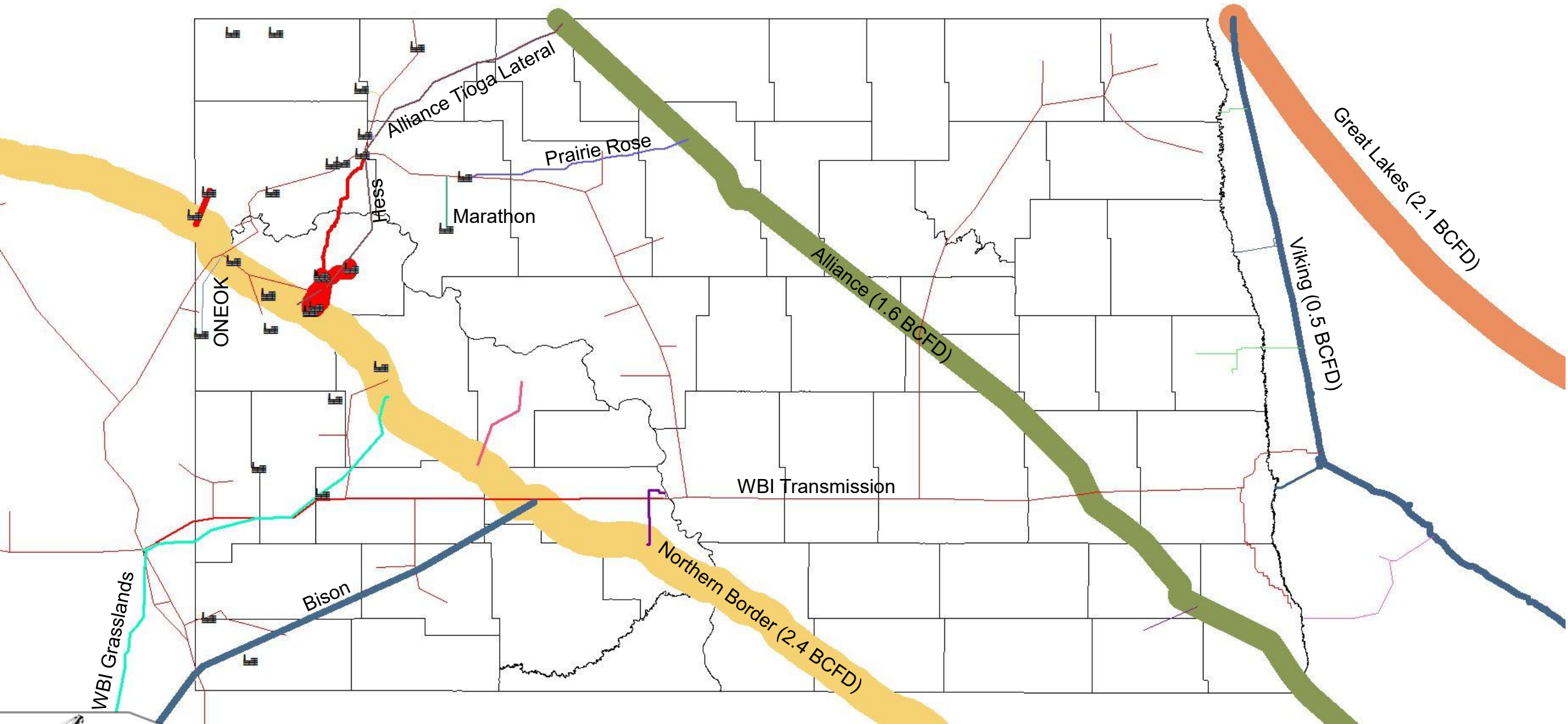
A Complete Natural Gas Solution



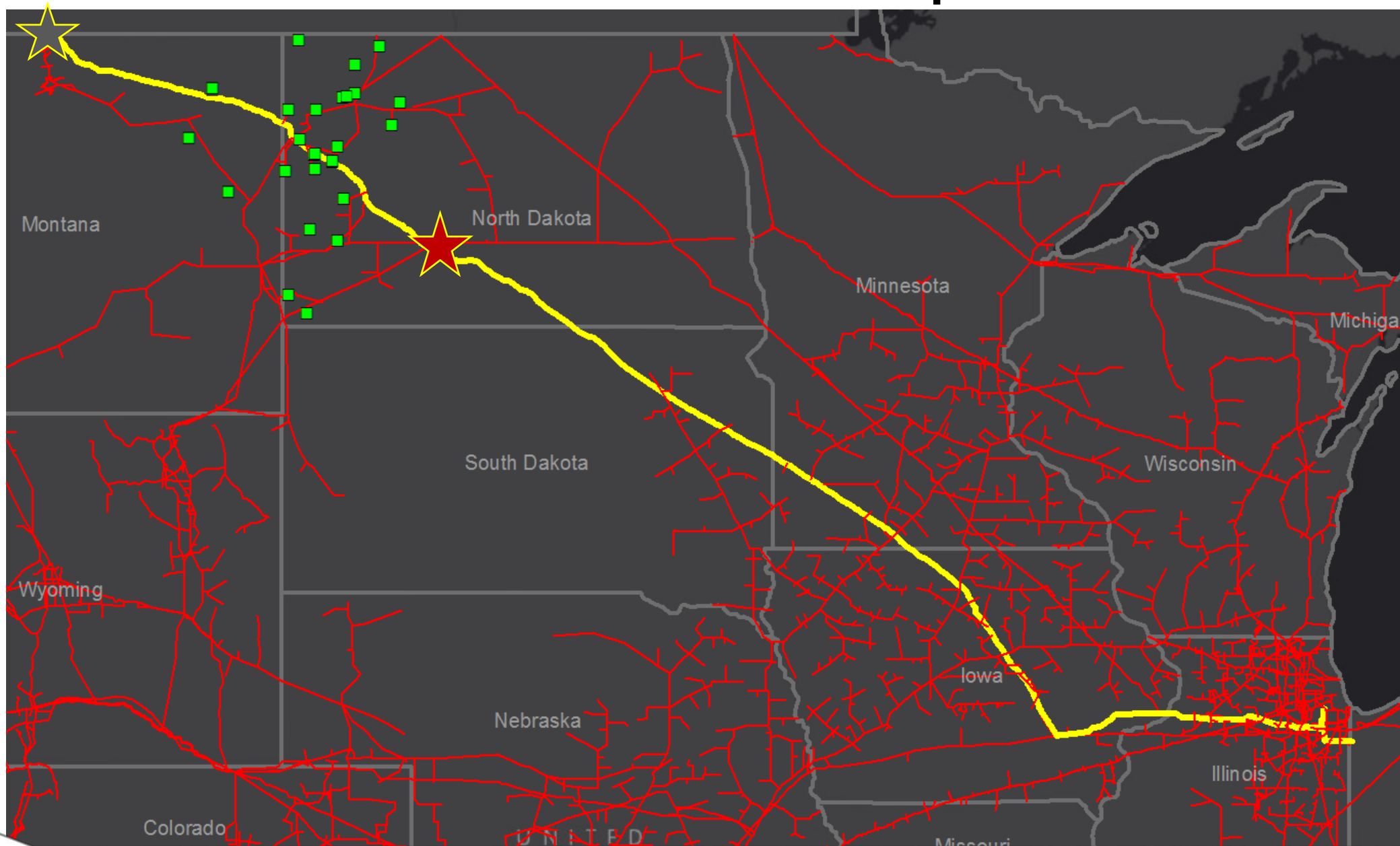
Major Residue Gas Pipeline Infrastructure



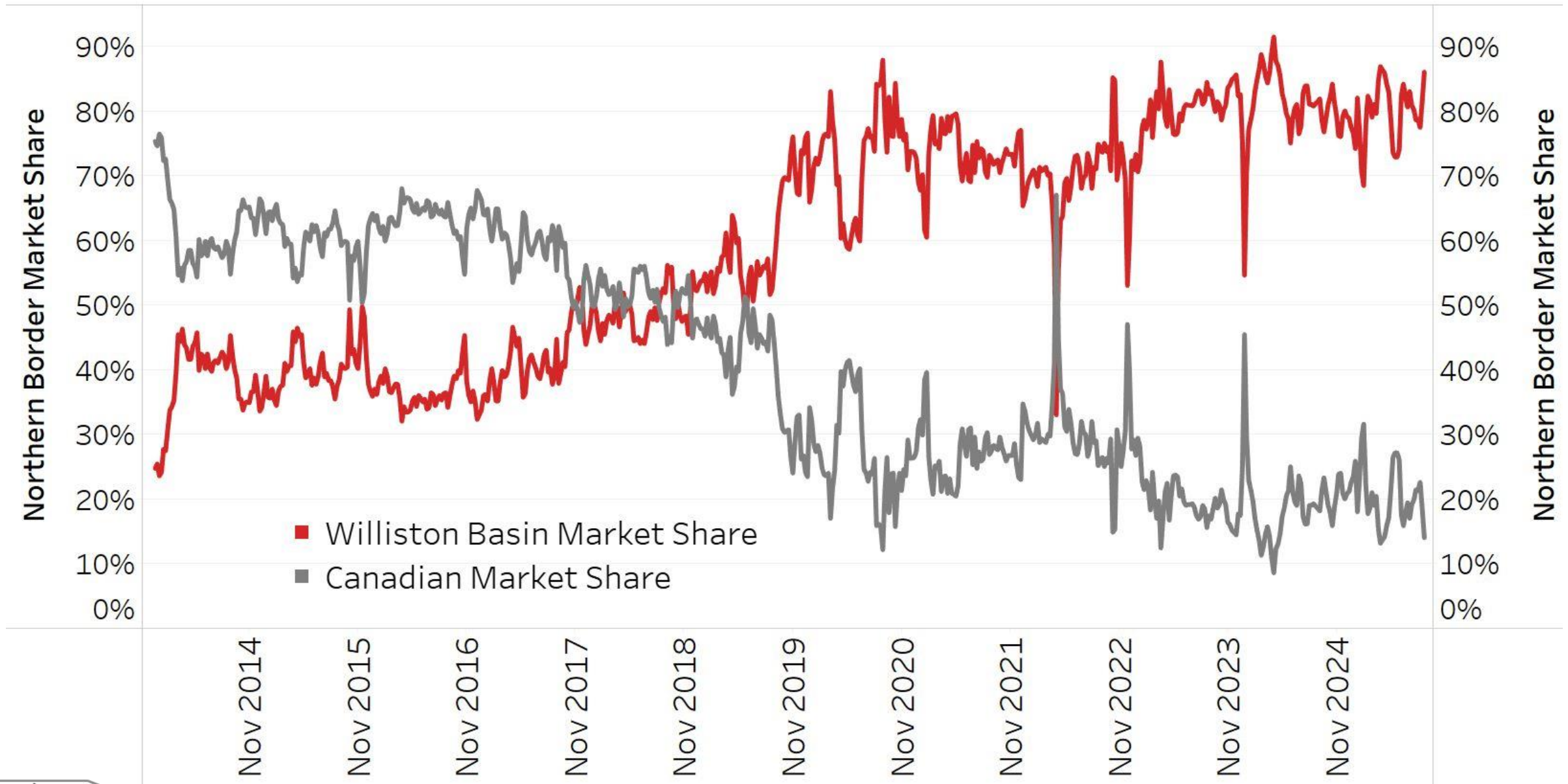
Residue Gas Pipeline Capacity Visualization



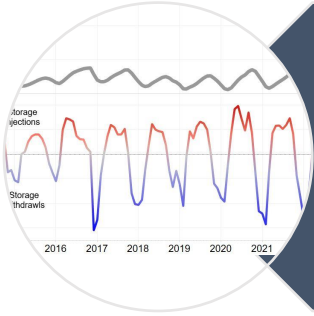
Northern Border Pipeline



Northern Border Pipeline Market Share



Summer 2025 Transmission Tailwinds



Summer Storage Injections
Seasonal ~100,000 Dth/day



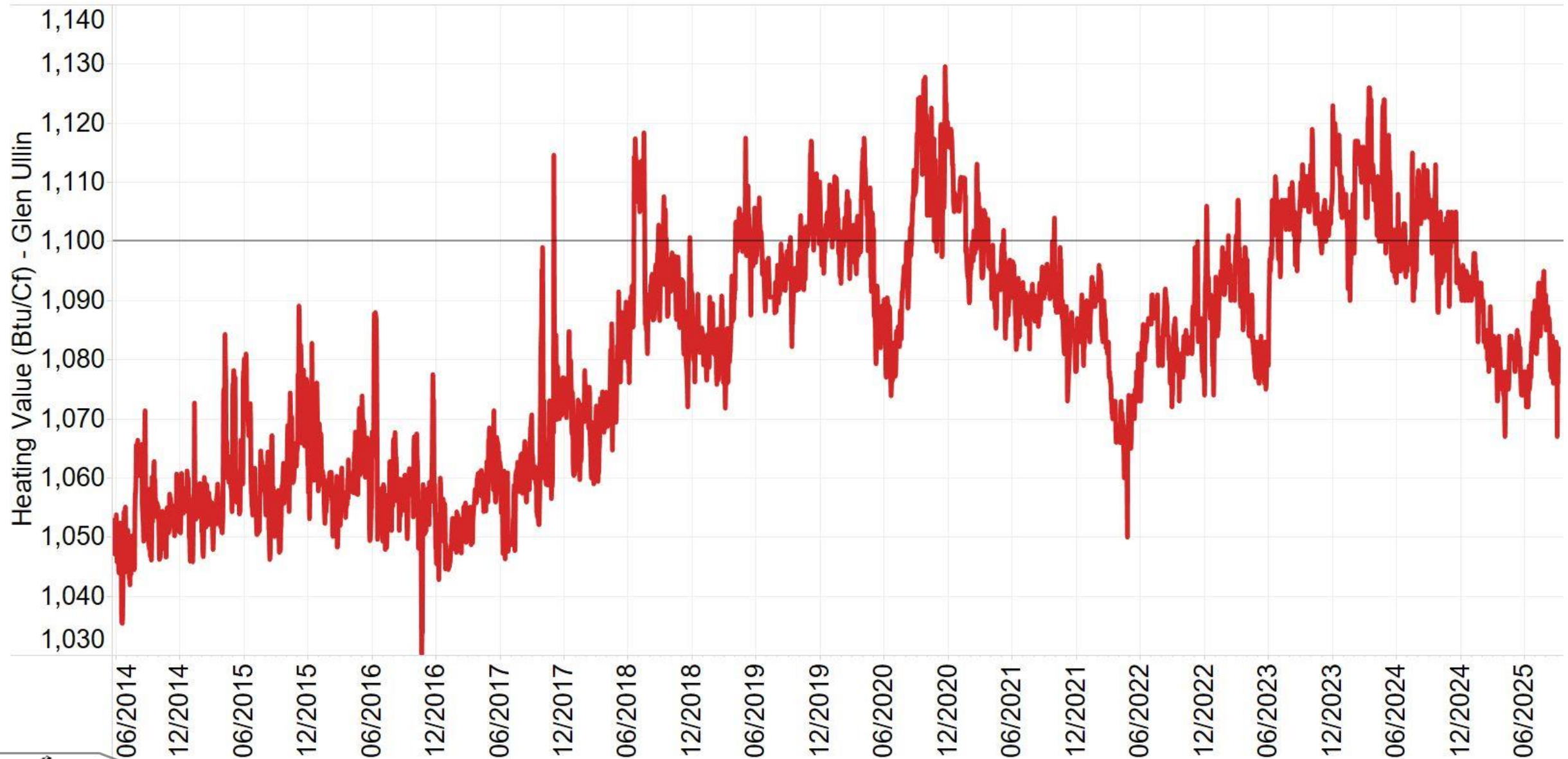
Local Power Generation
Increase ~120,000 Dth/day



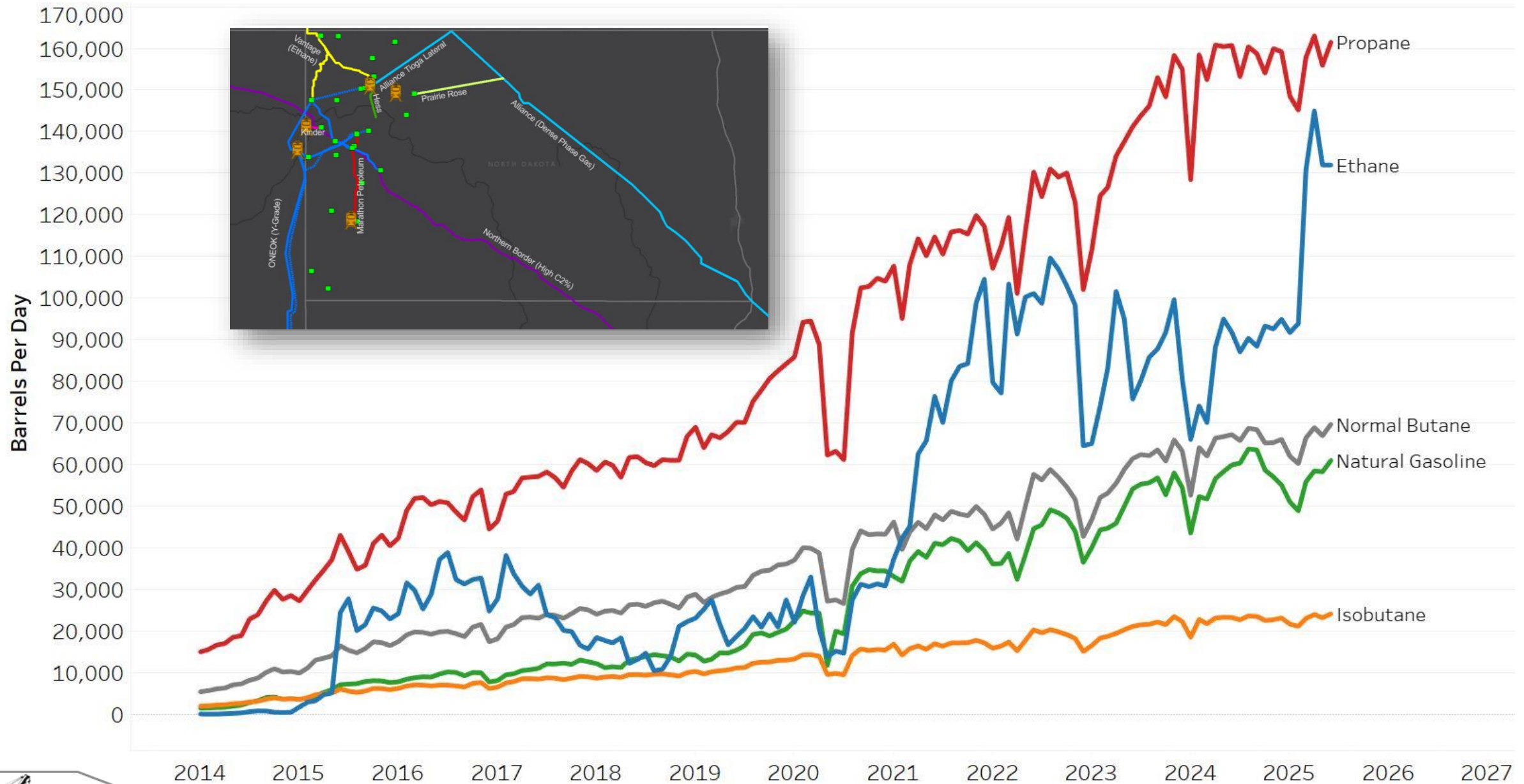
High Ethane Recovery
Elective ~100,000 Dth/day



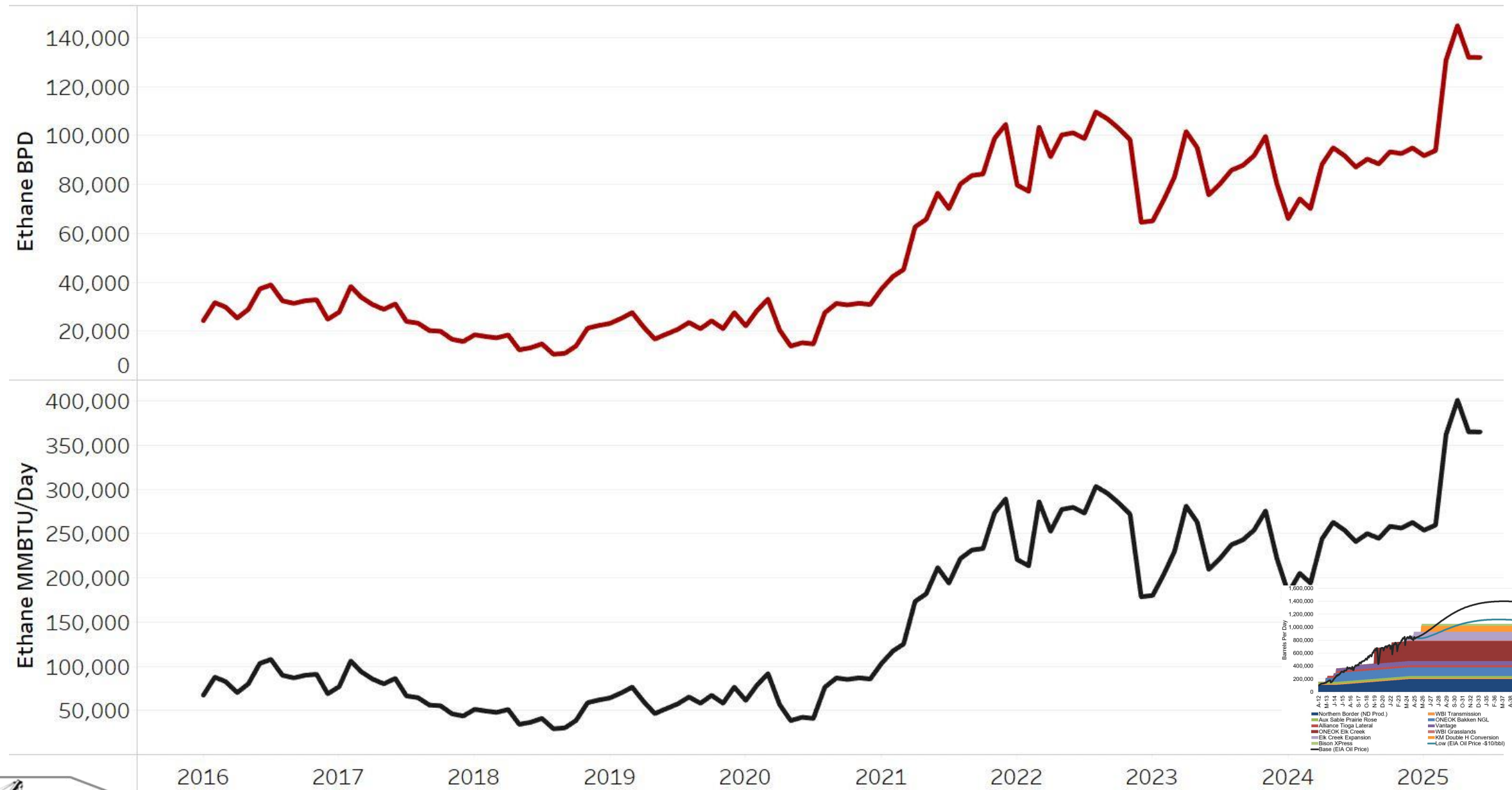
Northern Border BTU at Glen Ullin, ND



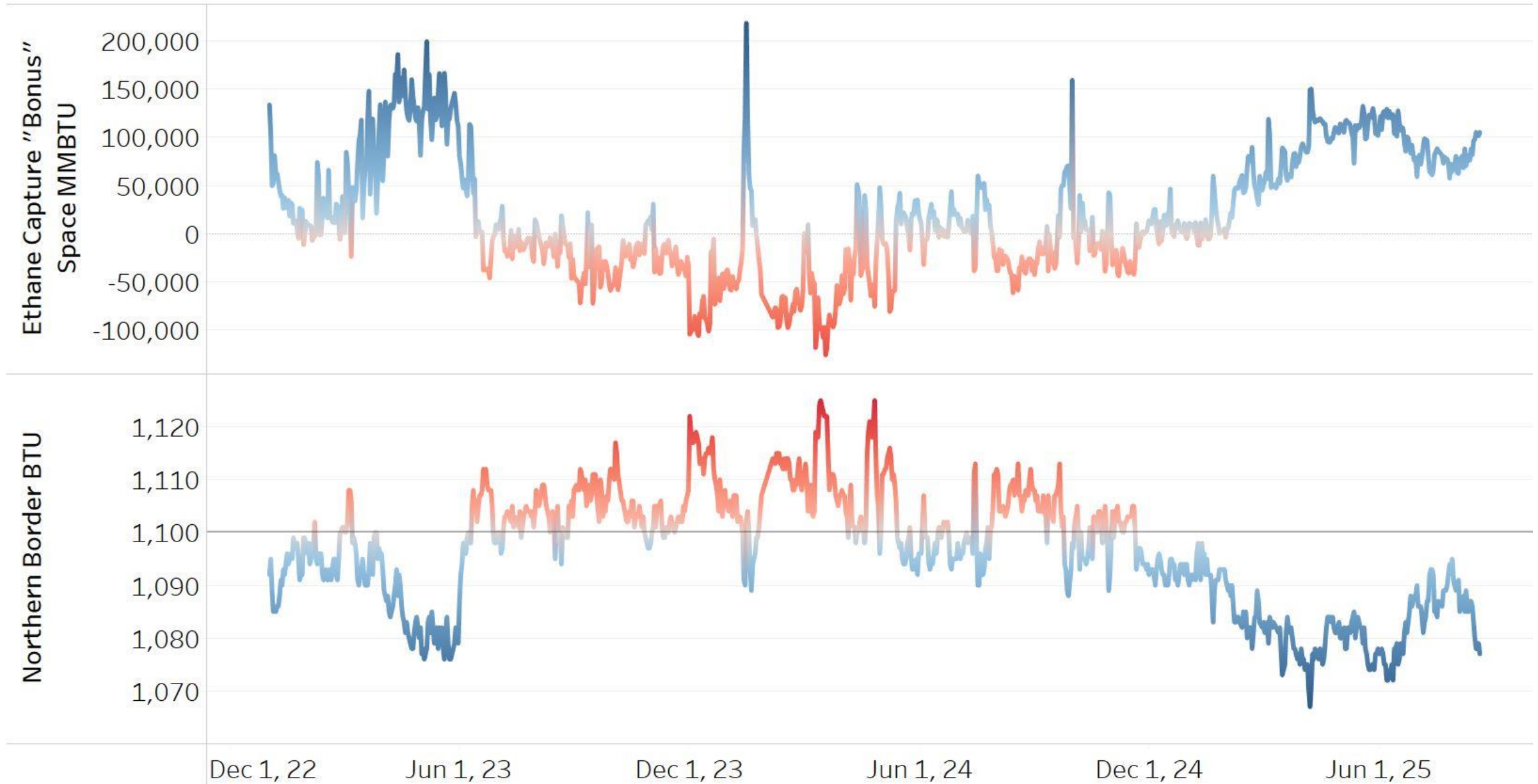
PADD II to PADD IV NGL Pipeline Flows



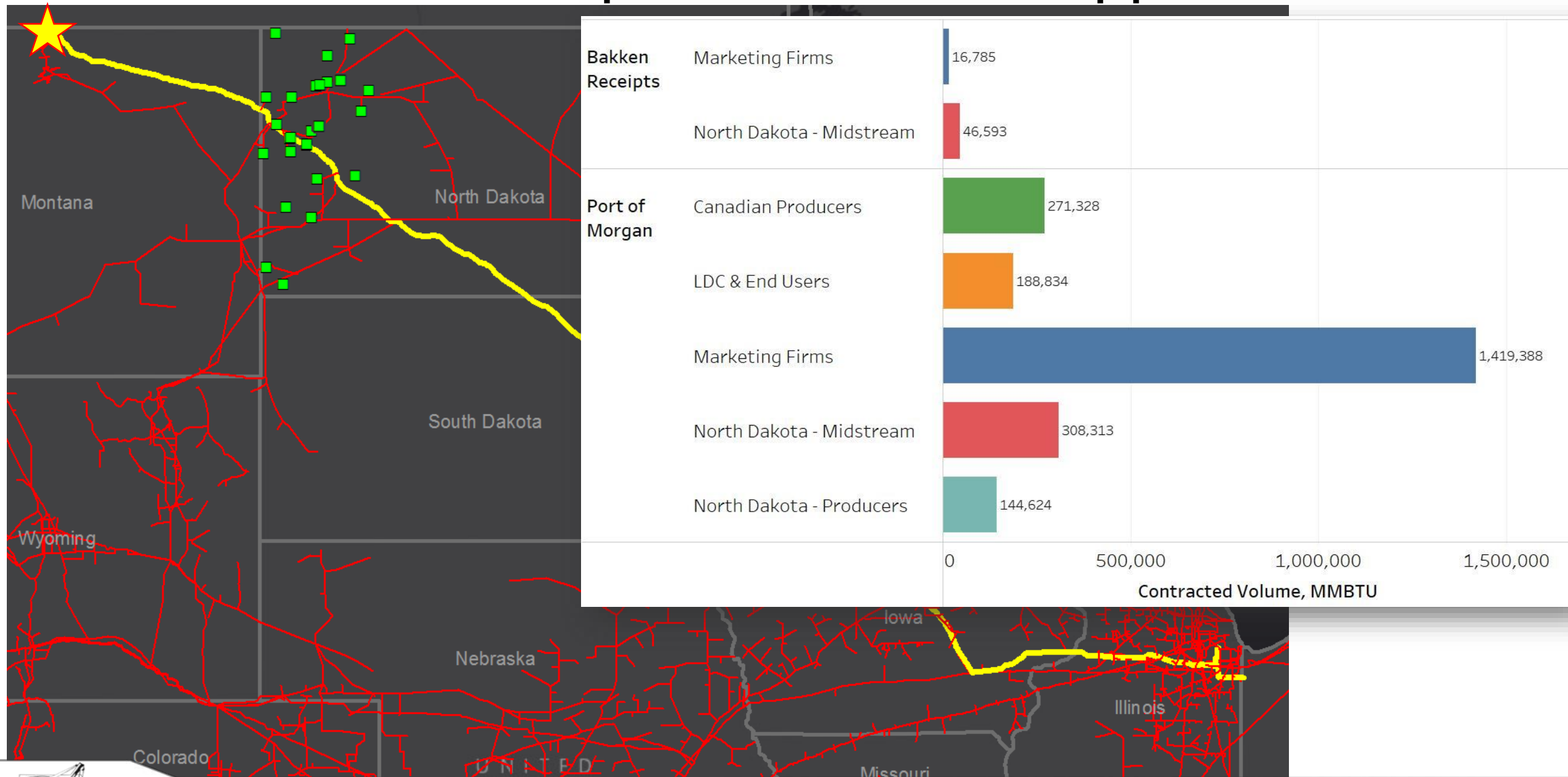
Rockies NGL Pipes Driving Down NB BTU & Market Share



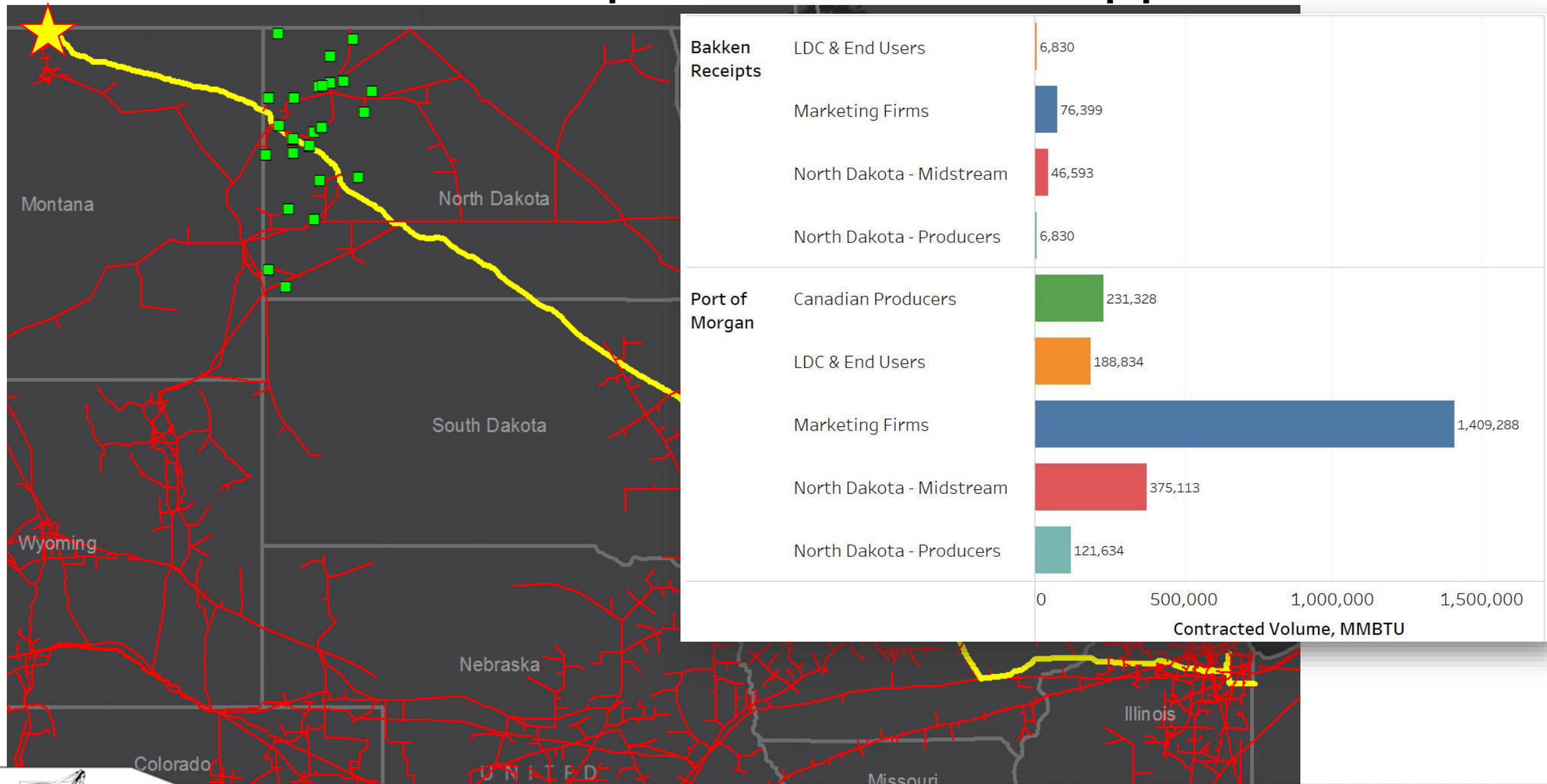
Ethane Capture in 2025 Creating “Bonus” Space on Northern Border*



Northern Border Pipeline P.O.M. Shipper Mix: 2024

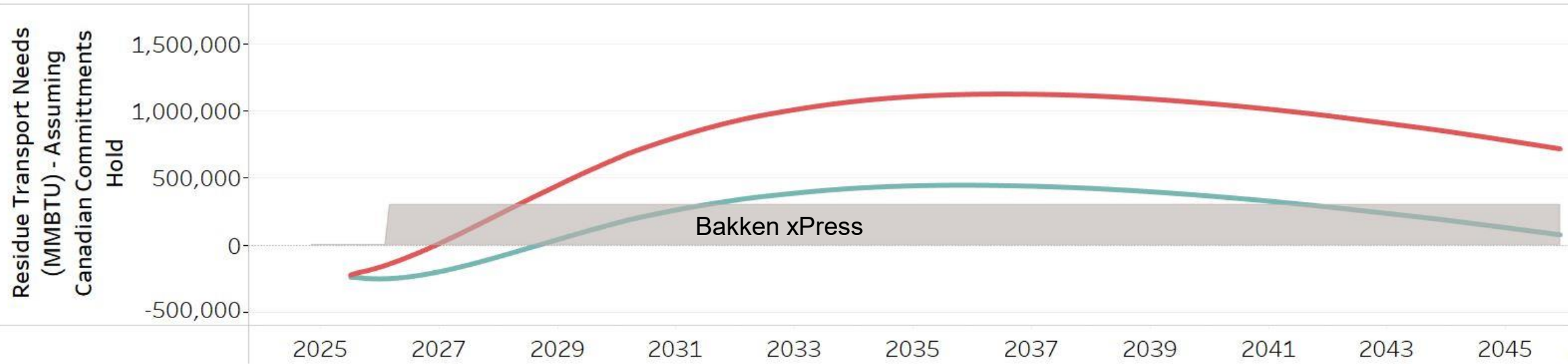


Northern Border Pipeline P.O.M. Shipper Mix: 2025

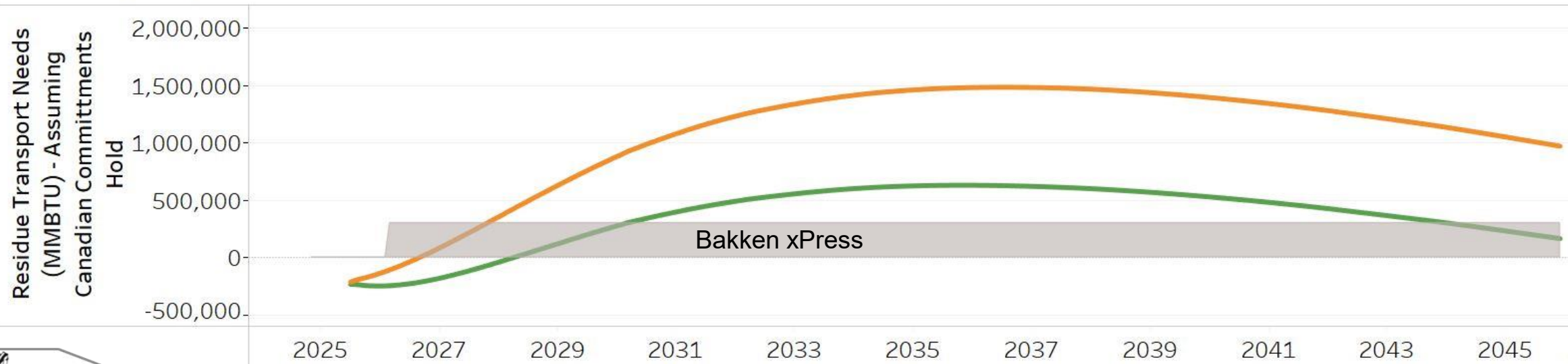


Residue Capacity Needs : Glen Ullin BTU 1,100 & 1,150

Residue Capacity Need: Port of Morgan at Contract Level: Glen Ullin BTU 1,100



Residue Capacity Need: Port of Morgan at Contract Level: Glen Ullin BTU 1,150



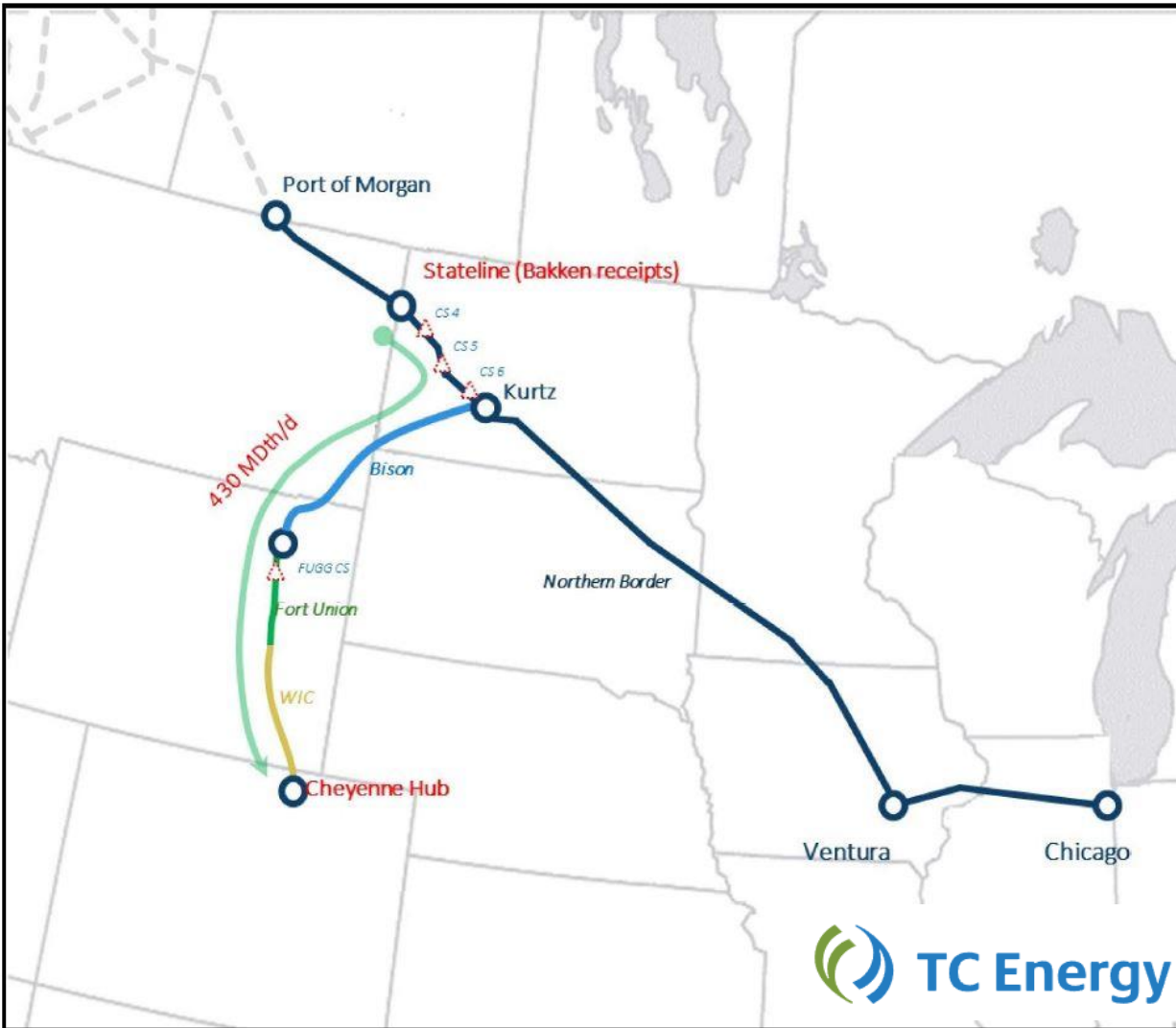
TC Energy / Kinder Morgan: Bakken xPress Project

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”

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

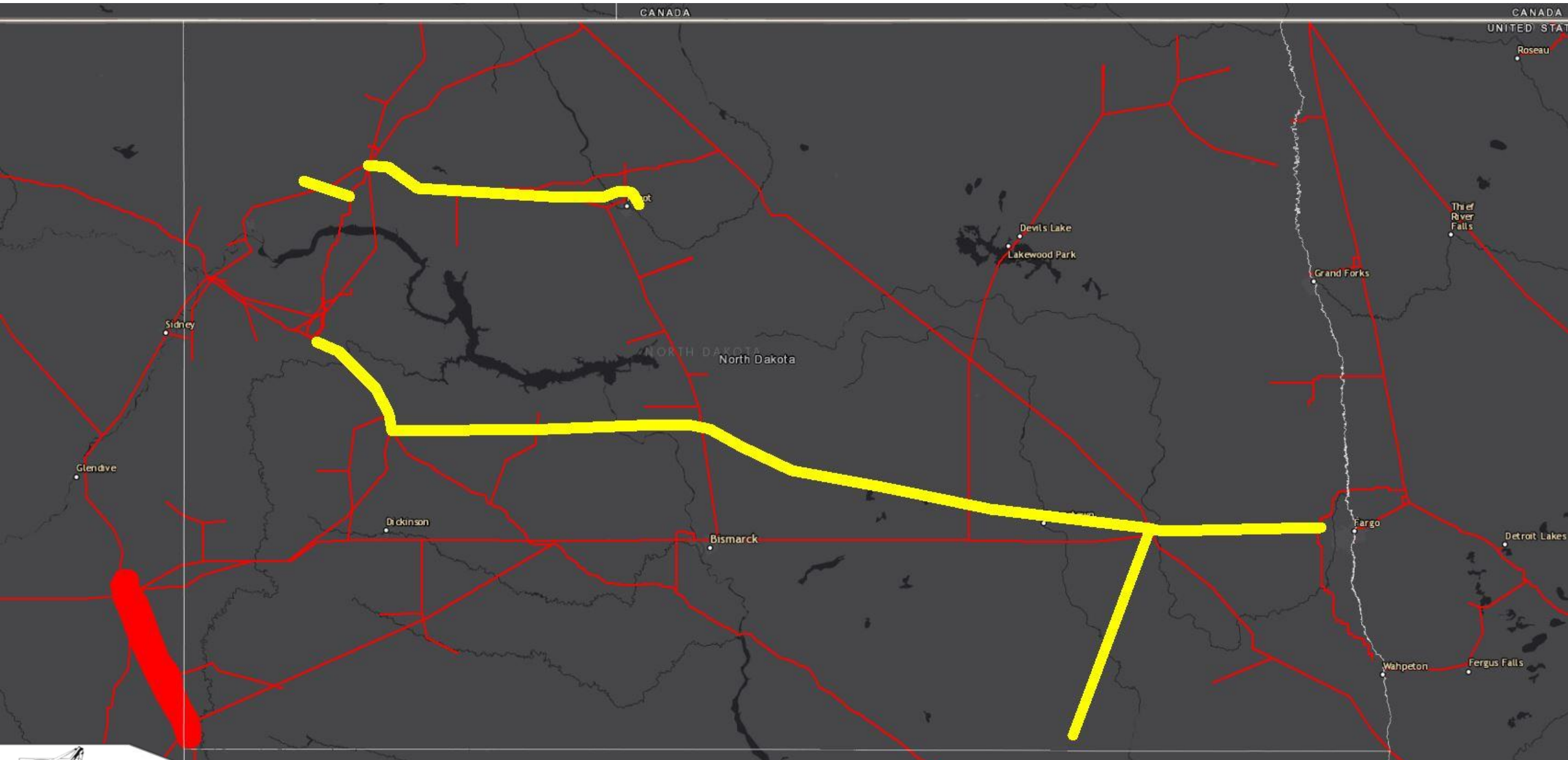
- Intra Region Gas Demand Expansion

Contraction

- Reduce E&P Activity to Meet Limited Gas Options



Beyond 2026: Gas Transmission Projects



Beyond 2026: Gas Transmission Projects

Minot Industrial Pipeline

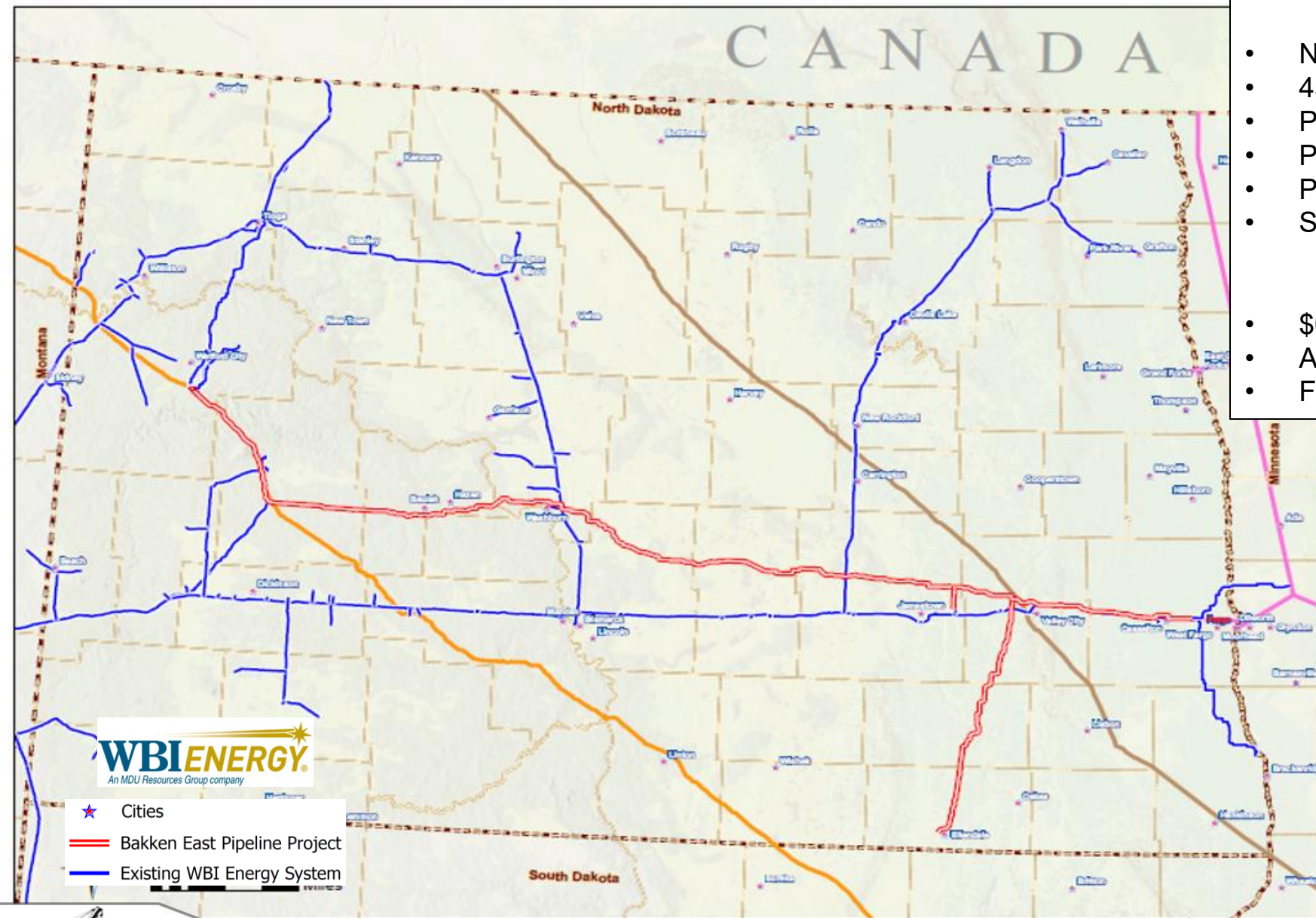
- Developer: WBI Energy Transmission
- Status: Under development
- 20" – 87 miles
- Capacity 250,000 MCFD
- Q4 2029 targeted in-service date

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

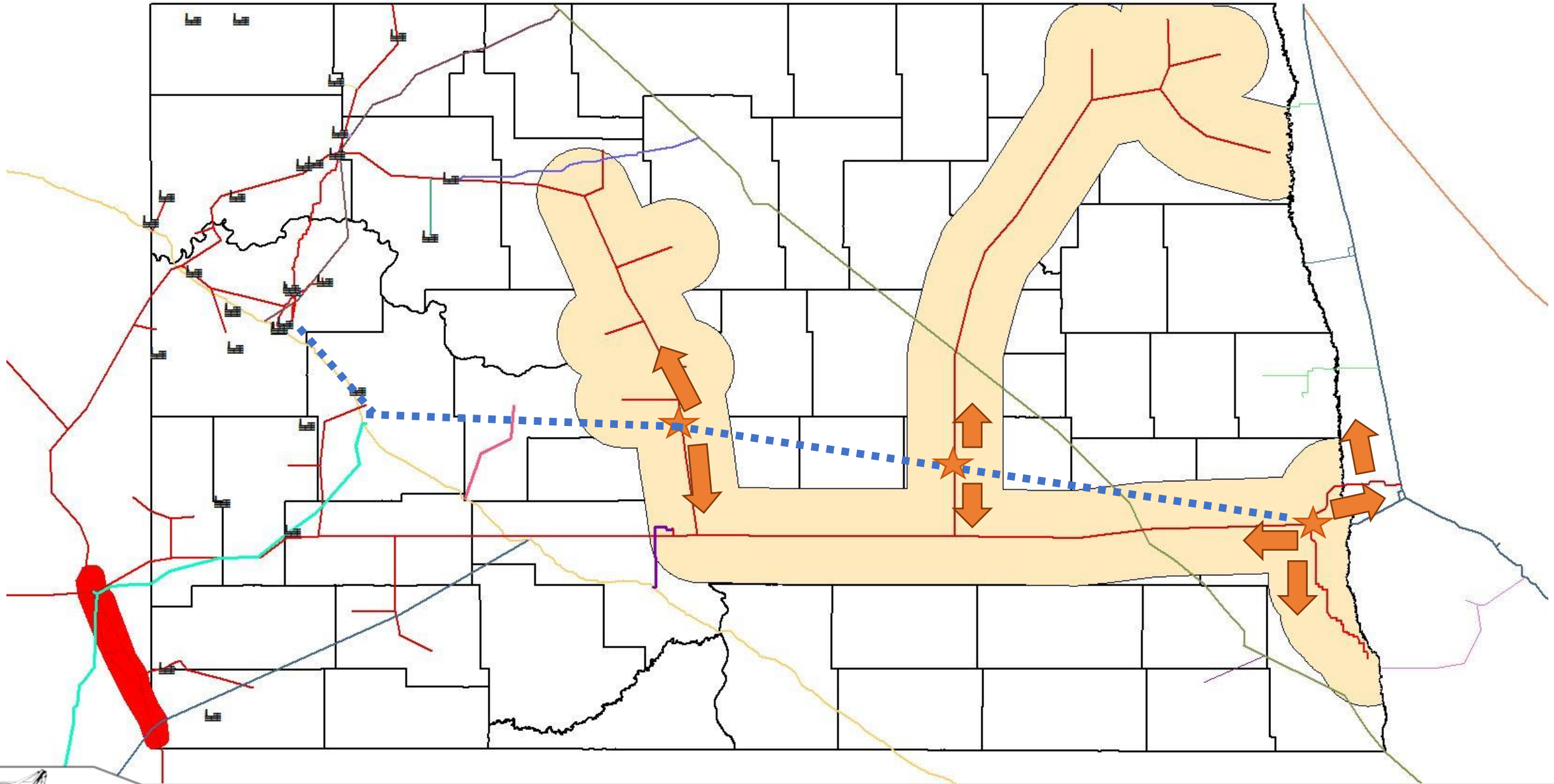
- Non-binding open season Apr 17 – May 23, 2025
- 208 Miles: 30" Pipe
- Proposed Capacity 430,000 Dth/Day
- January 2030 targeted in-service
- Seeking commitments 10yrs or Longer

Phase 2 Estimated Rates

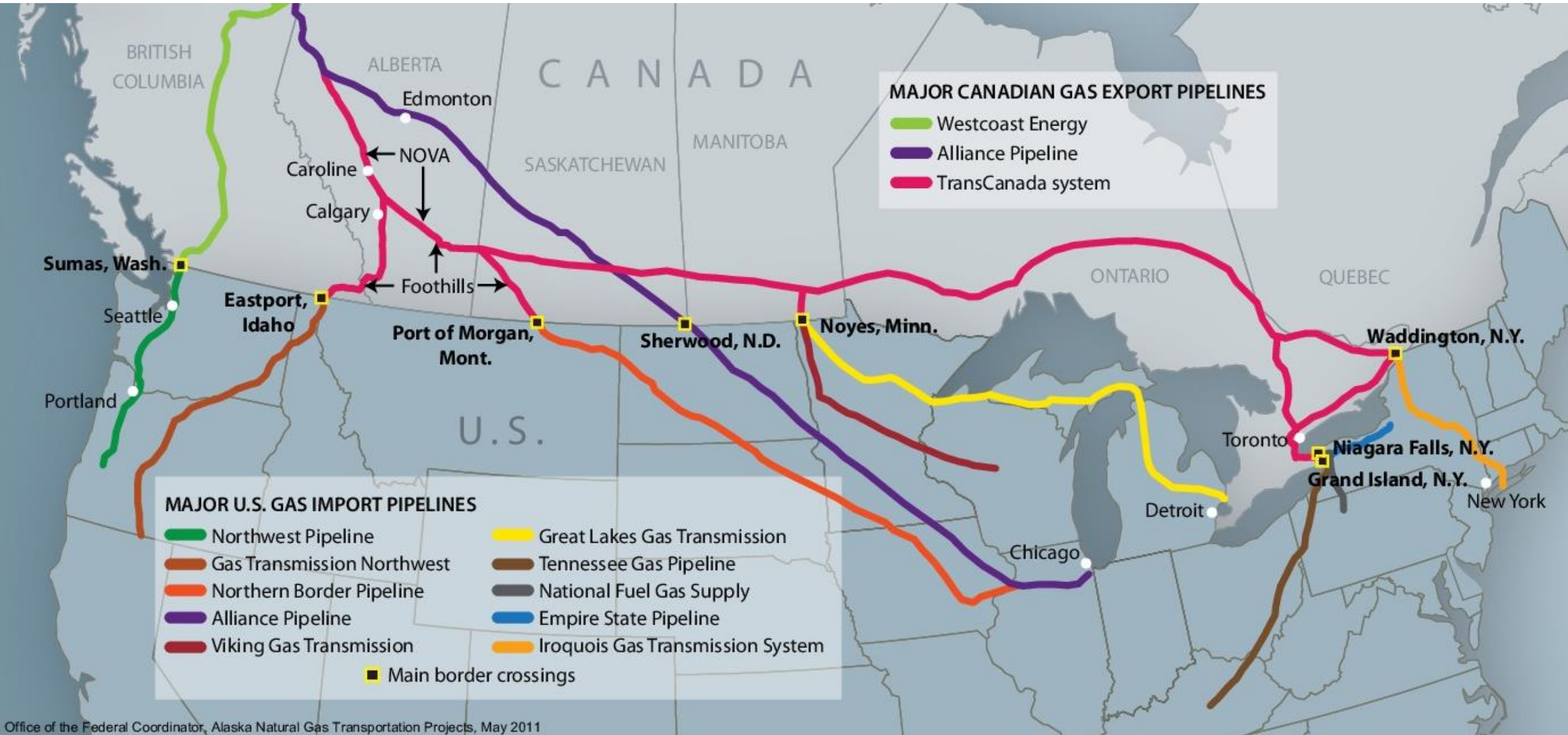
- \$0.80/Dth + Fuel/Electric/Commodity
- Anchor Shipper Minimum: 100,000 Dth/Day
- Foundation Shipper Minimum: 250,000 Dth/Day



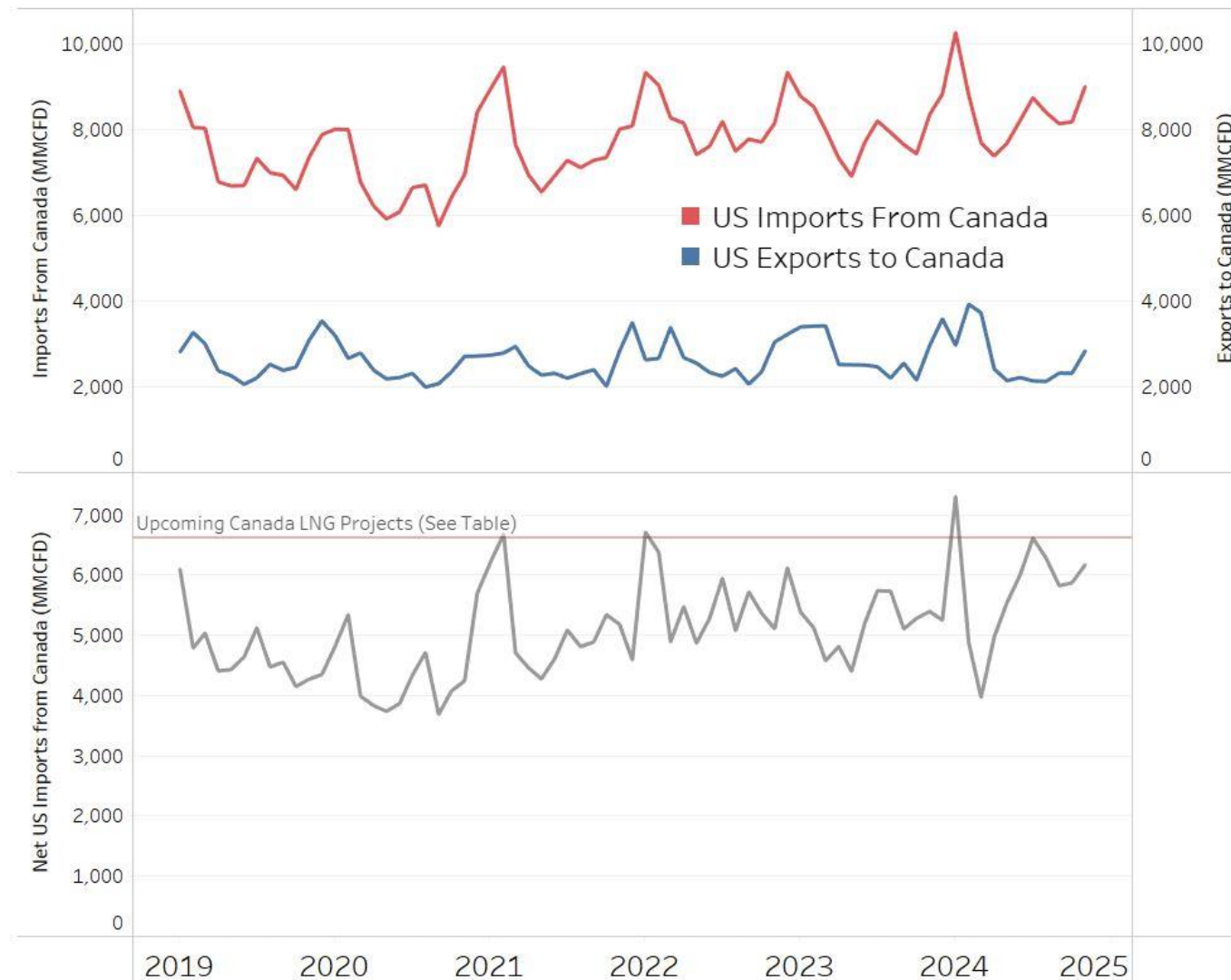
Going East: Statewide Benefits of Interconnections



Canadian Gas Pipeline Connectivity



United States Canada Gas Movements & LNG



Projects proposed and under construction

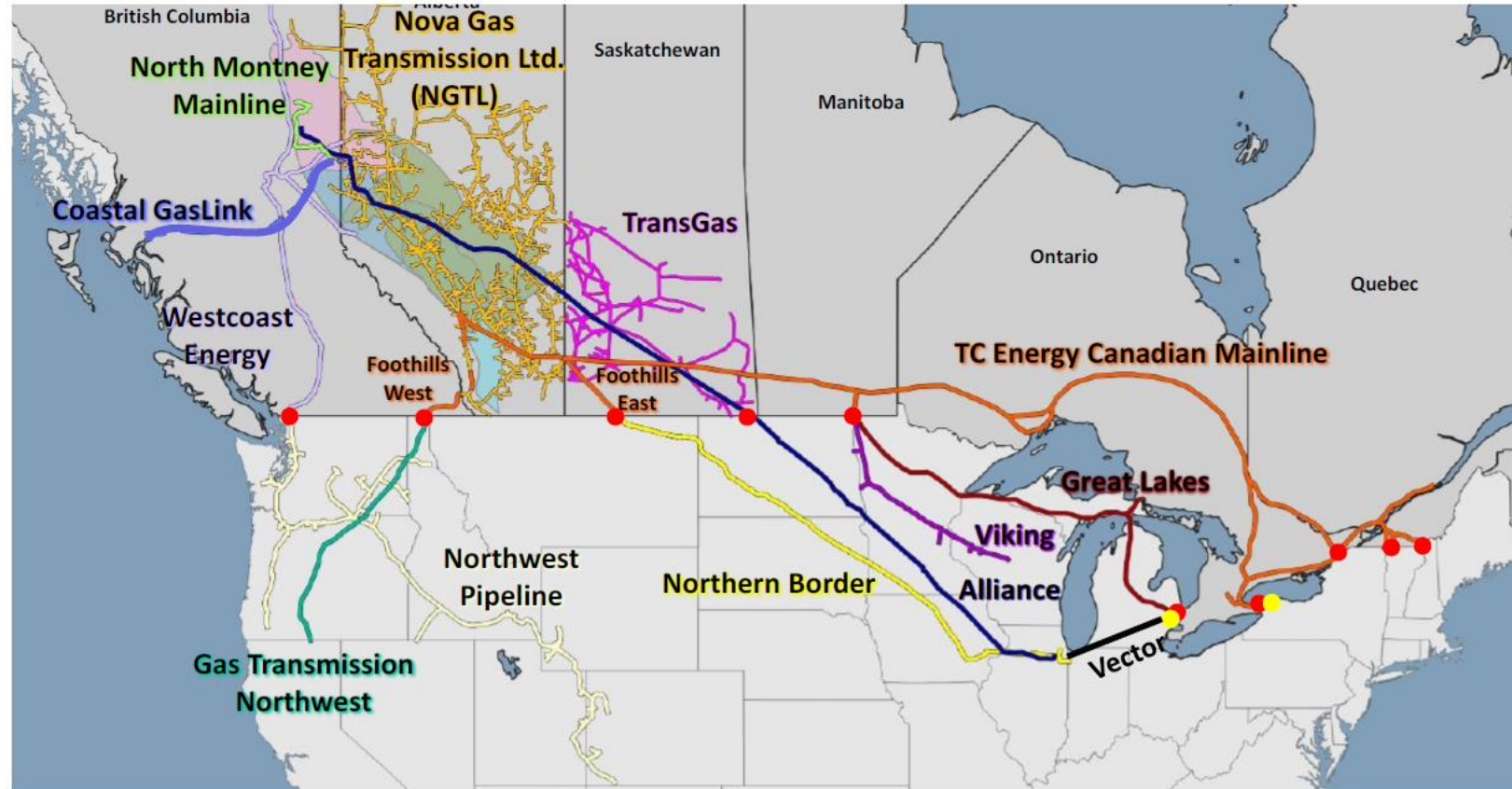
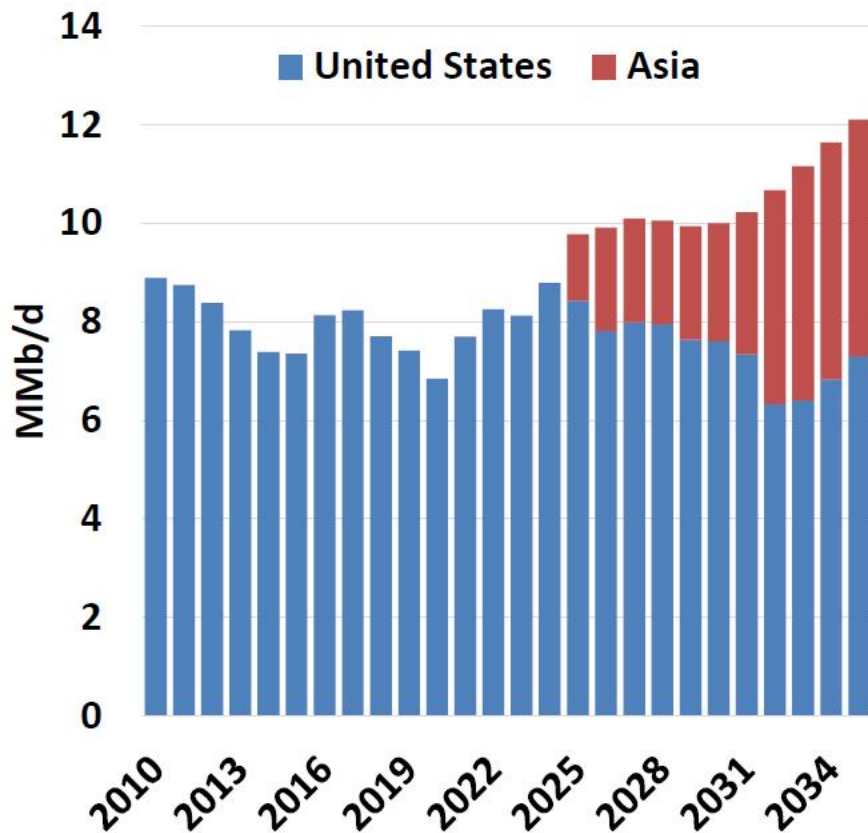
Project	LNG Export Volumes, Million Tonnes per Annum (MTPA)	LNG Export Volumes, Billion Cubic Feet per Day (Bcf/d)
Export Licence - 40 years		
LNG Canada Phase 1 Kitimat, BC	14	1.84
LNG Canada Phase 2 Kitimat, BC	14	1.84
Woodfibre LNG Squamish, BC	2.1	0.28
Ksi Lisims LNG Gingolx, BC	12	1.58
Export Licence - 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.

NG Exports by Destination

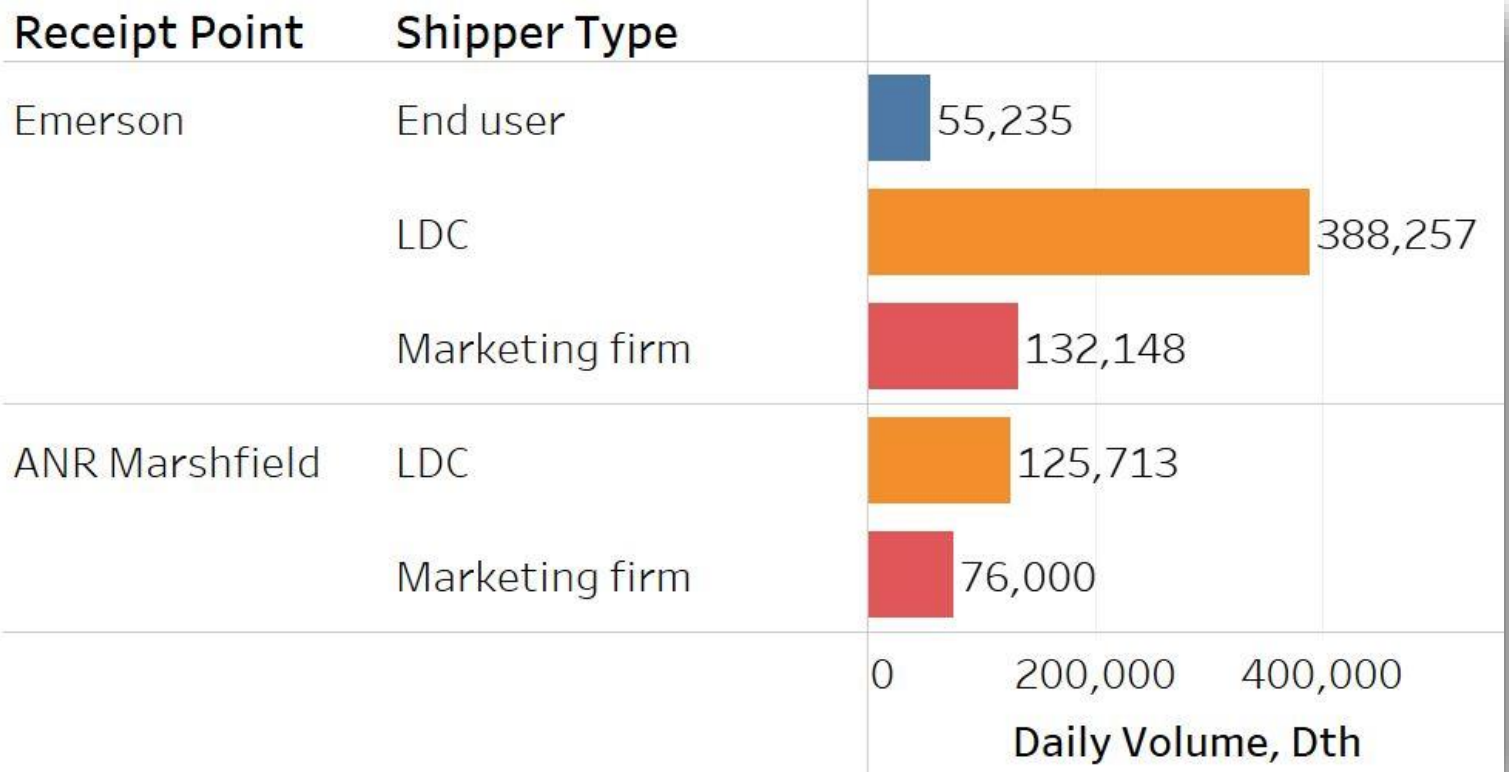
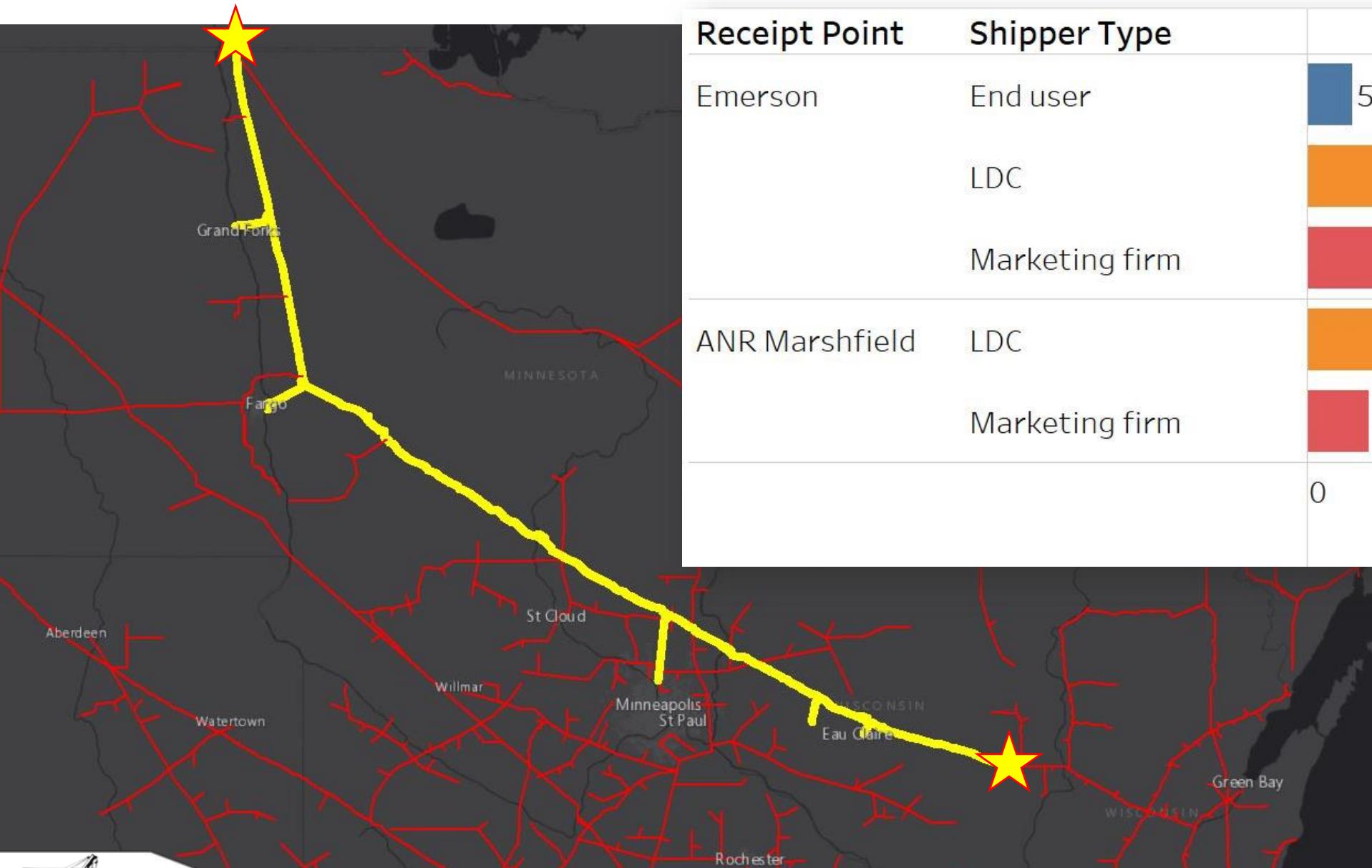


- Potential end result is a reduction in gas pipeline exports to the U.S. as LNG and Alberta demand will take precedence.

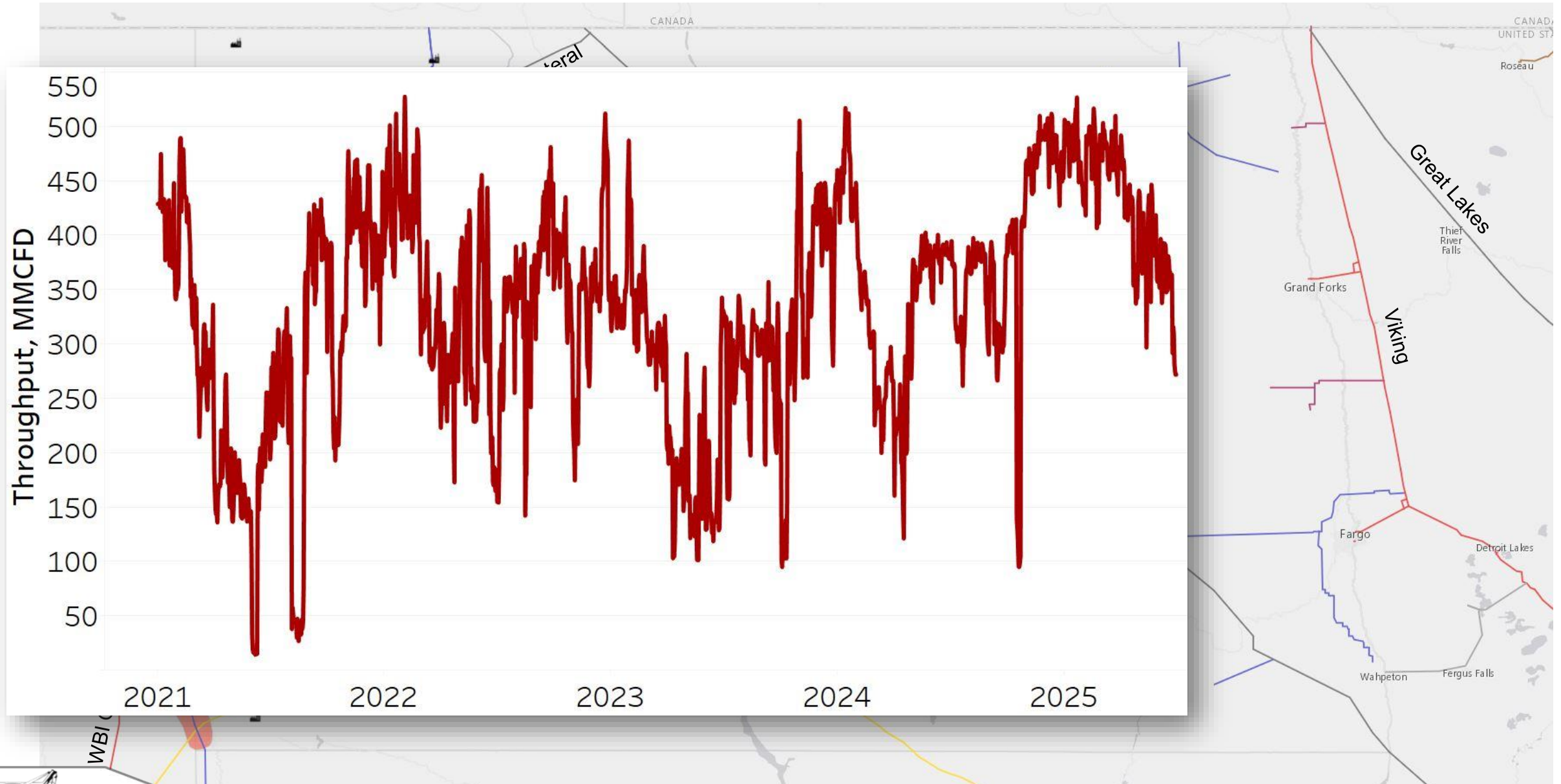
Eastern North Dakota Interstate Pipeline Interconnection Options



Viking Pipeline Shipper Mix: 2025

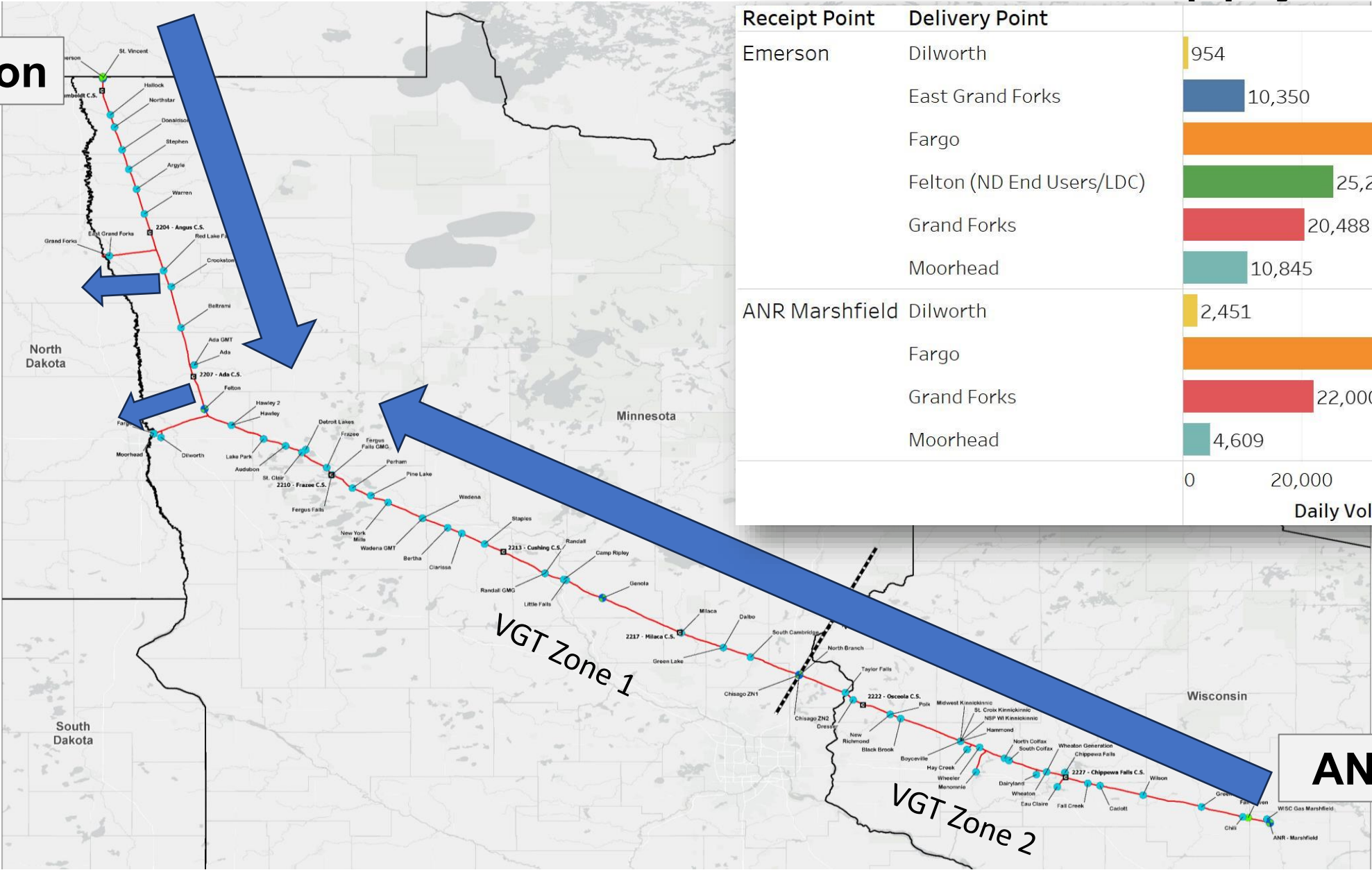


Viking South Volumes (~500 MMCFD Cap.)



Current Eastern North Dakota Gas Supply

Emerson

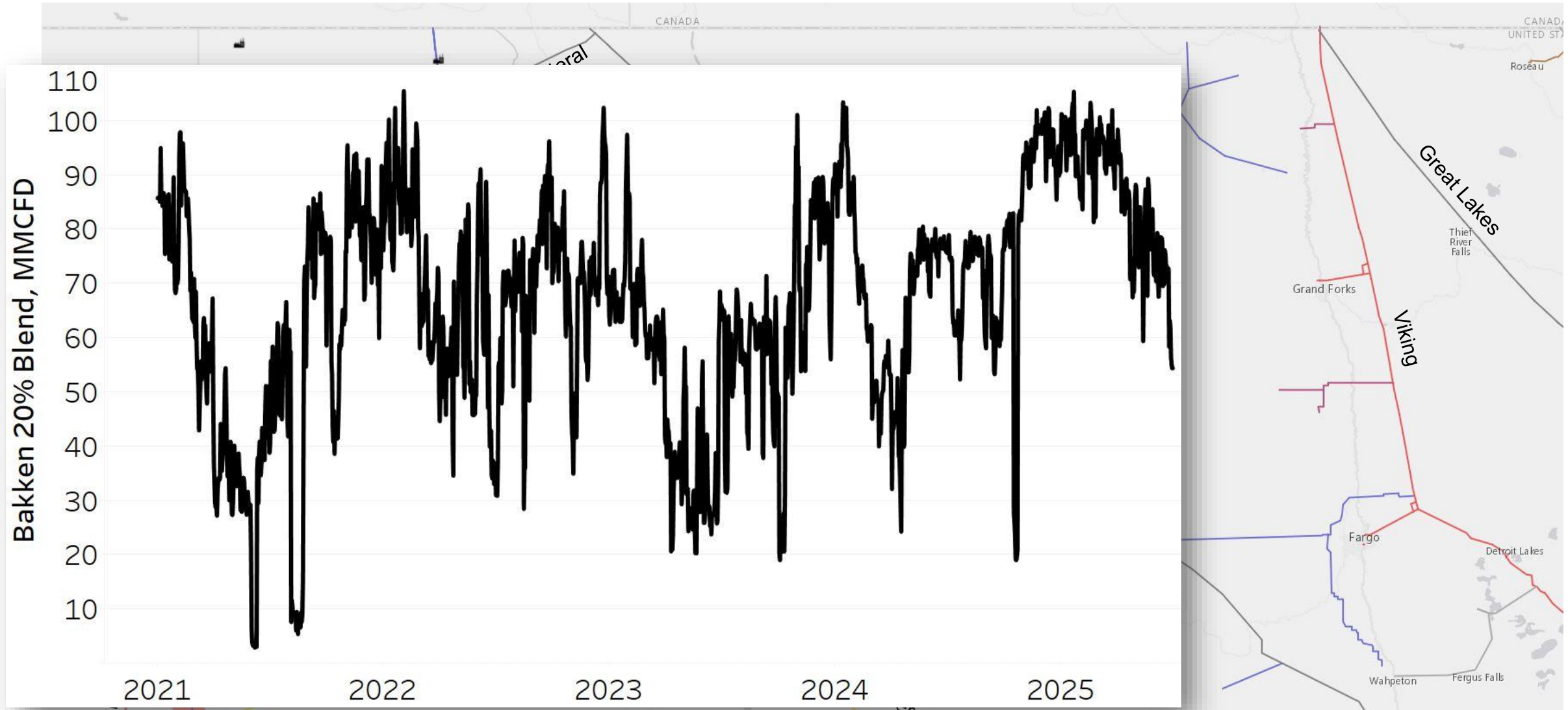


Receipt Point	Delivery Point	
Emerson	Dilworth	954
	East Grand Forks	10,350
	Fargo	44,568
	Felton (ND End Users/LDC)	25,250
	Grand Forks	20,488
	Moorhead	10,845
ANR Marshfield	Dilworth	2,451
	Fargo	50,118
	Grand Forks	22,000
	Moorhead	4,609
		0 20,000 40,000 60,000
		Daily Volume, Dth

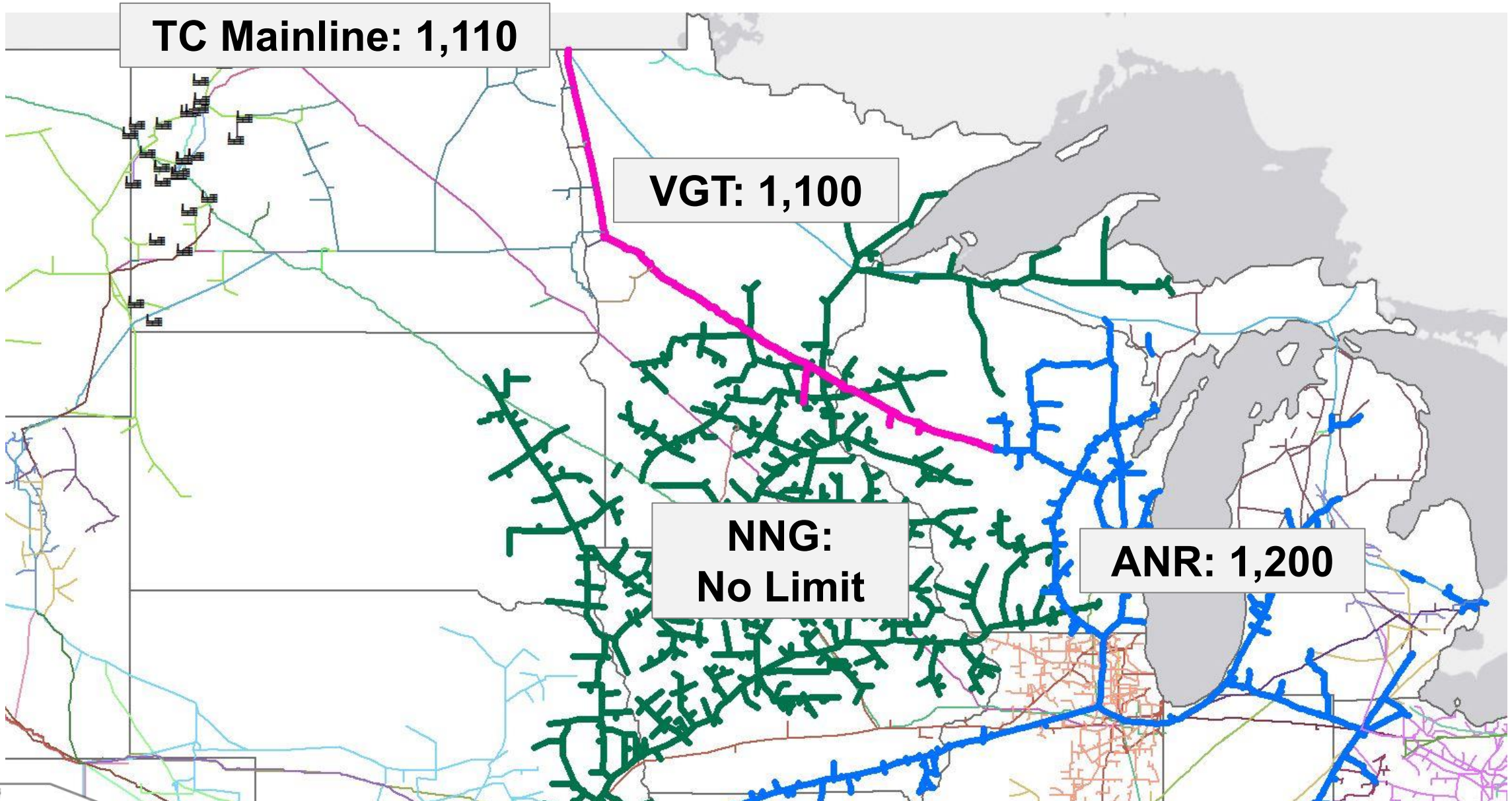
ANR



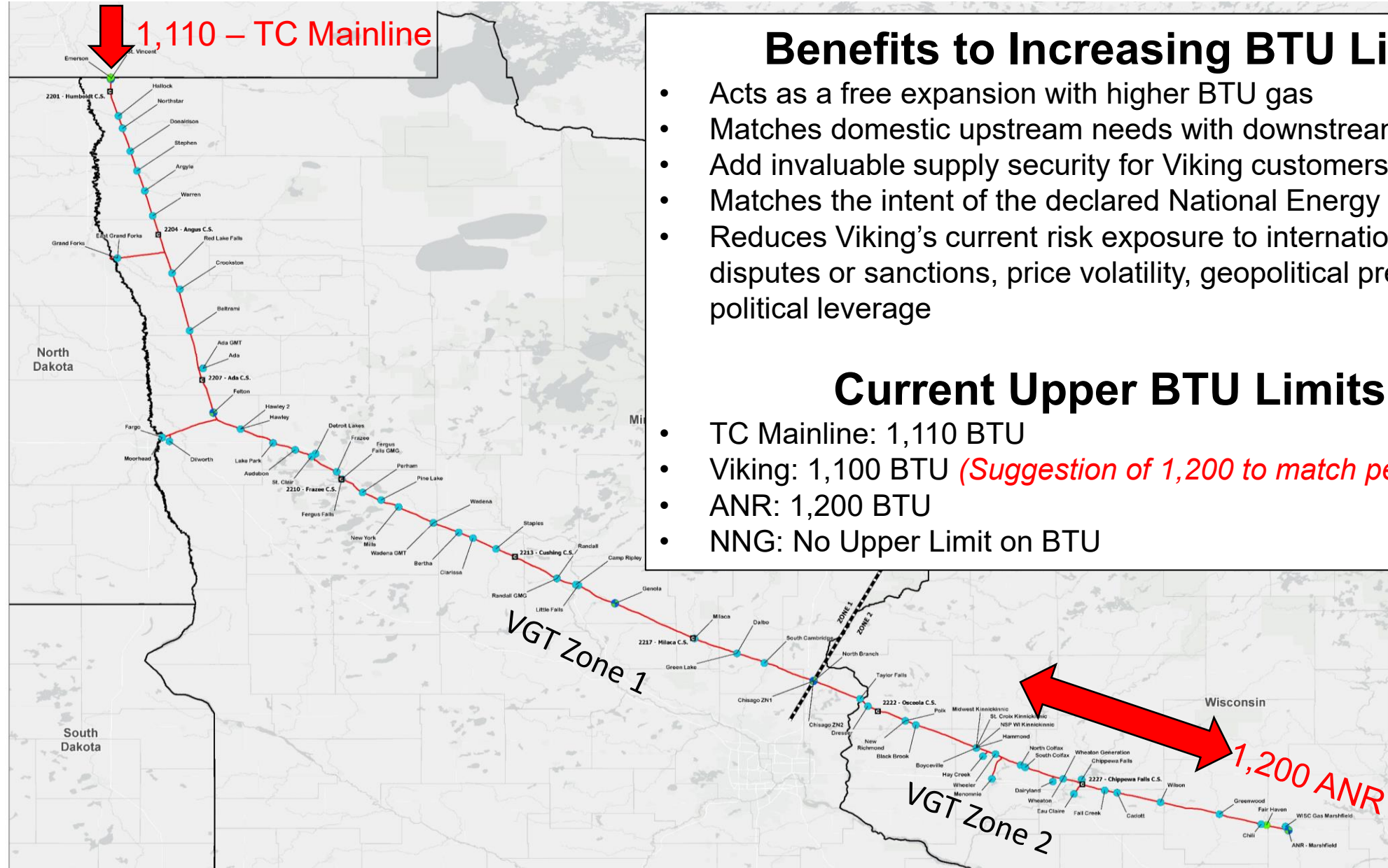
VGT Max Blending Estimates* @1,100 BTU



The Need to Modernize Viking's BTU Limit



The Need to Modernize Viking's BTU Limit



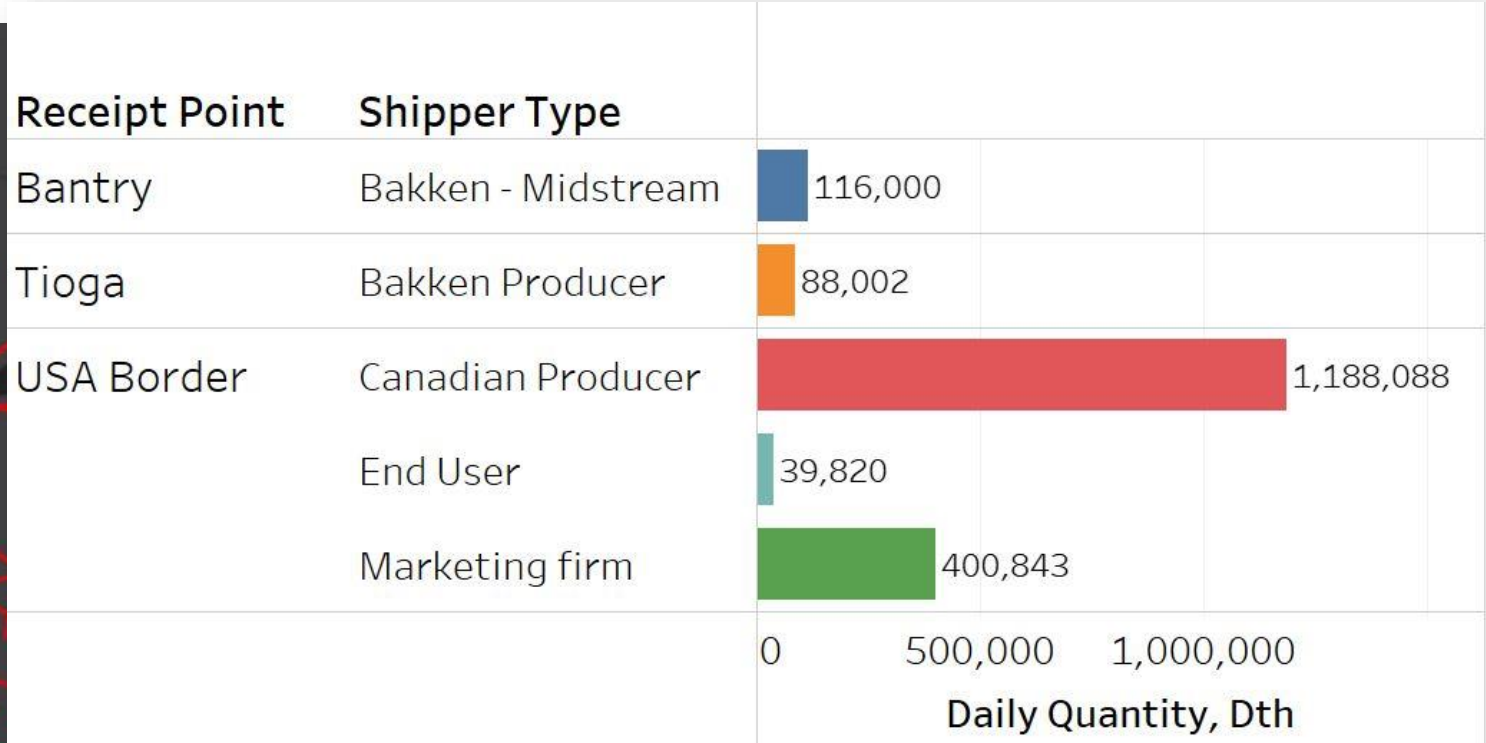
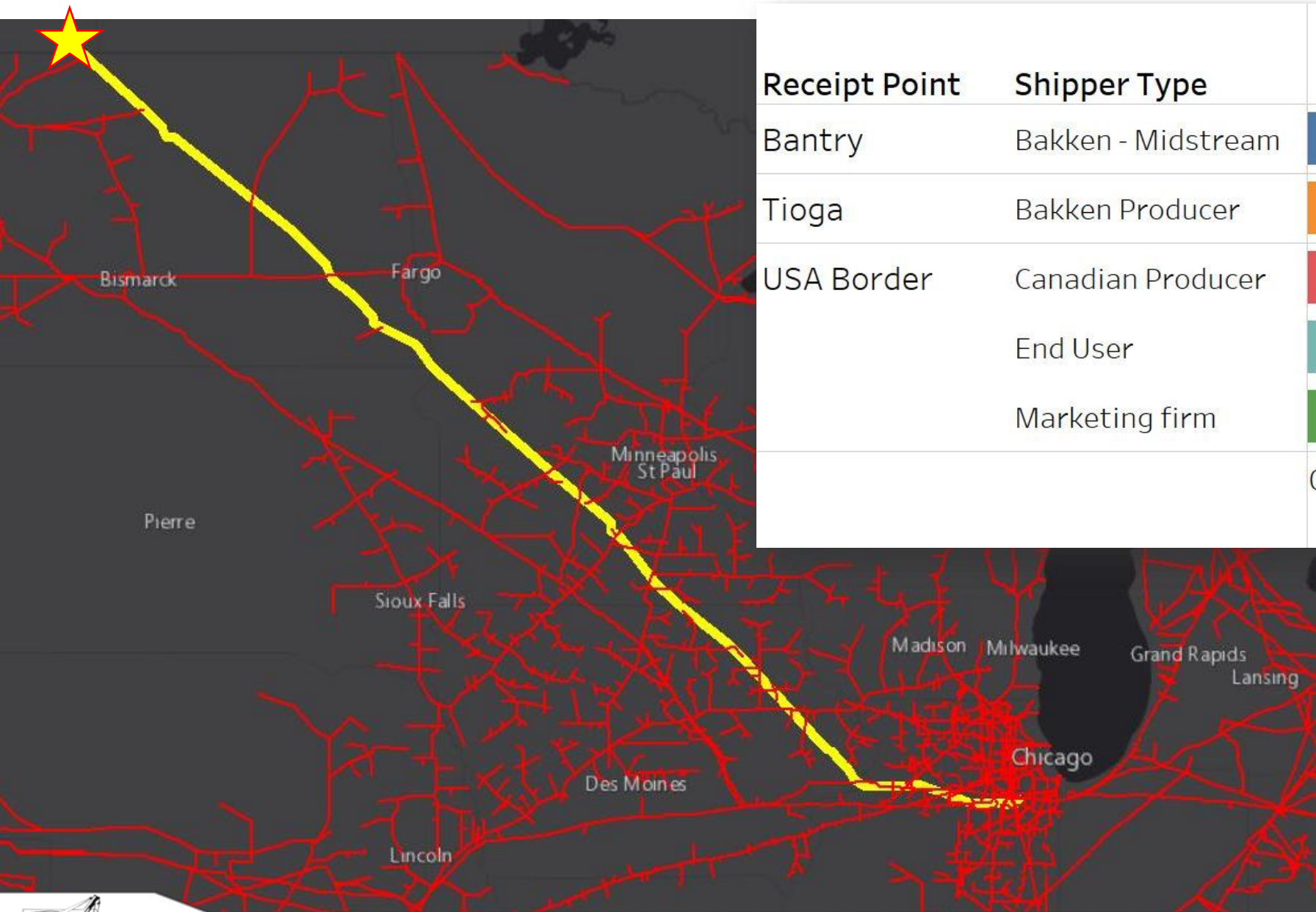
Benefits to Increasing BTU Limit

- Acts as a free expansion with higher BTU gas
- Matches domestic upstream needs with downstream BTU limits
- Add invaluable supply security for Viking customers
- Matches the intent of the declared National Energy Emergency
- Reduces Viking's current risk exposure to international trade disputes or sanctions, price volatility, geopolitical pressure and political leverage

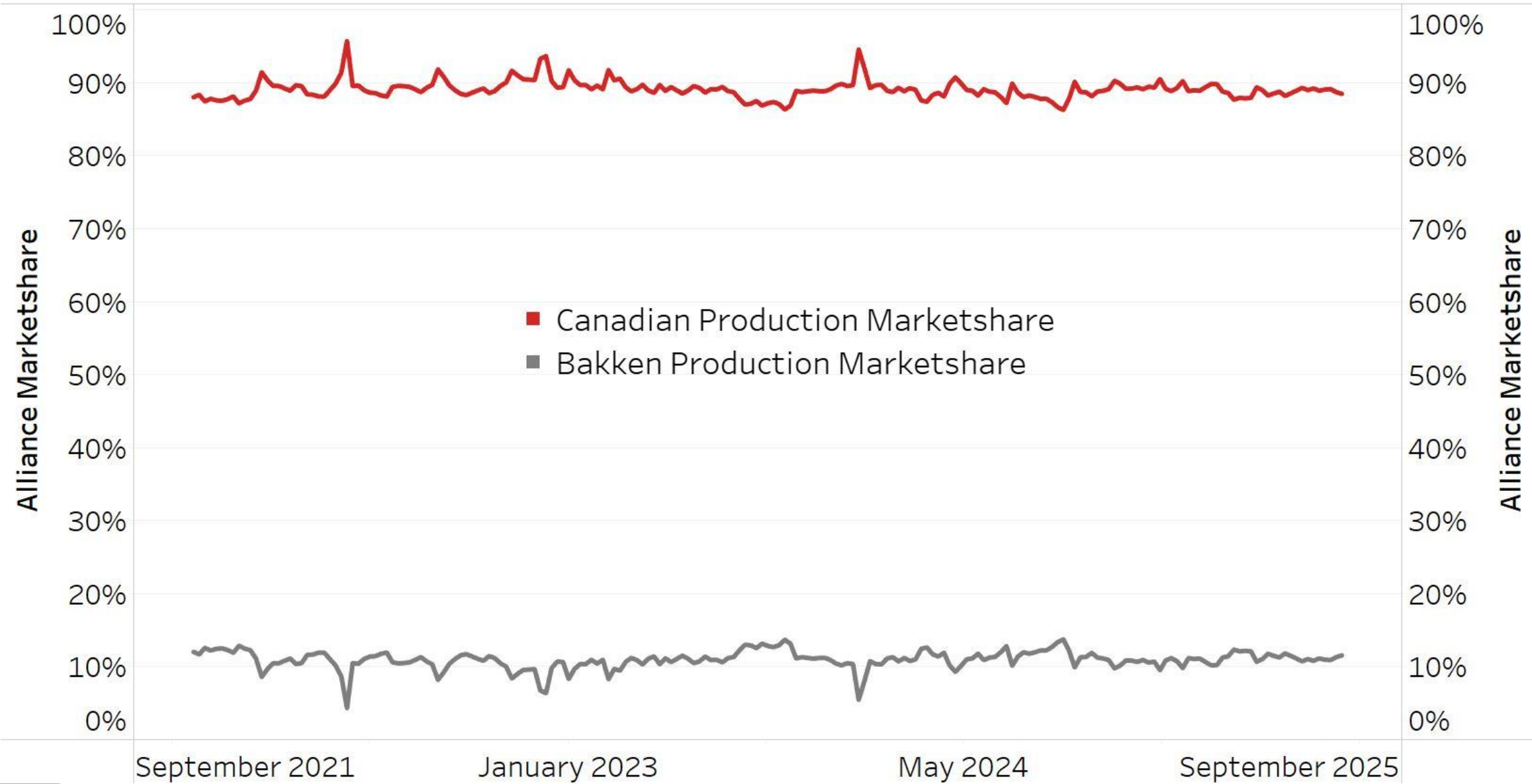
Current Upper BTU Limits

- TC Mainline: 1,110 BTU
- Viking: 1,100 BTU (*Suggestion of 1,200 to match peers*)
- ANR: 1,200 BTU
- NNG: No Upper Limit on BTU

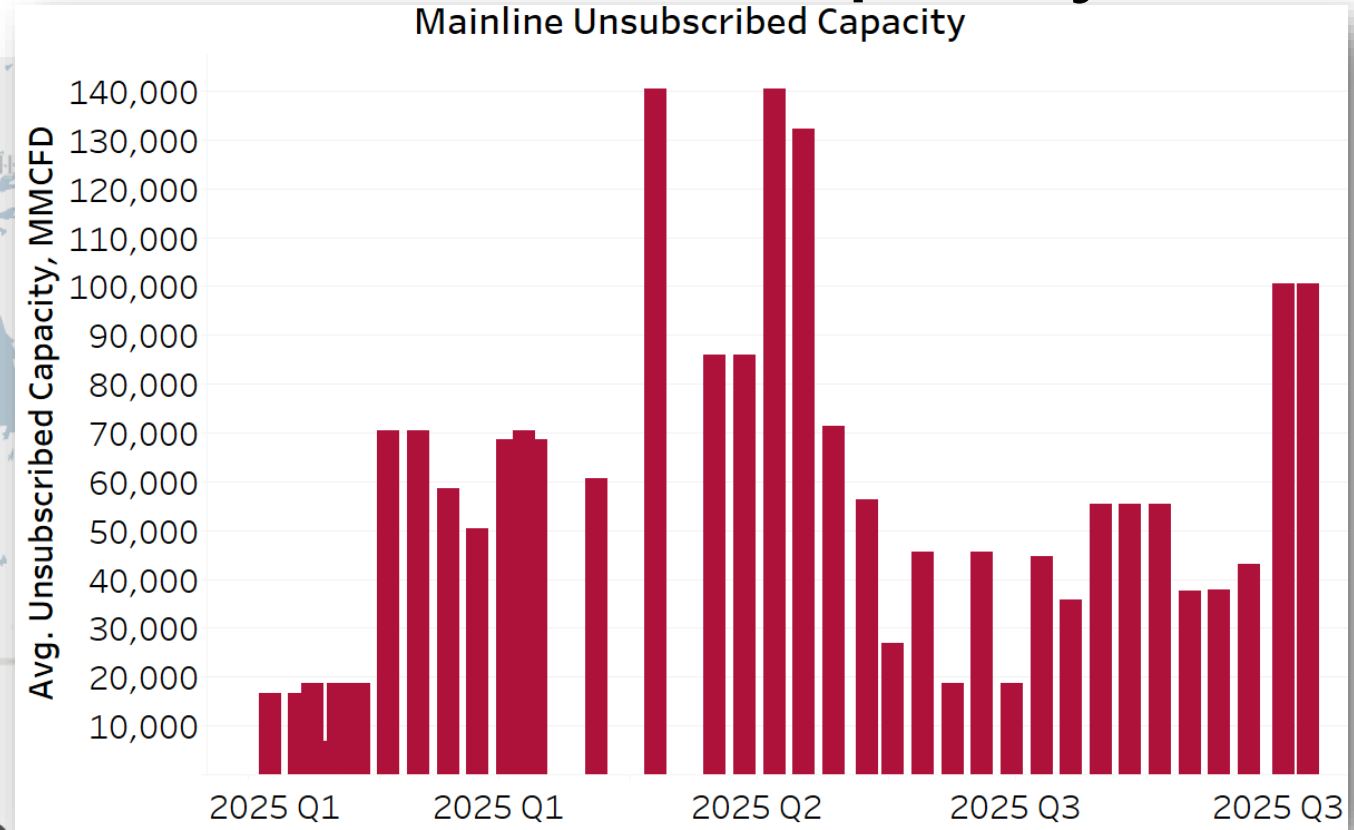
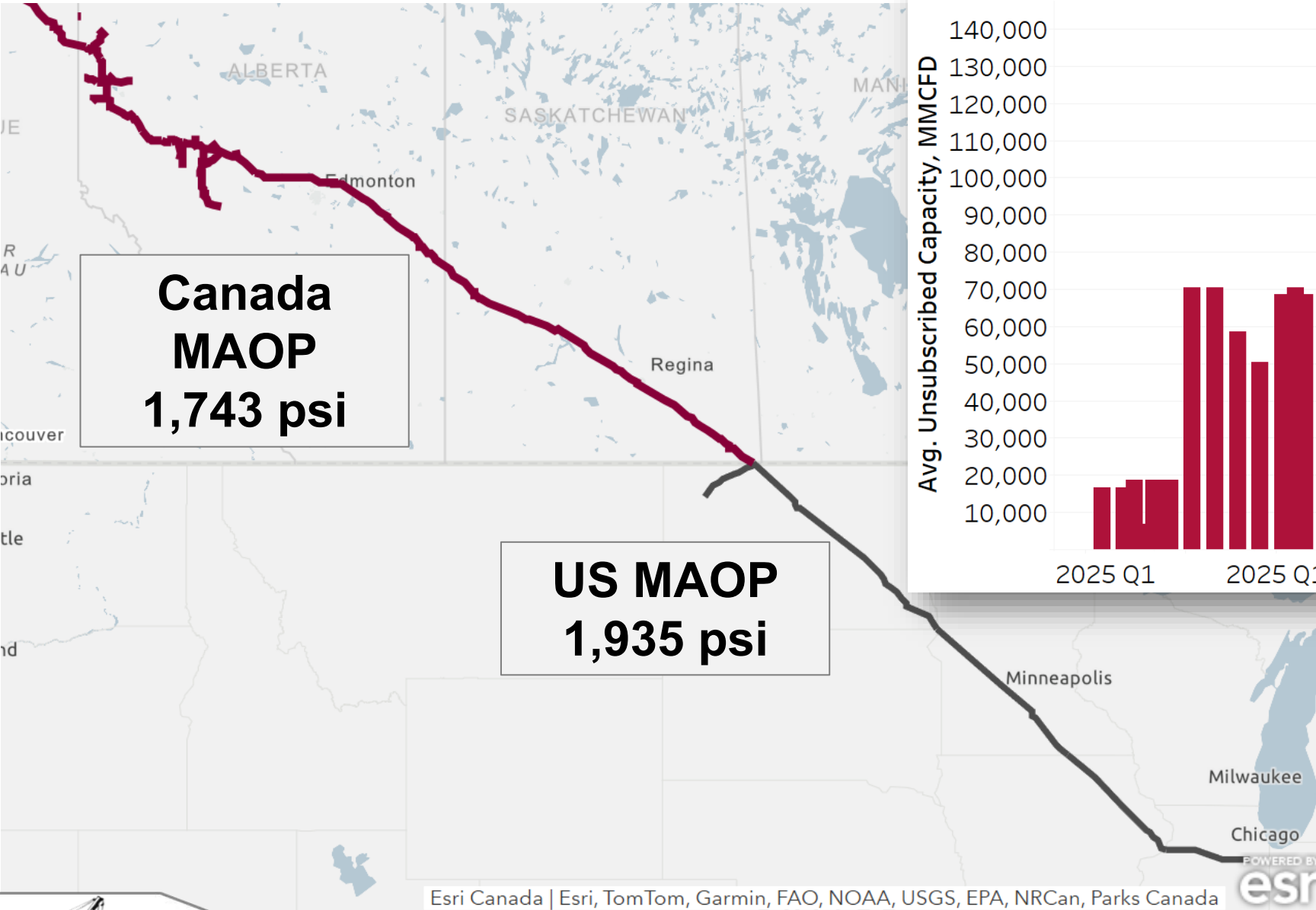
Alliance Pipeline US Shipper Mix: 2025



Alliance Pipeline Market Share: ~1.6 BCFD Capacity



Alliance US Pipeline Unsubscribed Capacity



Signing Up For Pipeline Capacity

Shippers Types



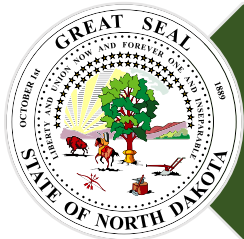
Producers/Midstream



Marketing Firms



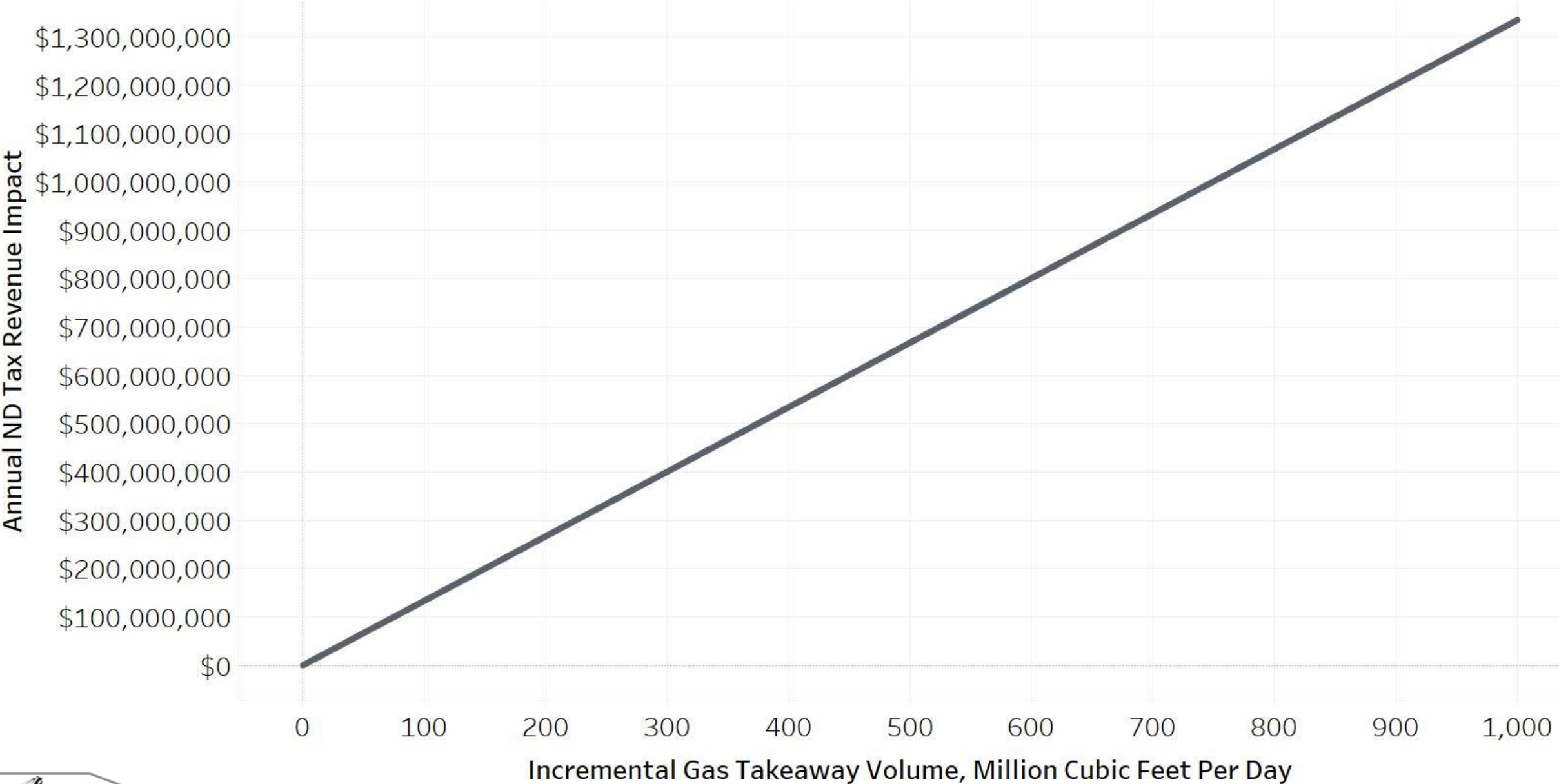
Industrial Consumers/LDC



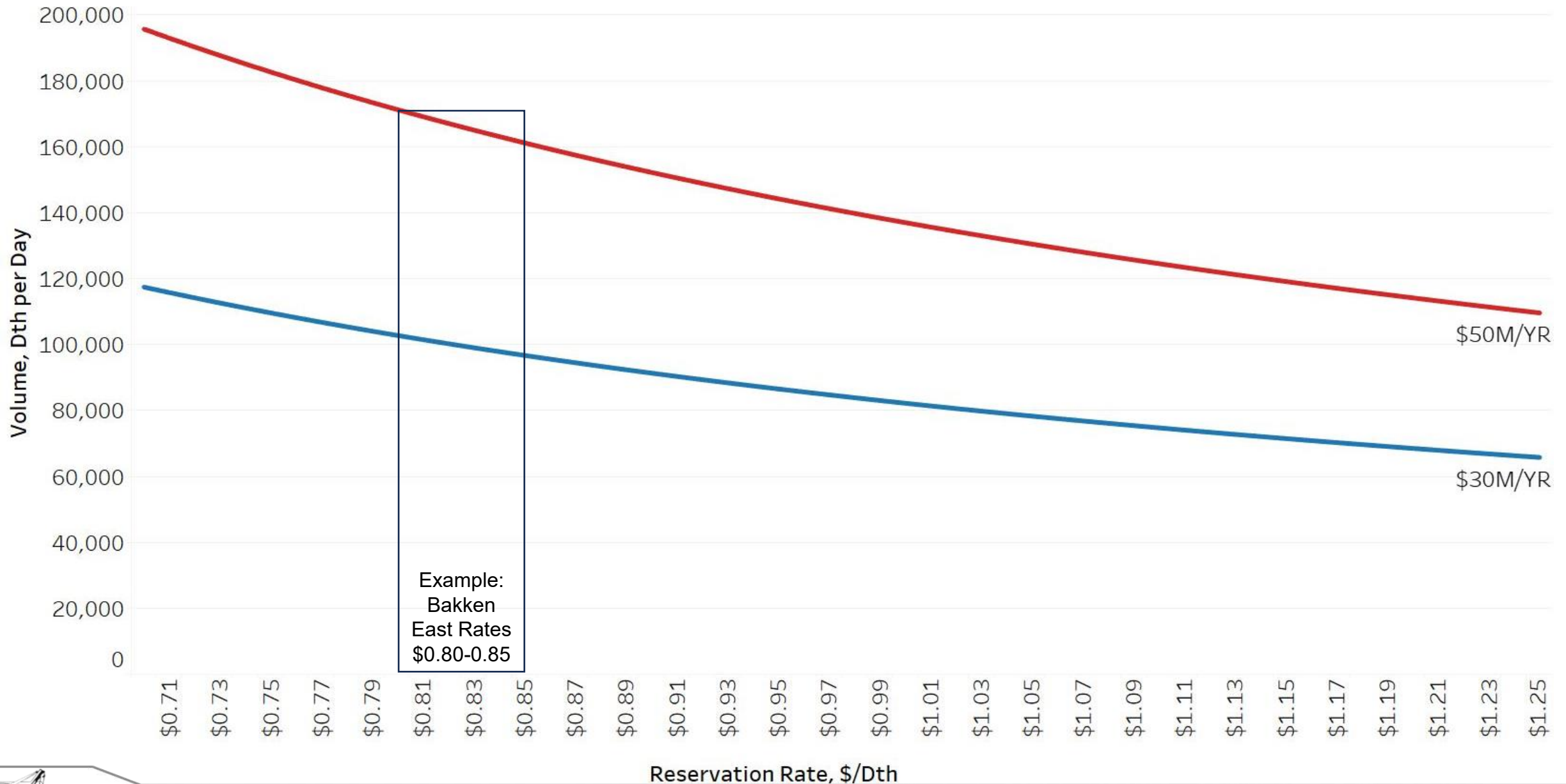
State of North Dakota (PA/IC)



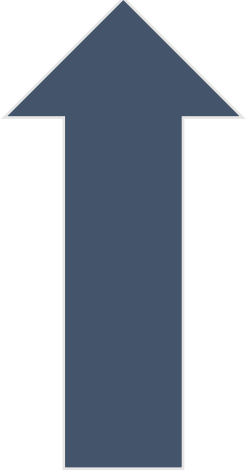
ND Tax Impact of Incremental Gas Capacity



Capacity and Reservation Rate



How Will NDPA Manage Contracted Capacity?



Most
Desirable

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



Least
Desirable



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

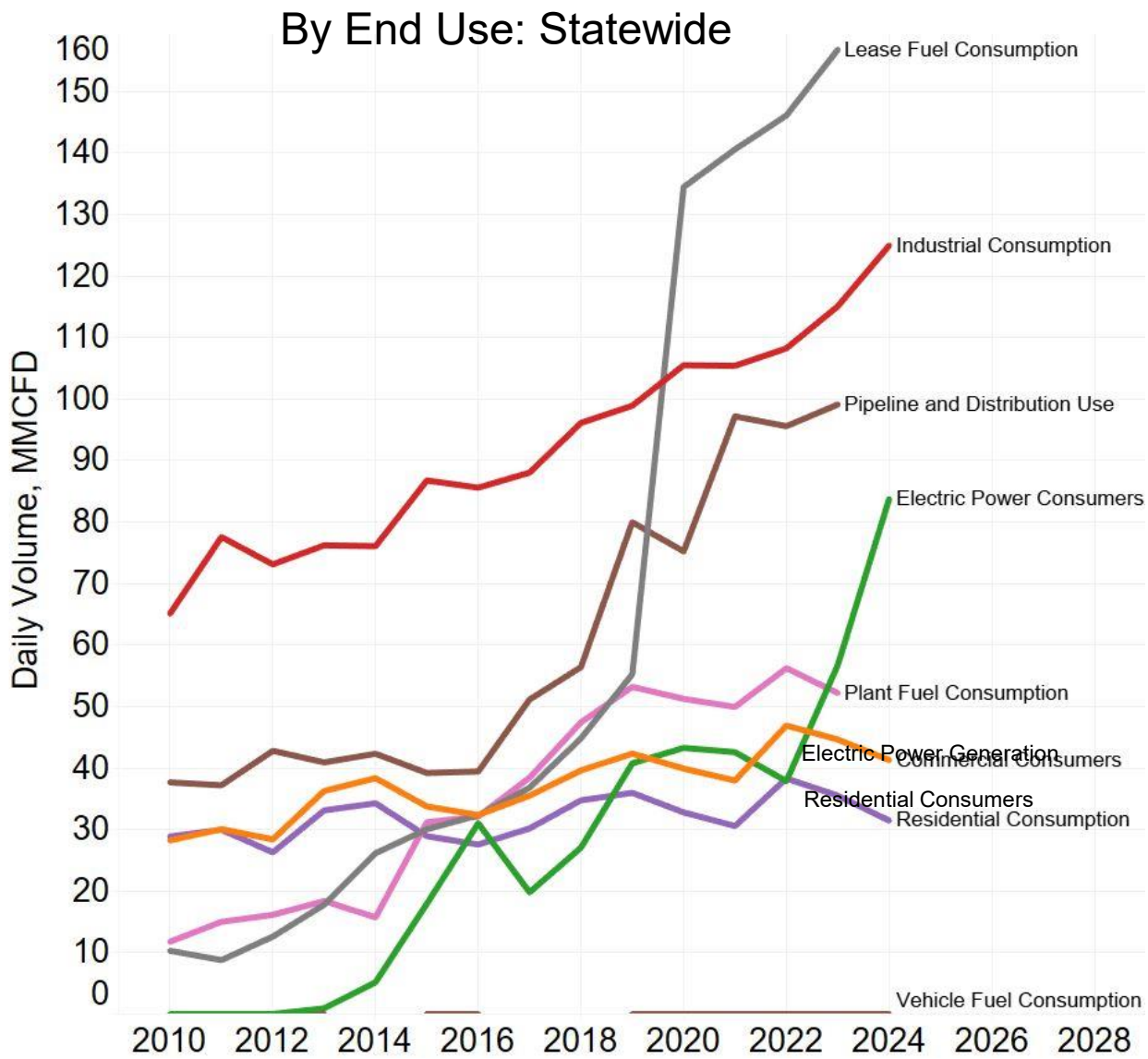
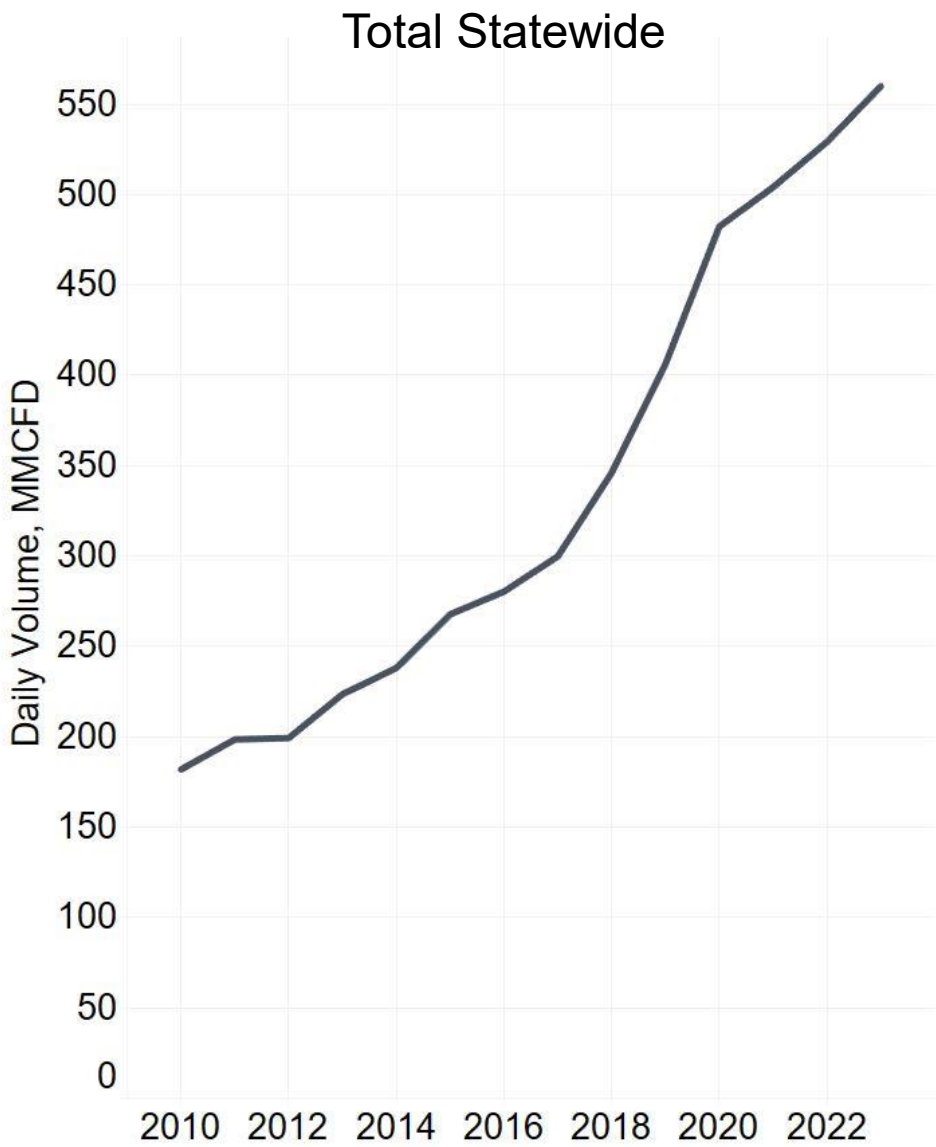
- Intra Region Gas Demand Expansion

Contraction

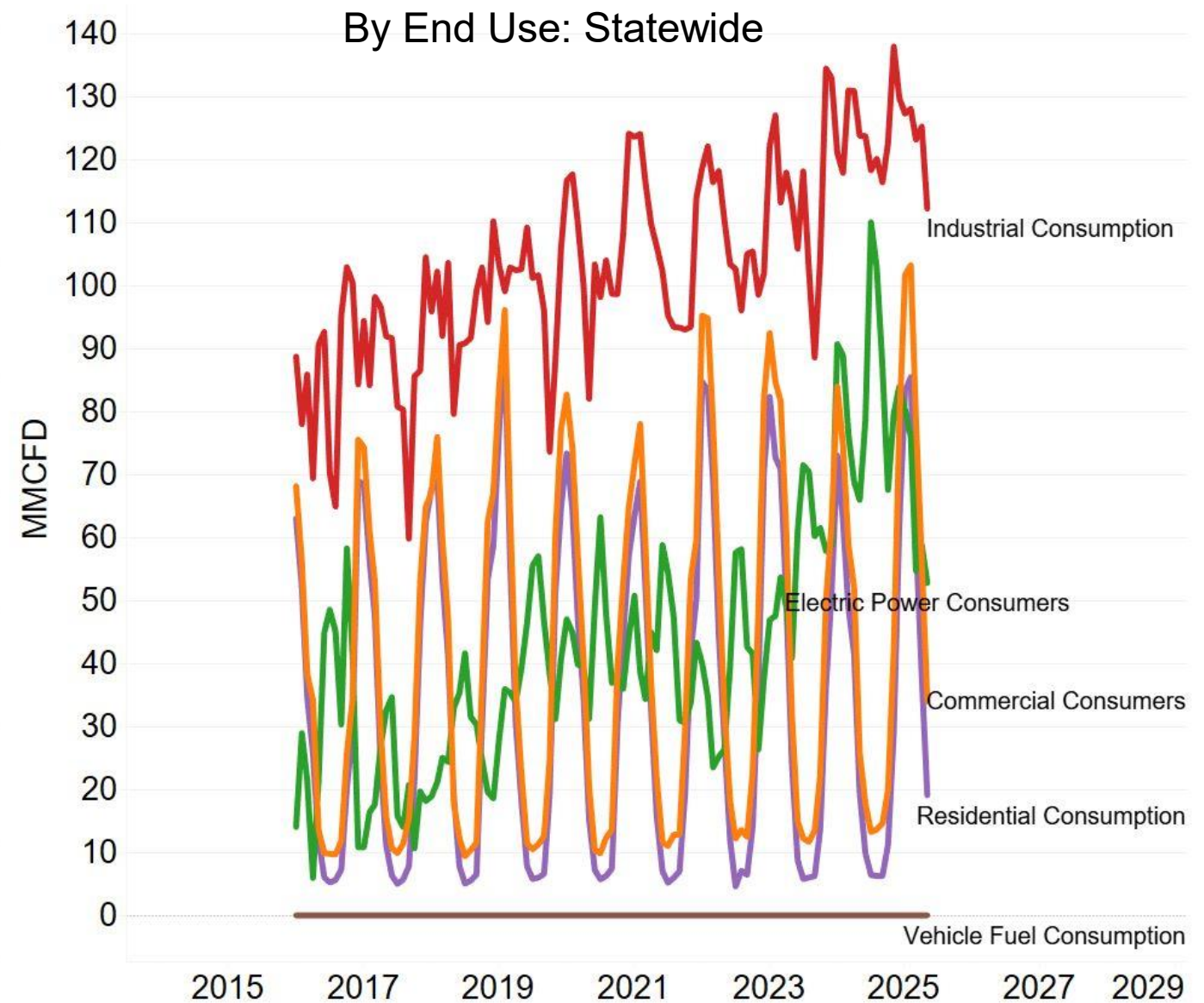
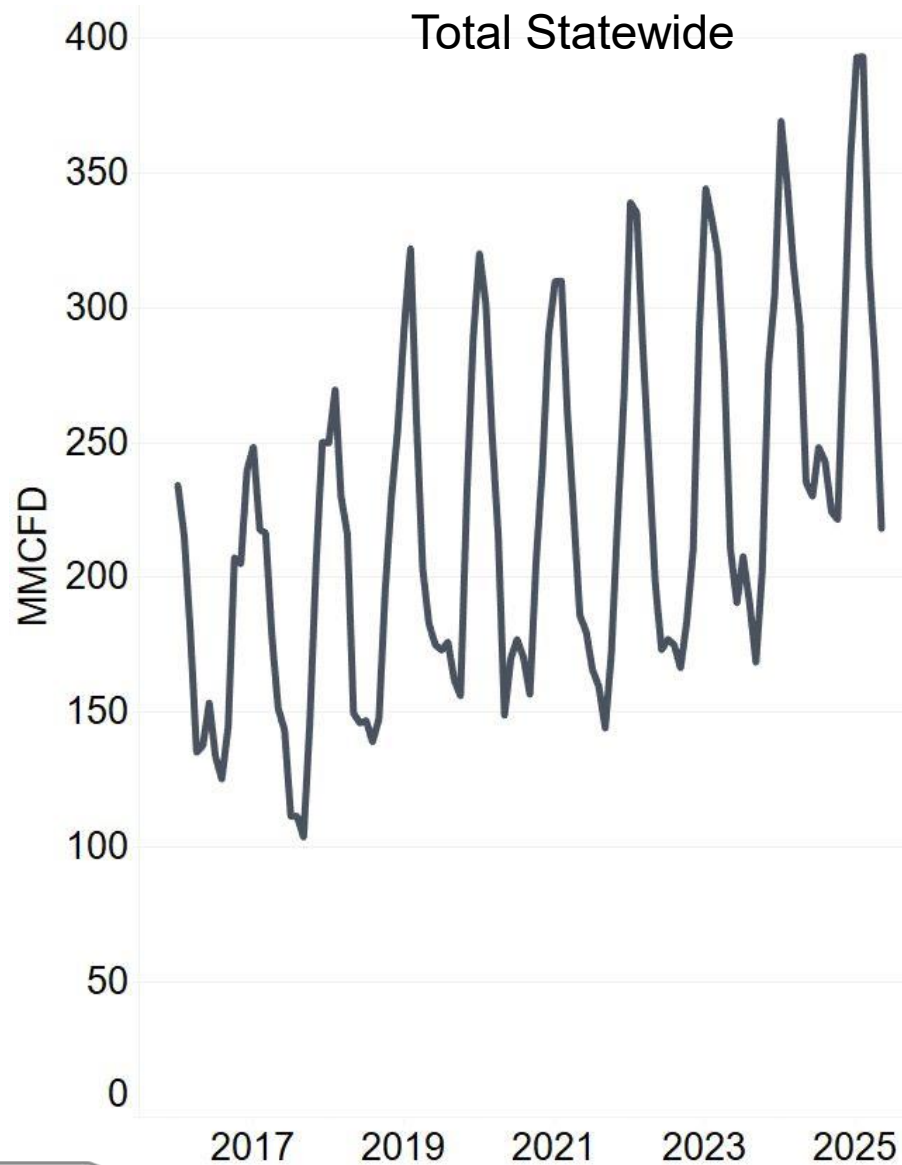
- Reduce E&P Activity to Meet Limited Gas Options



North Dakota Gas Consumption (Annual)



Non-Midstream Consumption (Monthly)



Regional Gas Demand Outlook Changing Rapidly

AI Agenda

Two AI Developers Are Plotting \$125 Billion Supercomputers



Photo via Adobe Stock

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

North Dakota green lights natural gas power plant

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



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

Natural gas conversion project near Williston also includes carbon capture

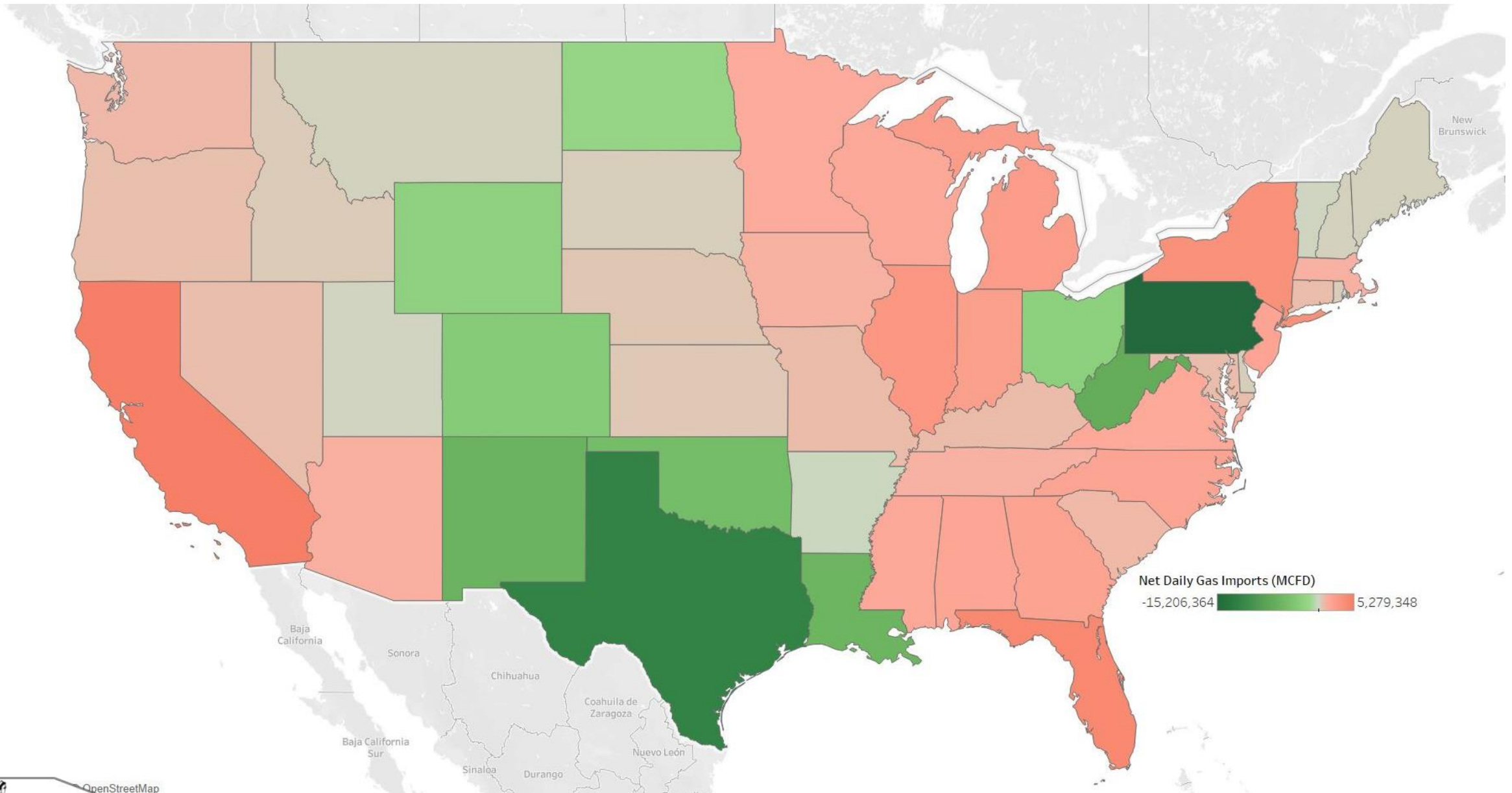
By JEFF BEACH - JUNE 17, 2024 9:00 AM



North Dakota Monitor



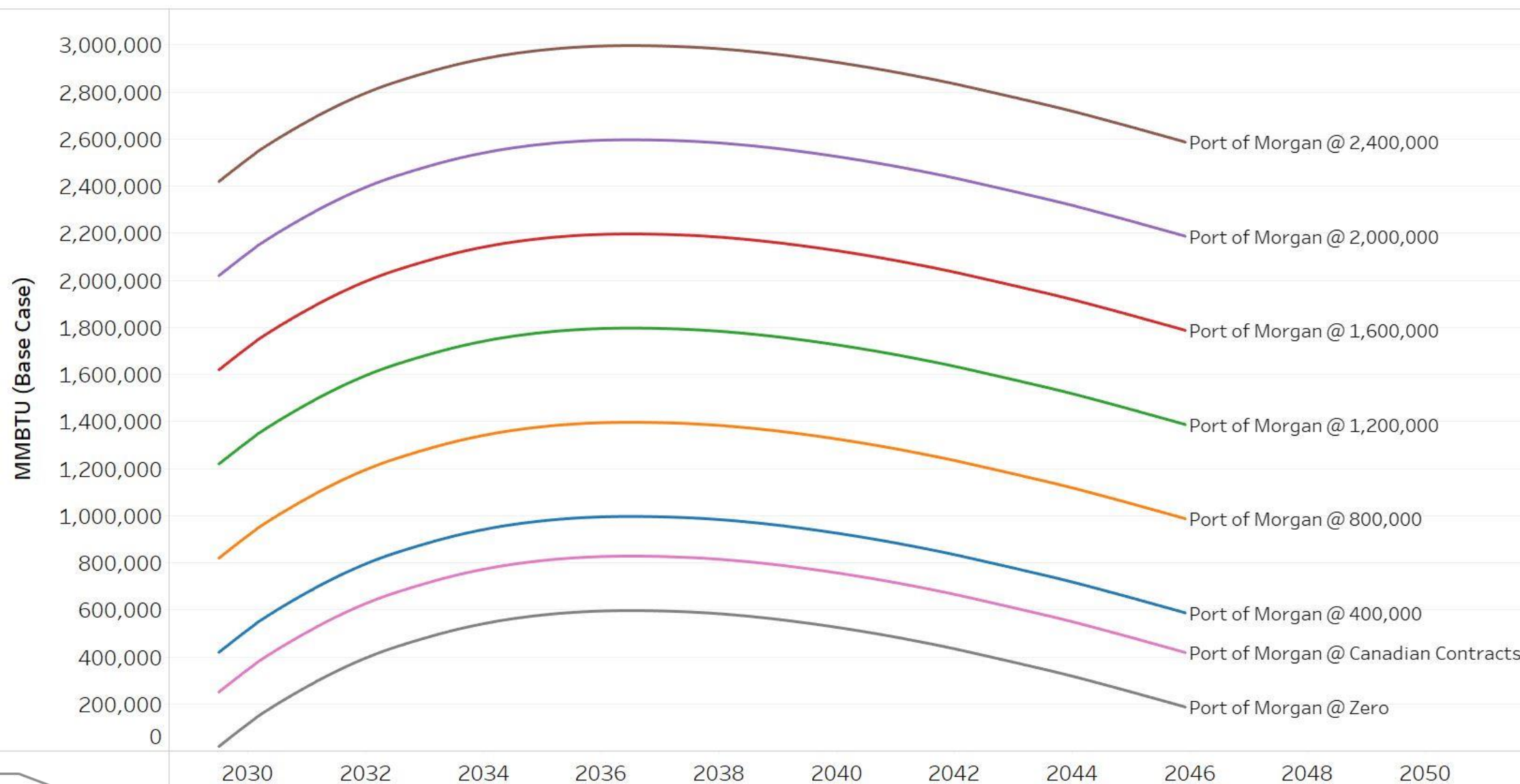
Natural Gas Production/Consumption



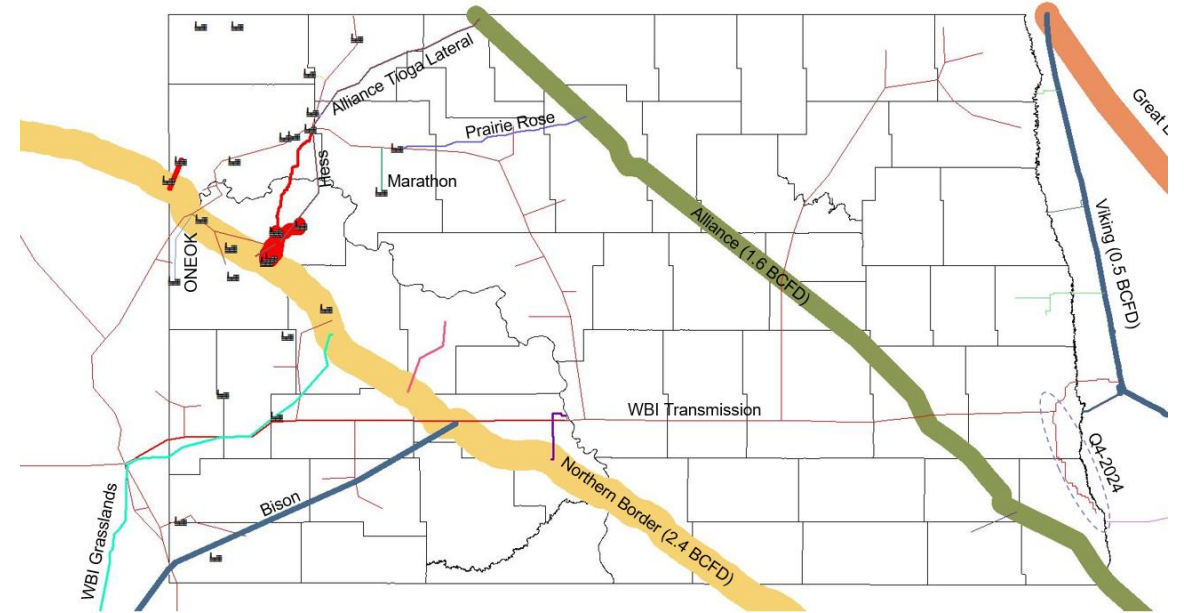
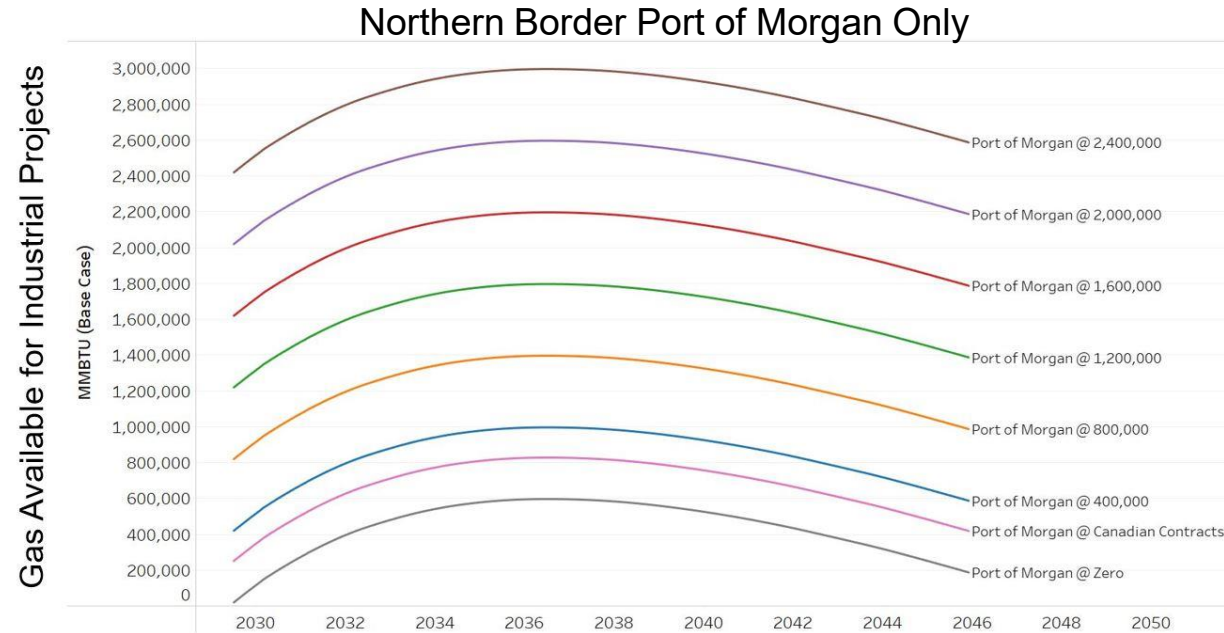
Harnessing Gas for a New Era of Industrial Expansion

Exploring Northern Border Port of Morgan Flows Combined With Bakken Growth

Gas Available for Industrial Projects



Regional Gas Availability: Reimagining What's Possible

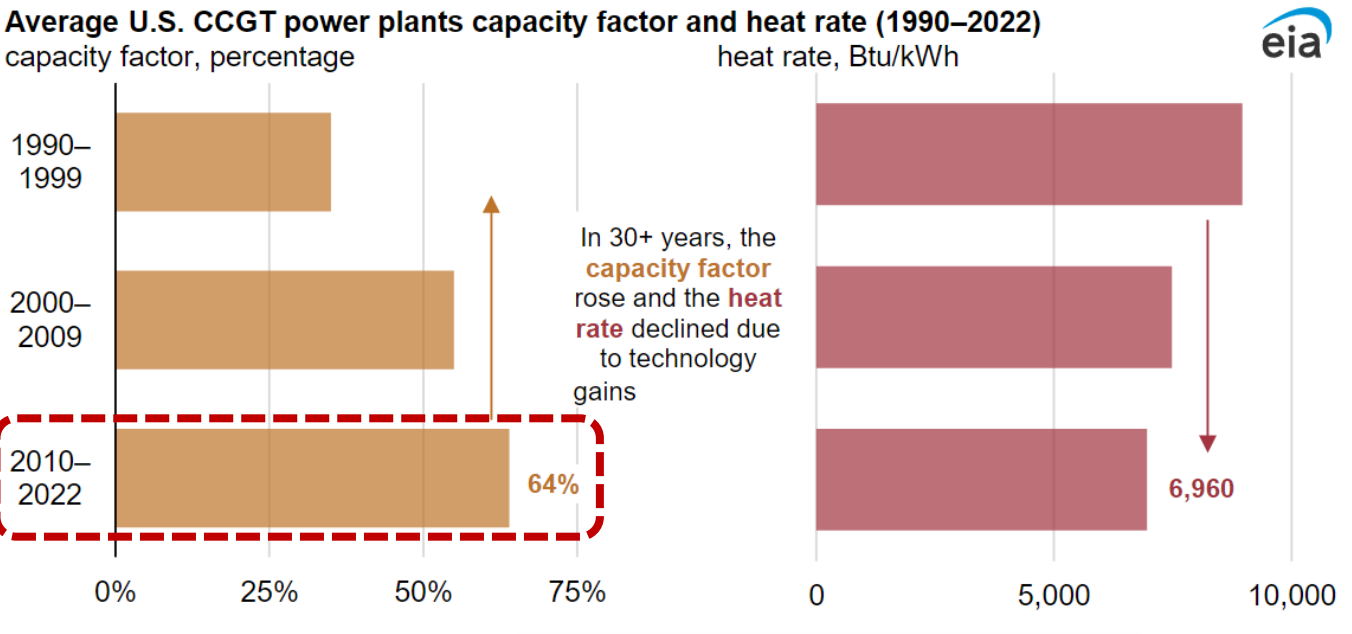


Other Theoretically Possible Scenarios W/Out Any New Pipe

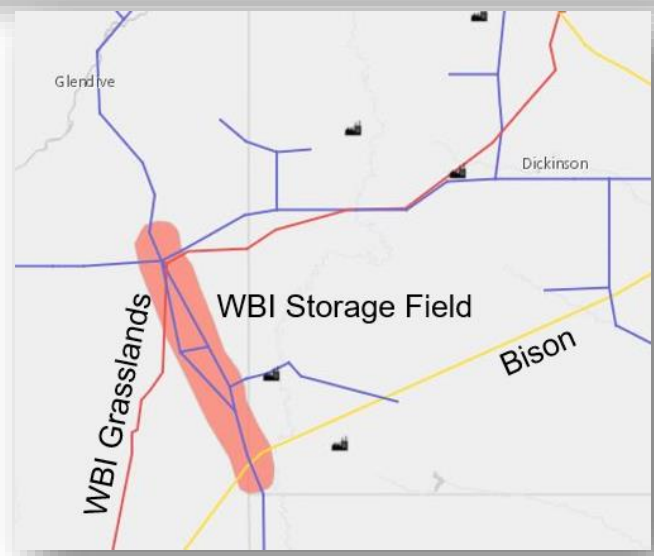
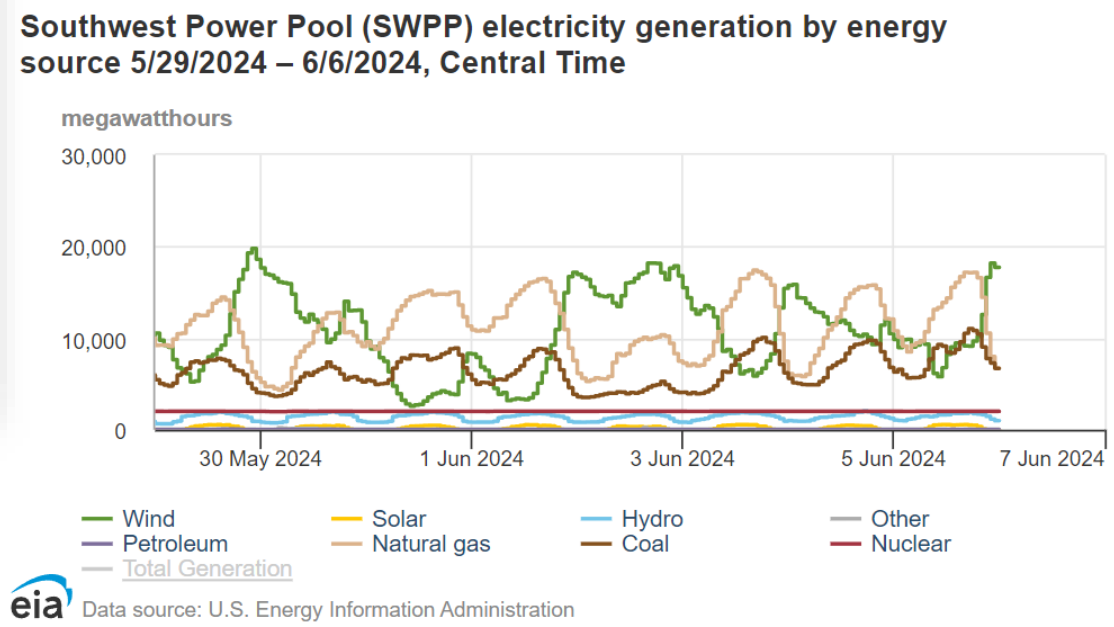
- Bison (re)Reversal: Net 800,000-1,300,000 MMBTU
- Grasslands (re)Reversal: Net 180,000 MMBTU
- Reduced Northern Border Flows Exit North Dakota
- New/Increased Alliance and/or Viking Receipts
- CIG/Elk Basin Movements East to North Dakota



Intermittent Gas-Fired Generation Challenging to Match Oilfield Output



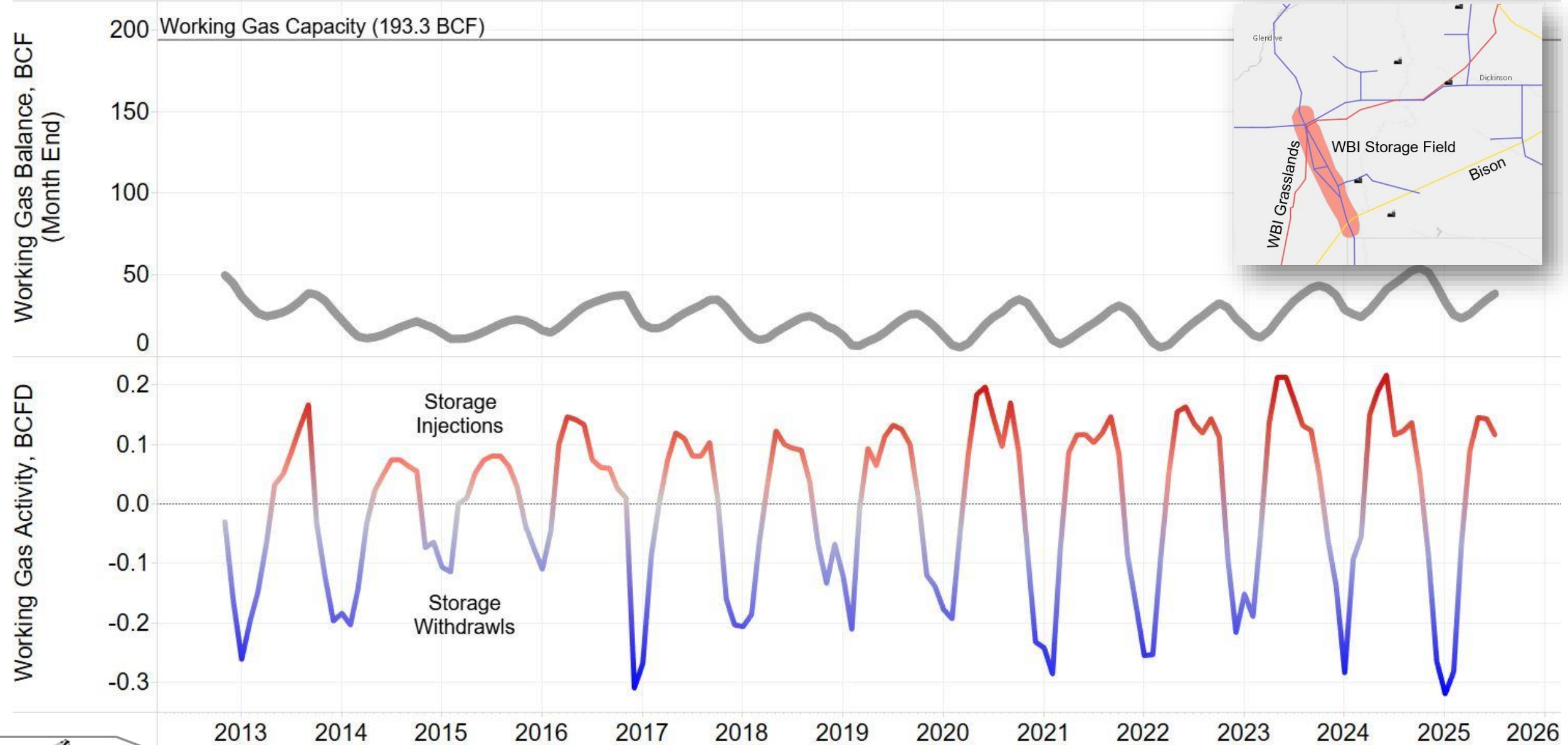
Gas-fired demand can fluctuate hourly, daily, and weekly, depending on system load, weather, etc.



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



Residue Gas Storage – WBI Energy*



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

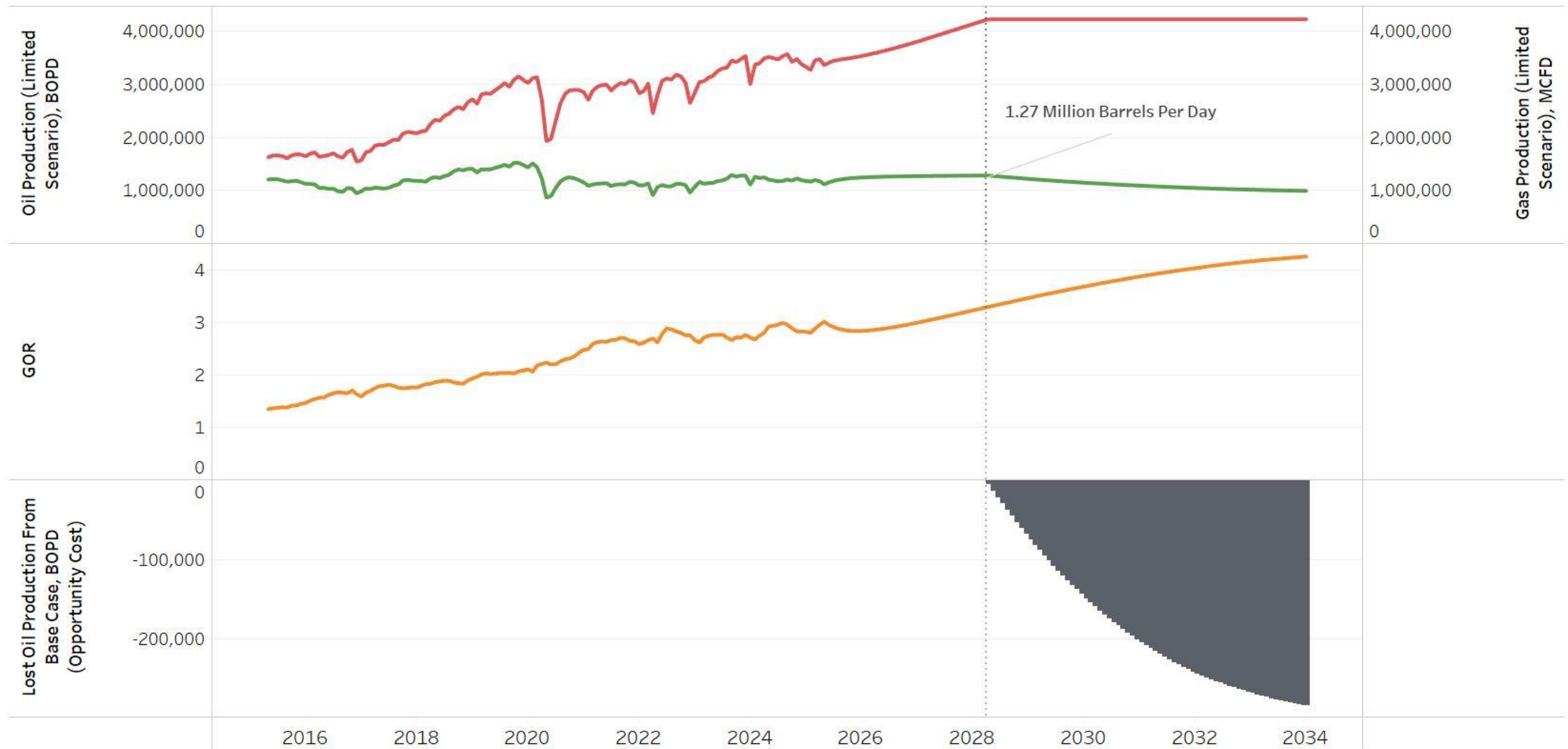
- Intra Region Gas Demand Expansion

Contraction

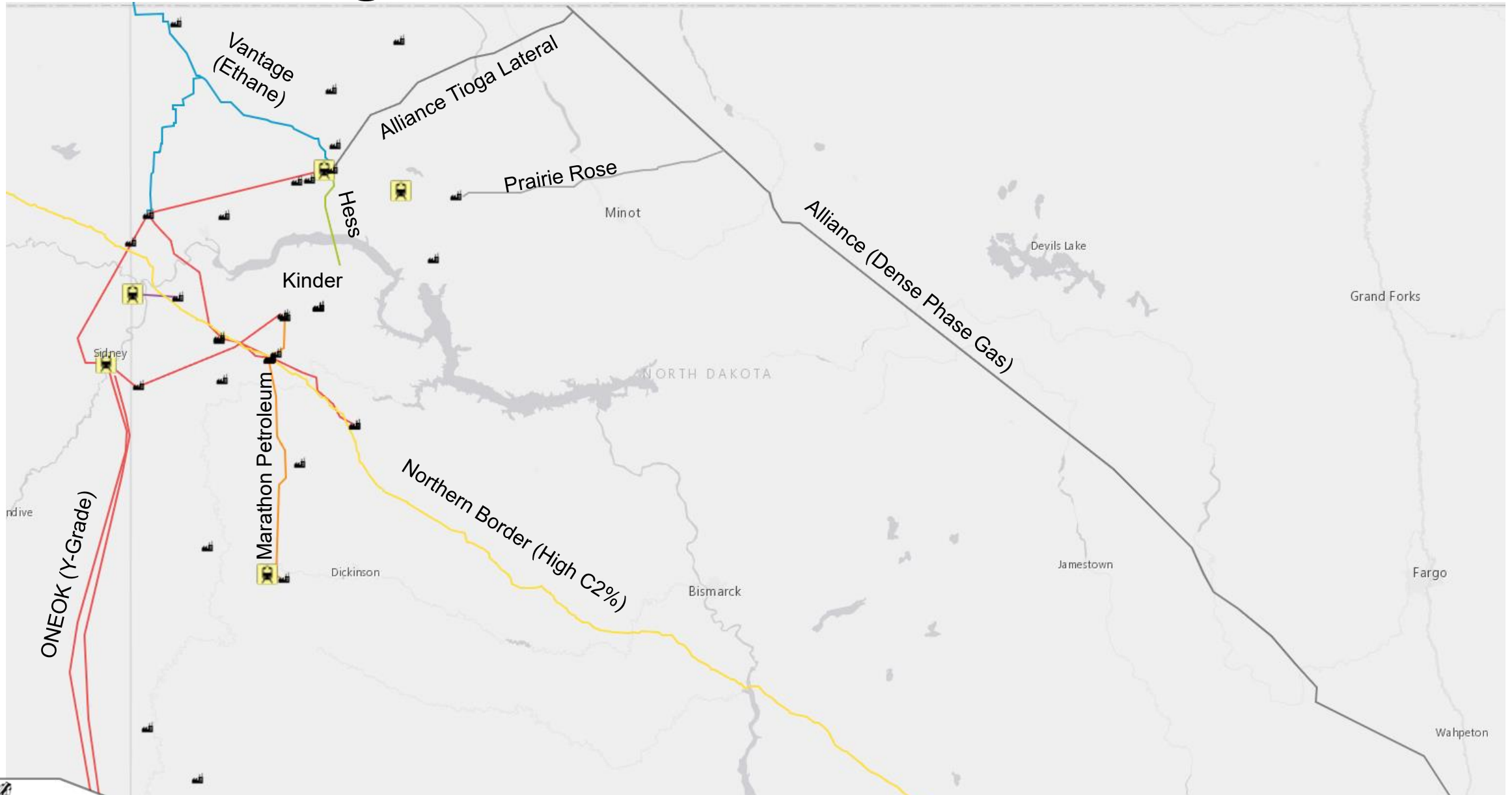
- Reduce E&P Activity to Meet Limited Gas Options



Gas Limitations Could Force Oil Production Down As GOR Rises

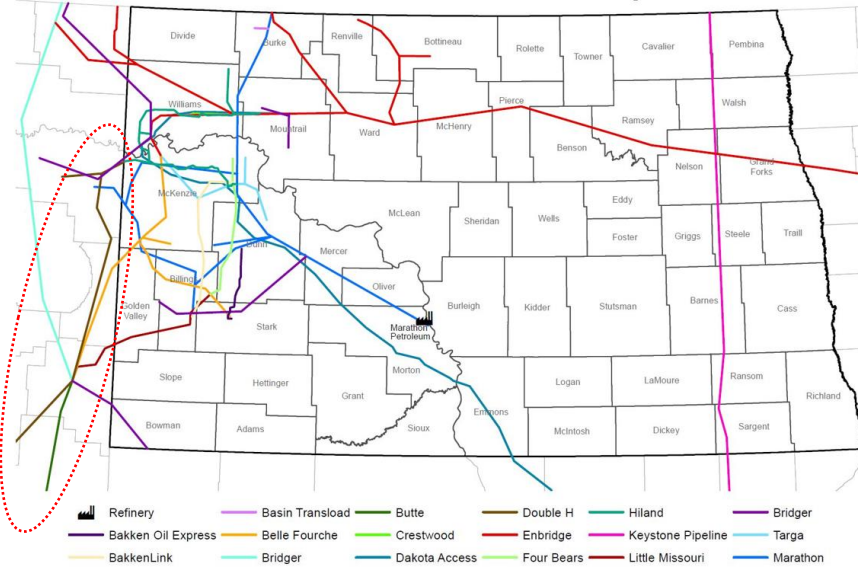


Regional NGL Infrastructure

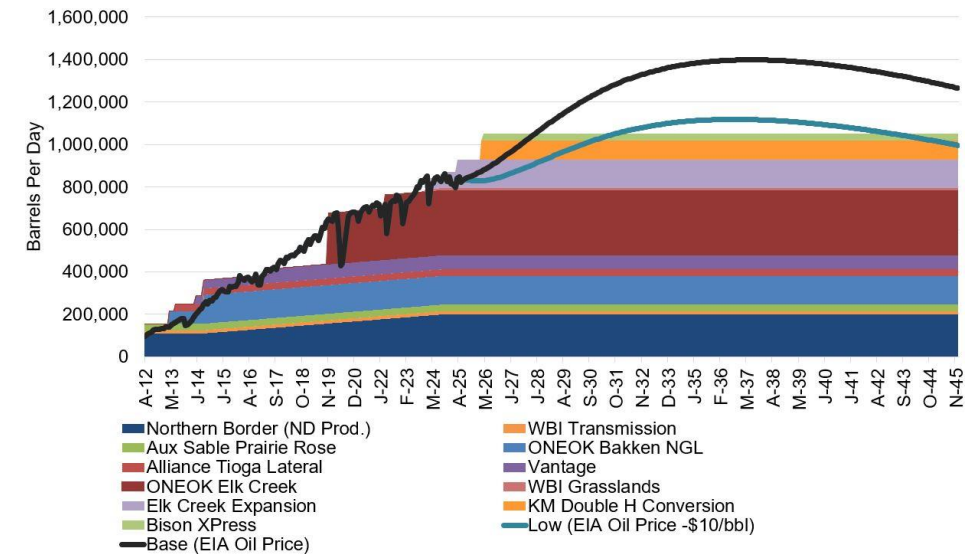
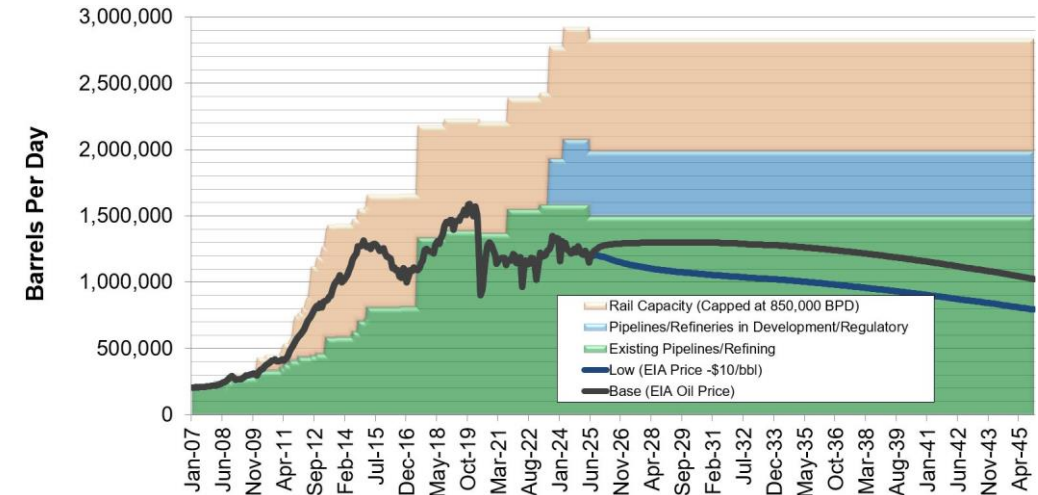
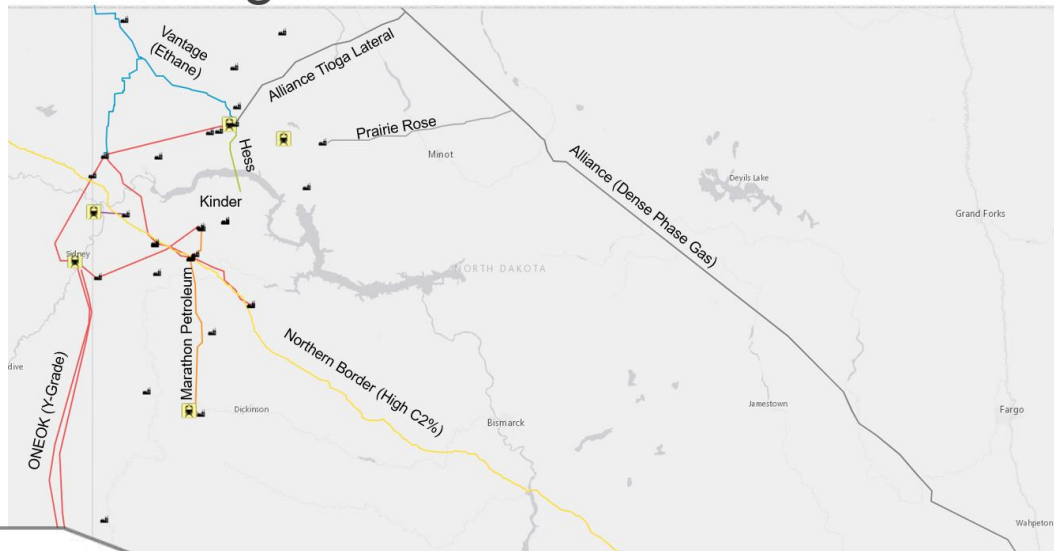


Kinder Morgan Double H Pipeline Conversion

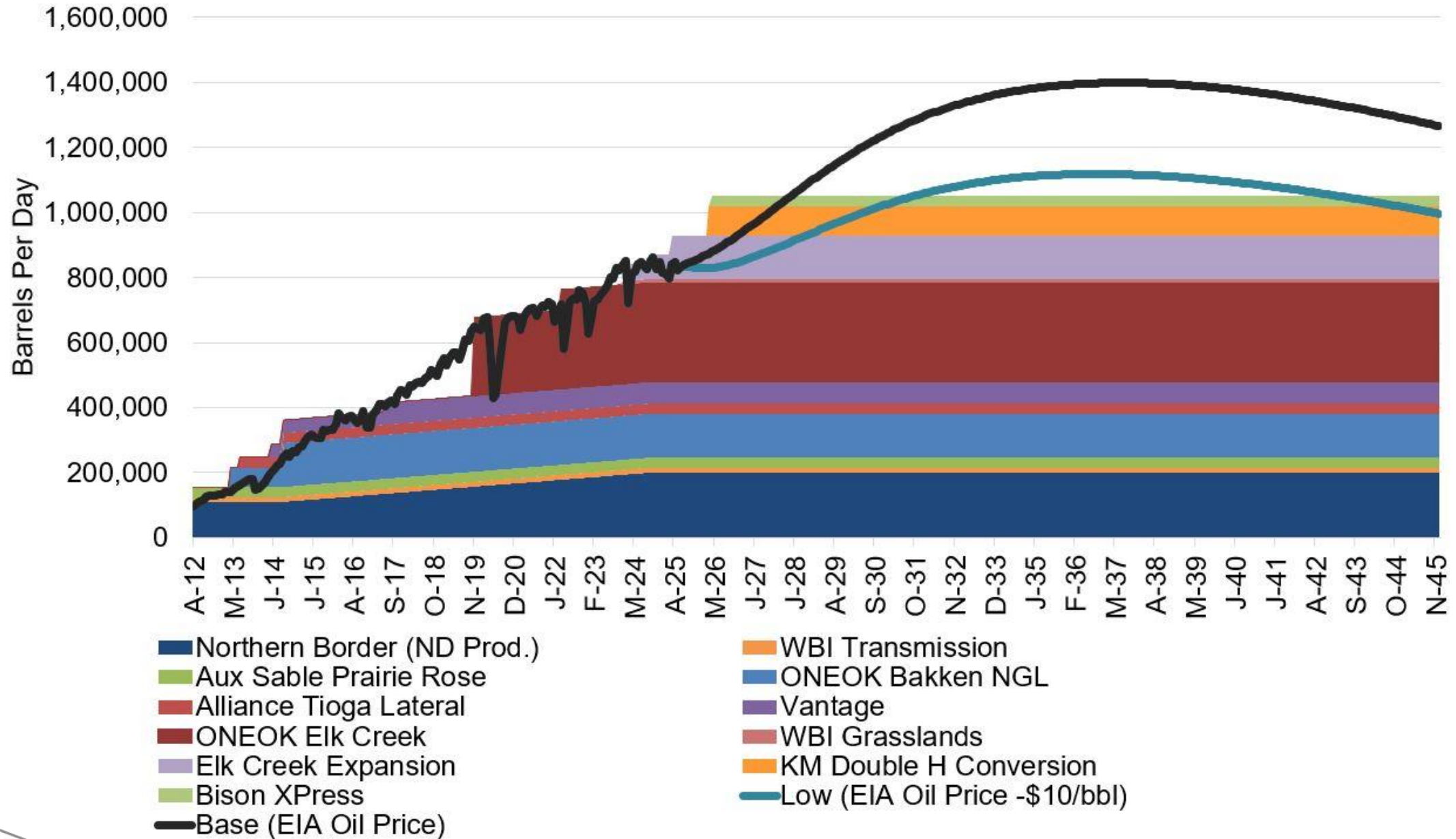
North Dakota Oil Transmission Pipelines



Regional NGL Infrastructure



NGL Transport Needs* – With New Cheyenne Pipes



Contact Information

Justin J. Kringstad, Director
North Dakota Pipeline Authority

600 E. Boulevard Ave. Dept. 405
Bismarck, ND 58505-0840

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



**Know what's below.
Call before you dig.**

Website:

www.northdakotapipelines.com

