

# SB 2014

## *Natural Gas Infrastructure Overview*

**Justin J. Kringstad**  
*Geological Engineer*  
*Director*  
*North Dakota Pipeline Authority*



March 12, 2025

## A Complete Natural Gas Solution



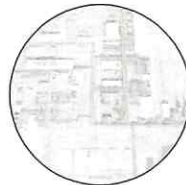
### Production

- Technology
- Markets
- Forecasting



### Gathering

- Capacity
- Connections
- Compression



### Processing

- Capacity
- Location
- Configuration

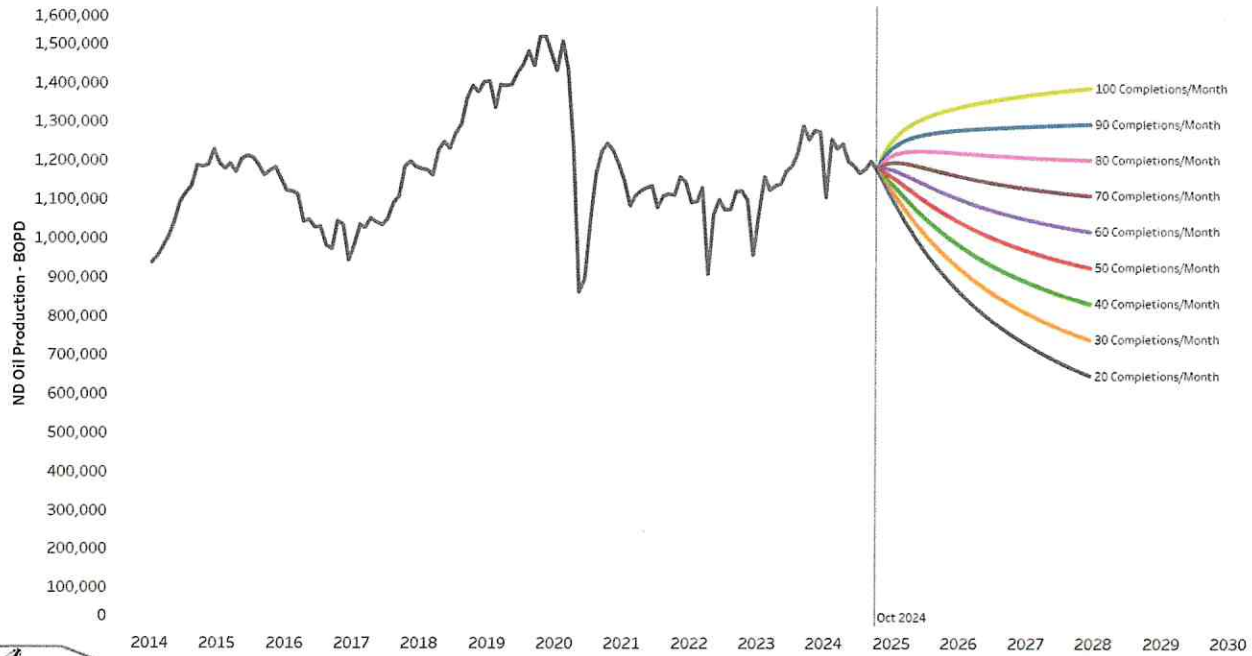


### Transmission

- Dry Gas
- Natural Gas Liquids
- Storage



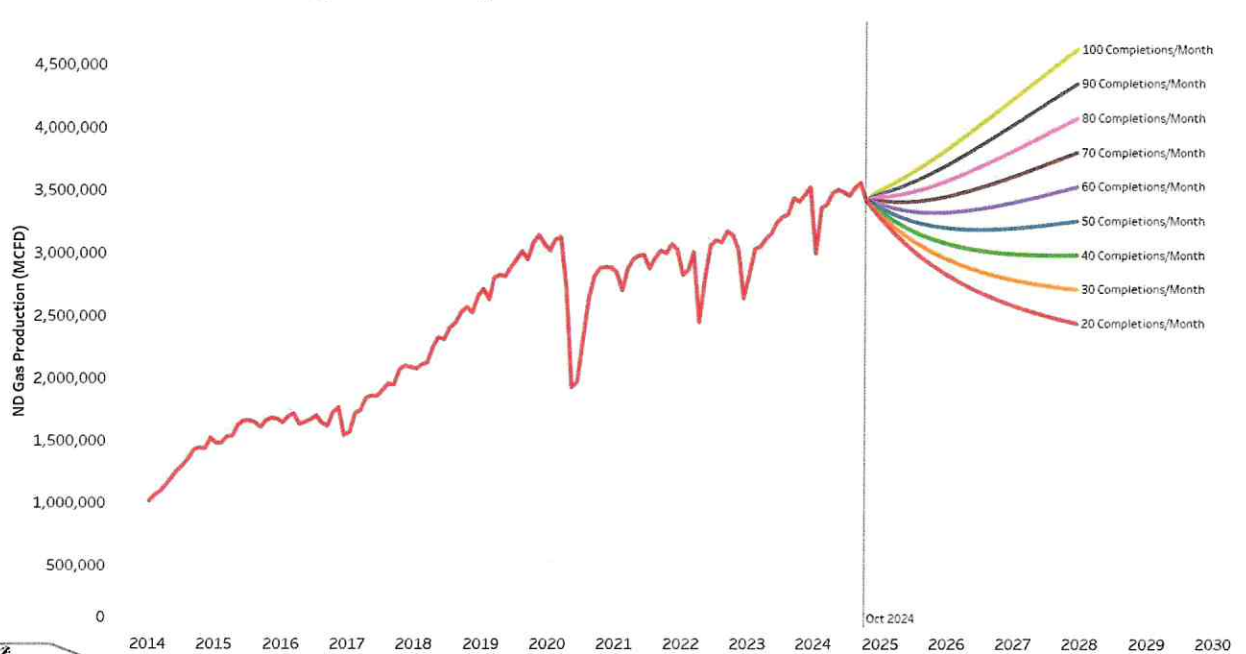
# Monthly Completion\* Scenarios - Oil



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\*1,280 Acre Equivalent Spacing

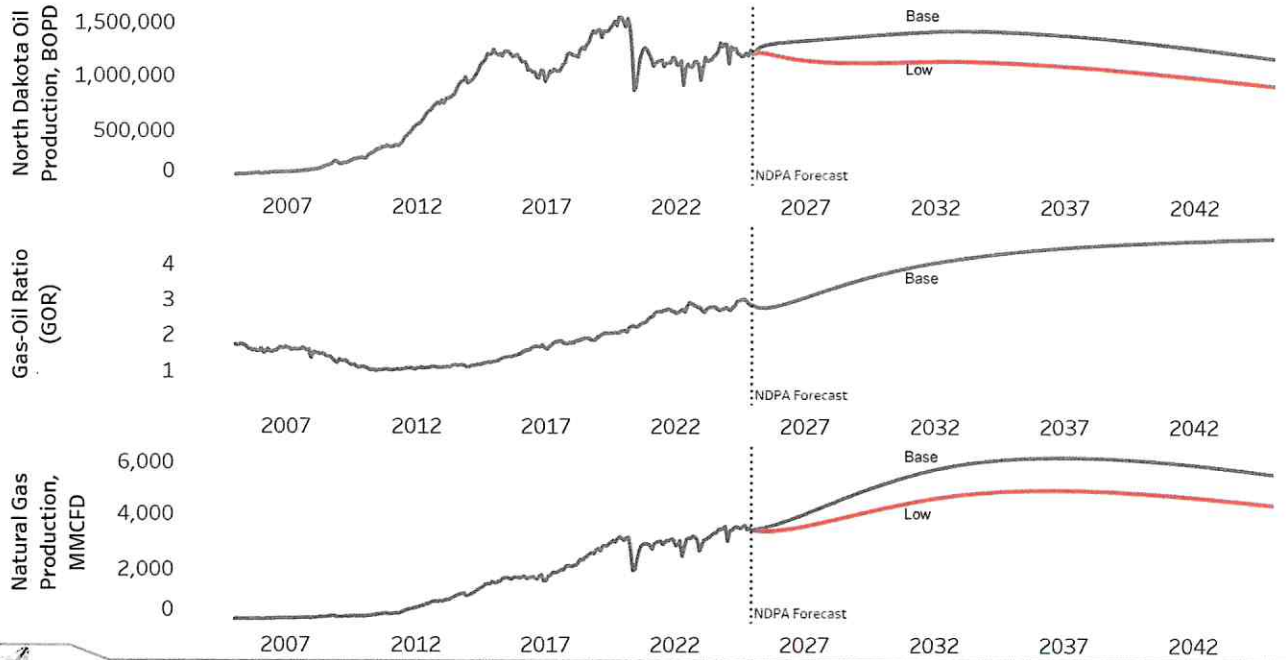
# Monthly Completion\* Scenarios - Gas



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\*1,280 Acre Equivalent Spacing

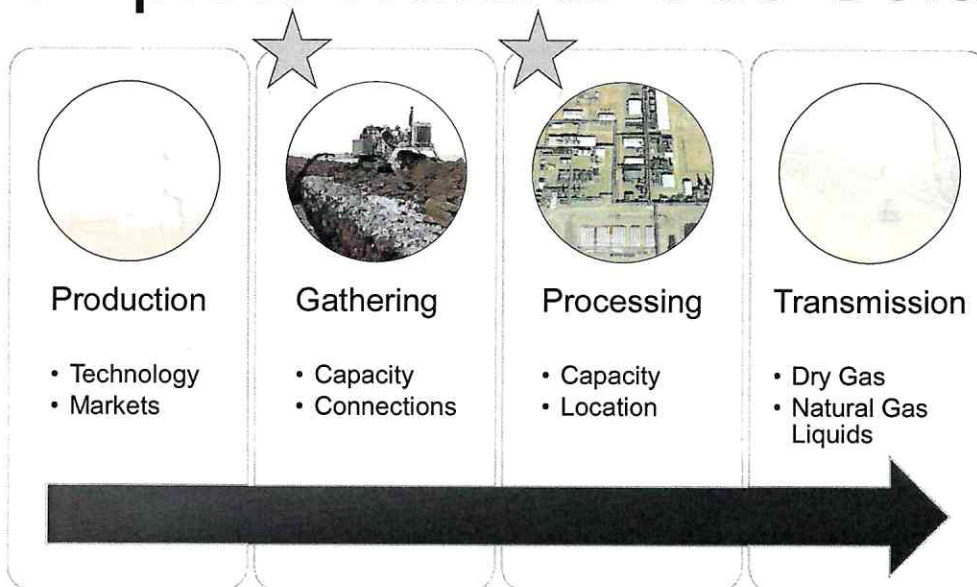
# ND Production Forecast: EIA Price Deck



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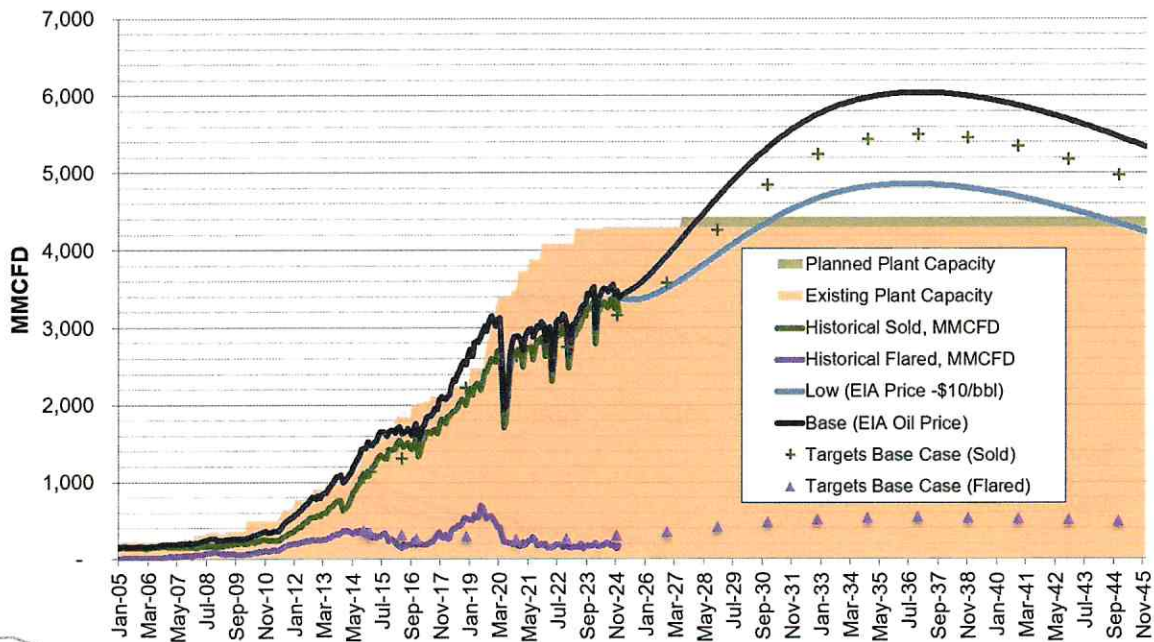
# A Complete Natural Gas Solution



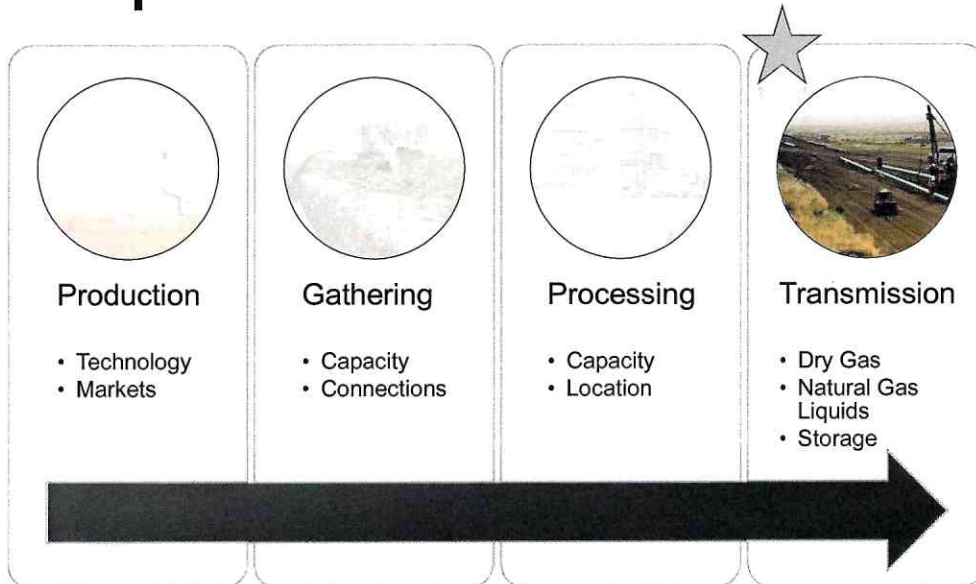
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# North Dakota Gas Processing Outlook

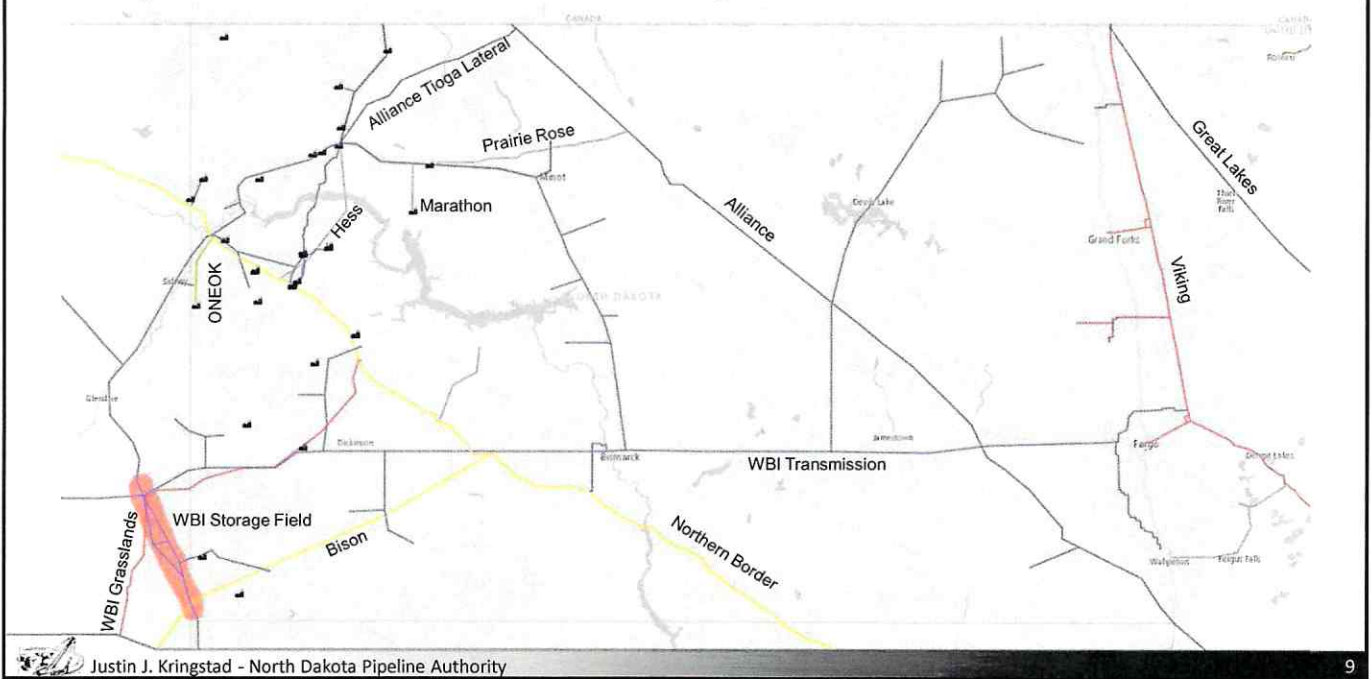


# A Complete Natural Gas Solution

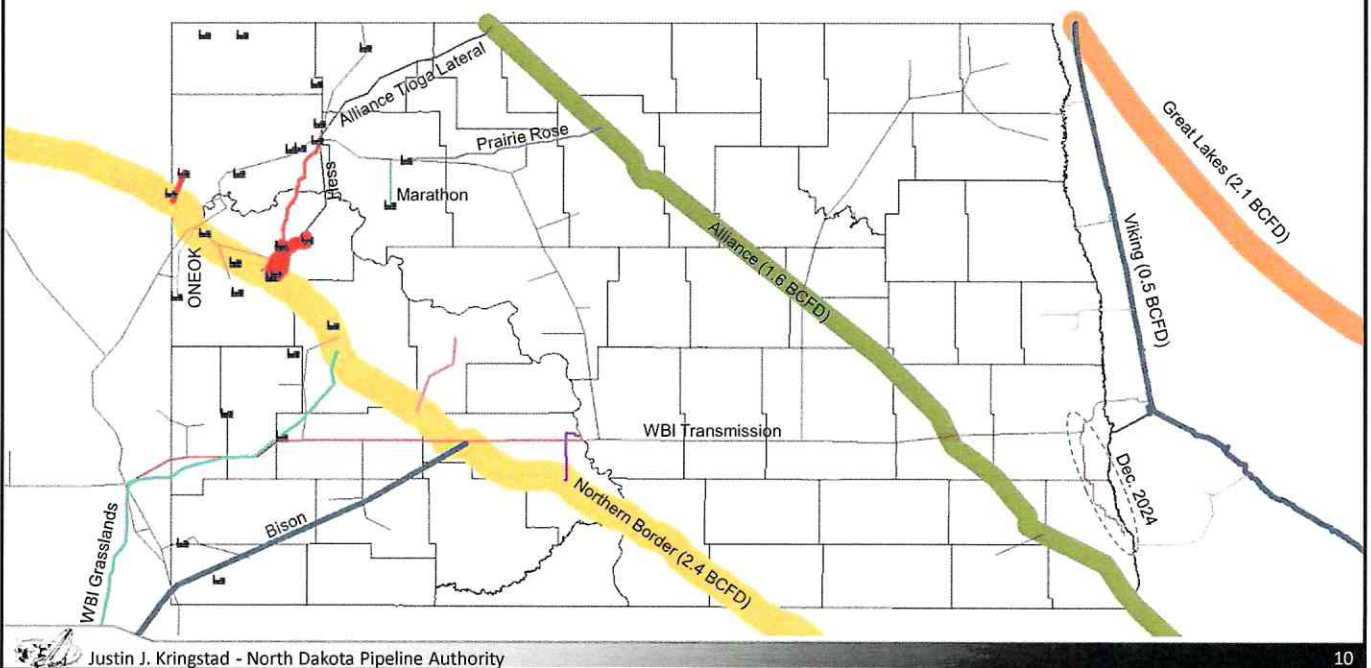




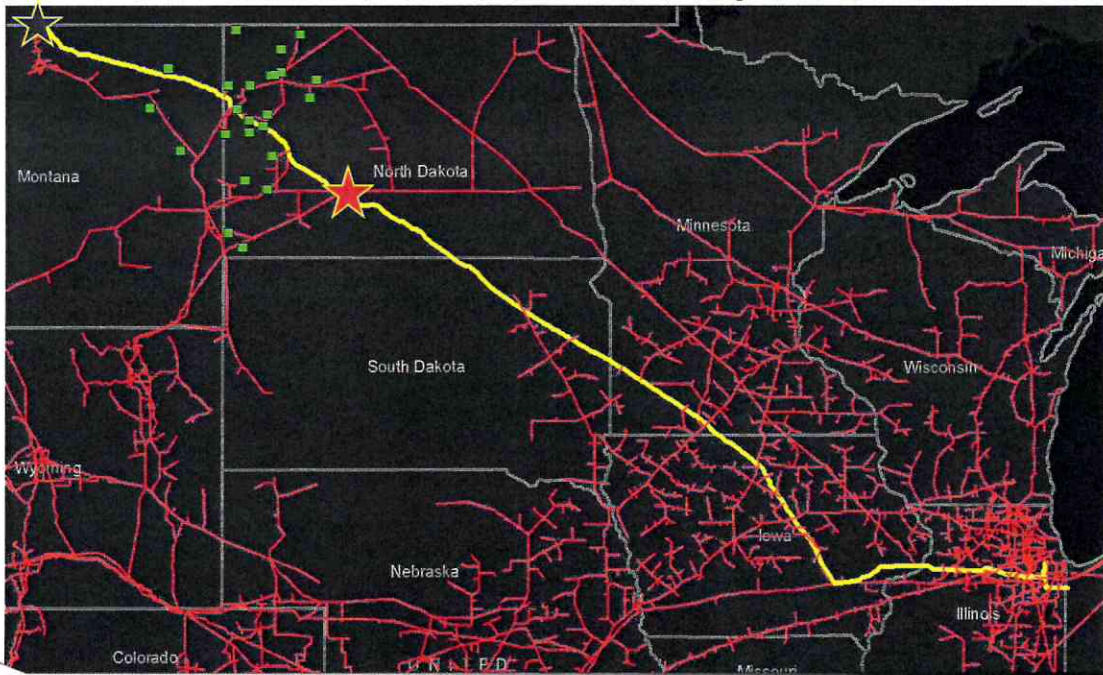
# Major Residue Gas Pipeline Infrastructure



# Residue Gas Pipeline Capacity Visualization



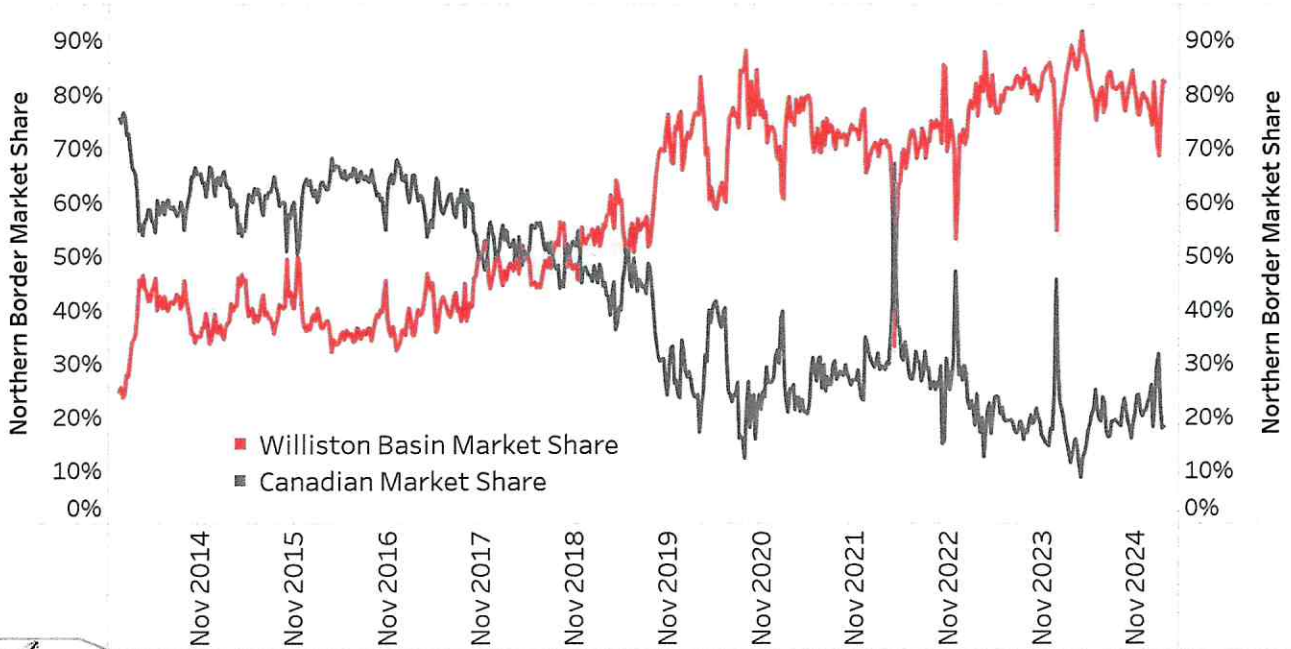
# Northern Border Pipeline



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# Northern Border Pipeline Market Share

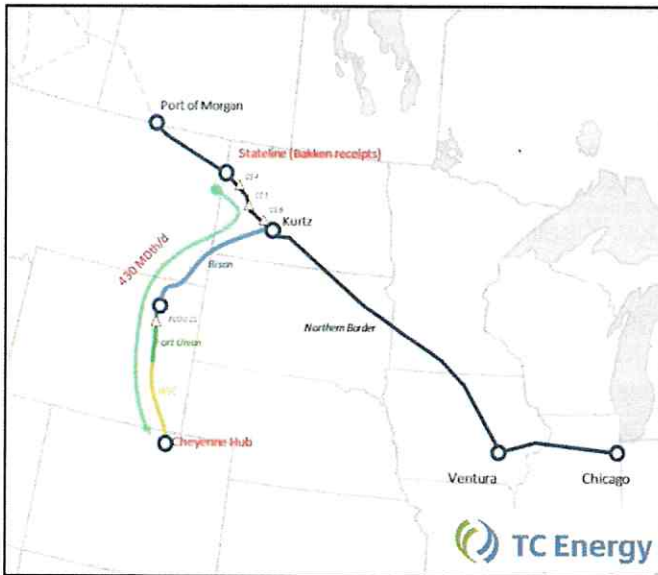


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# TC Energy / Kinder Morgan: Bakken xPress Project



## Project Highlights

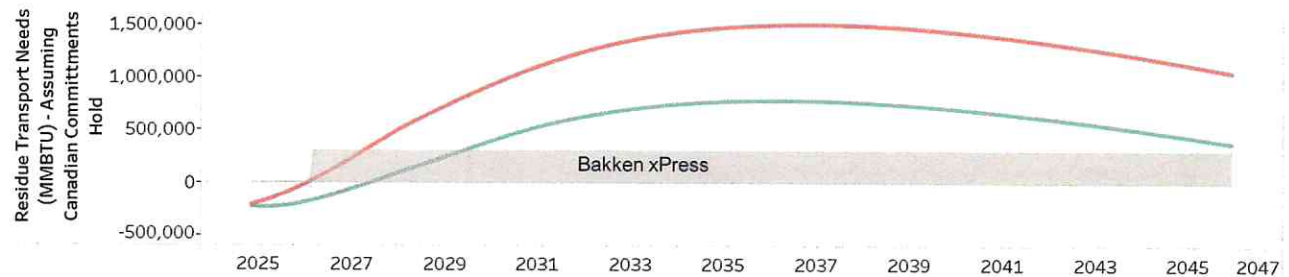
- Non-binding open season April 4 - May 6, 2022
- Binding Open Season: June 1-30, 2023
- Three compressor upgrades in North Dakota
- Reverse the idle Bison Pipeline (30" – 302 Mile)
- Capacity 300,000 Dth/Day (430,000 Offered)
- March 2026 targeted in-service date
- Fort Union Gas Gathering and Wyoming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

## Proposed Rates

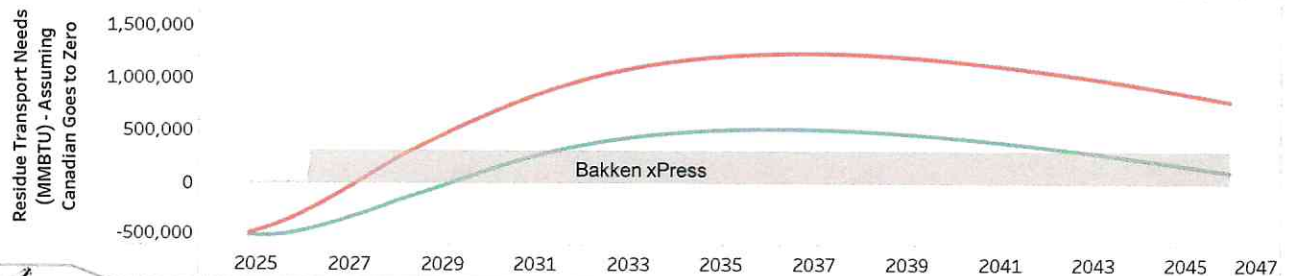
- NBPL/Bison \$0.45/Dth + Fuel/Elec to WIC/FUG Interconnect
- WIC/FUG to Cheyenne \$0.30/Dth + Fuel/Elec
- Anchor Shipper Minimum: 50,000 Dth/Day

# Residue Capacity Needs : Glen Ullin 1,100 BTU

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



Residue Capacity Need: Port of Morgan Goes to Zero: Glen Ullin BTU 1,100



# Options Beyond 2027: 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

# WBI Energy: Proposed Bakken East Project



- Natural Gas Pipeline Project Highlights**
- Non-binding open season Dec 16 – Jan 31, 2025
  - 375 Miles: 30" & 24" Pipe
  - Proposed Capacity 760,000 Dth/Day
  - Phase 1 (West) : Nov 2028 targeted in-service
  - Phase 2 (East) : Nov 2029 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

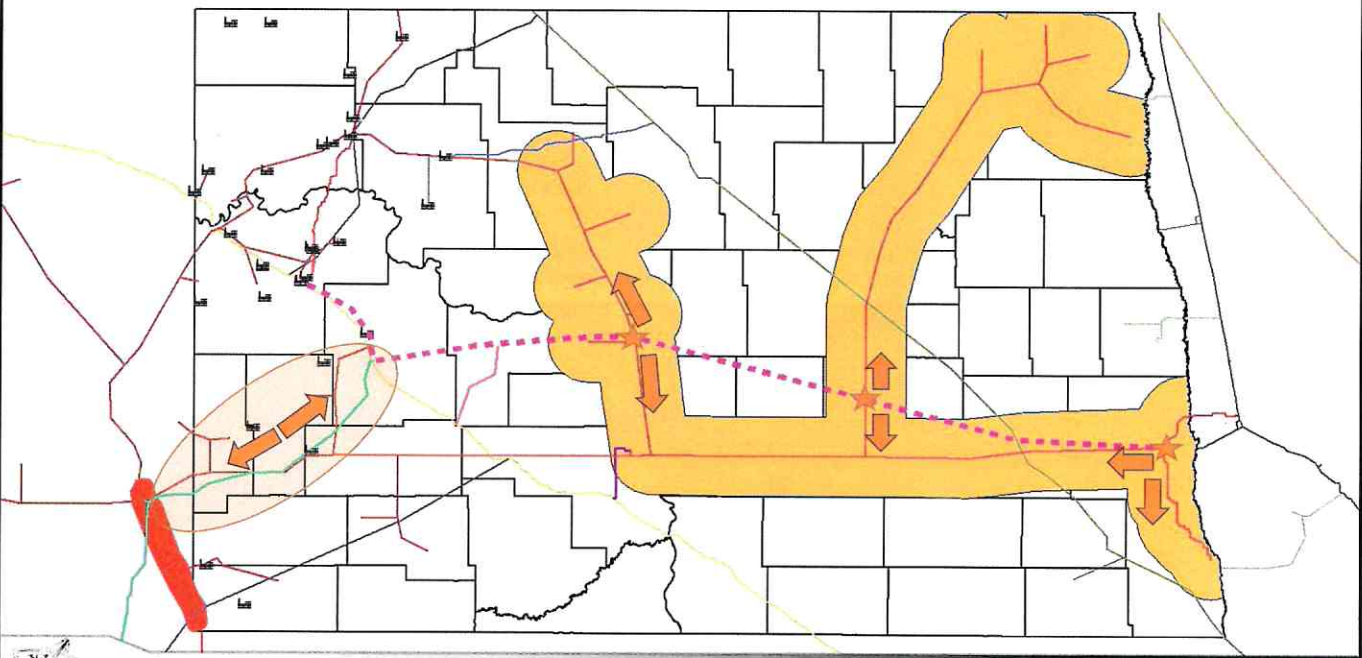


# Intensity Infrastructure Partners Proposed Pipeline

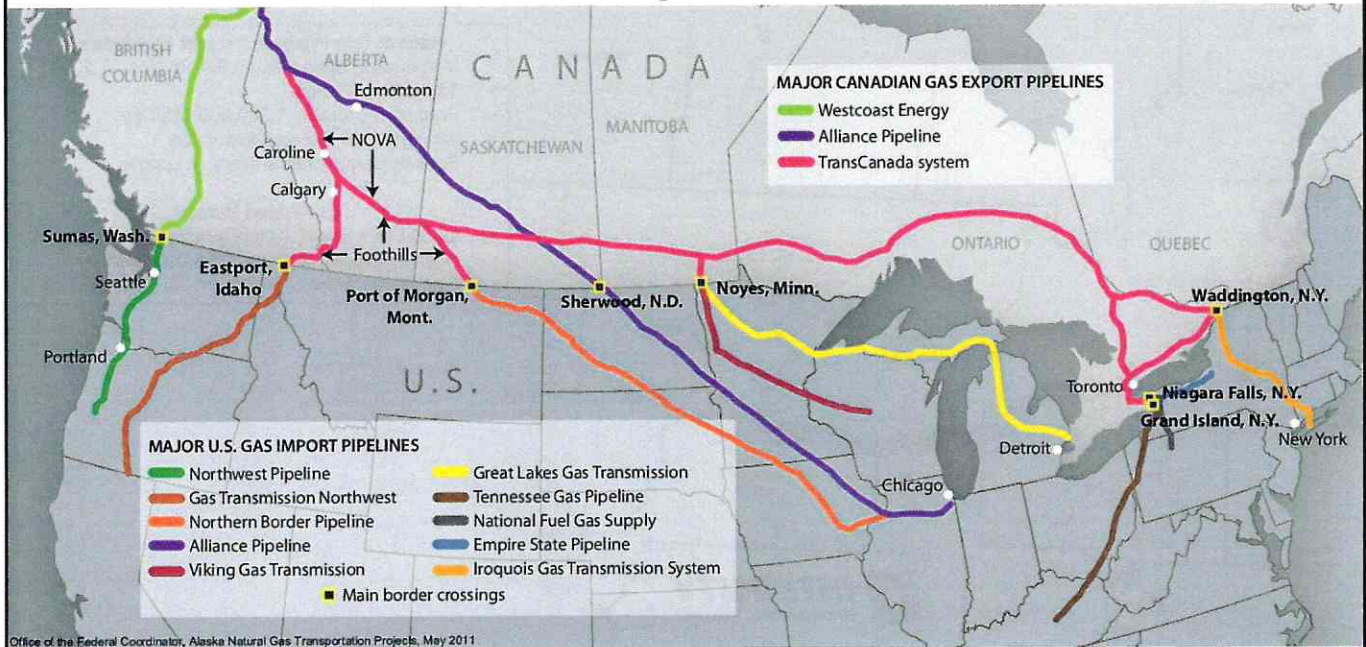


- Natural Gas Pipeline Project Highlights**
- Non-binding open season Feb 3 – Mar 7, 2025
  - 136 Miles: 42" Pipe
  - Proposed Capacity 1,500,000 Dth/Day
  - January 2028 targeted in-service
  - Seeking commitments 20yrs or Longer
- Estimated Rates**
- \$0.50/Dth + Fuel/Electric/Commodity
  - Anchor Shipper Minimum: 100,000 Dth/Day
  - Foundation Shipper Minimum: 250,000 Dth/Day

# Going East: Benefits Could Extend Beyond Route(s)

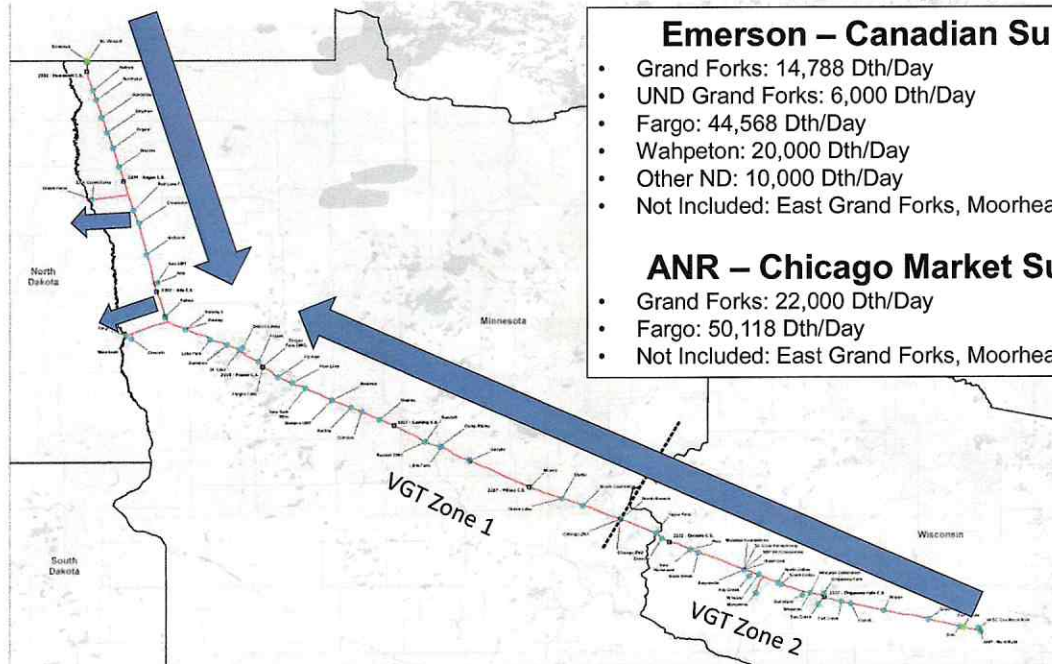


# Canadian Gas Pipeline Connectivity



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## Current Eastern North Dakota Gas Supply



### Emerson – Canadian Supply

- Grand Forks: 14,788 Dth/Day
- UND Grand Forks: 6,000 Dth/Day
- Fargo: 44,568 Dth/Day
- Wahpeton: 20,000 Dth/Day
- Other ND: 10,000 Dth/Day
- Not Included: East Grand Forks, Moorhead, Etc.

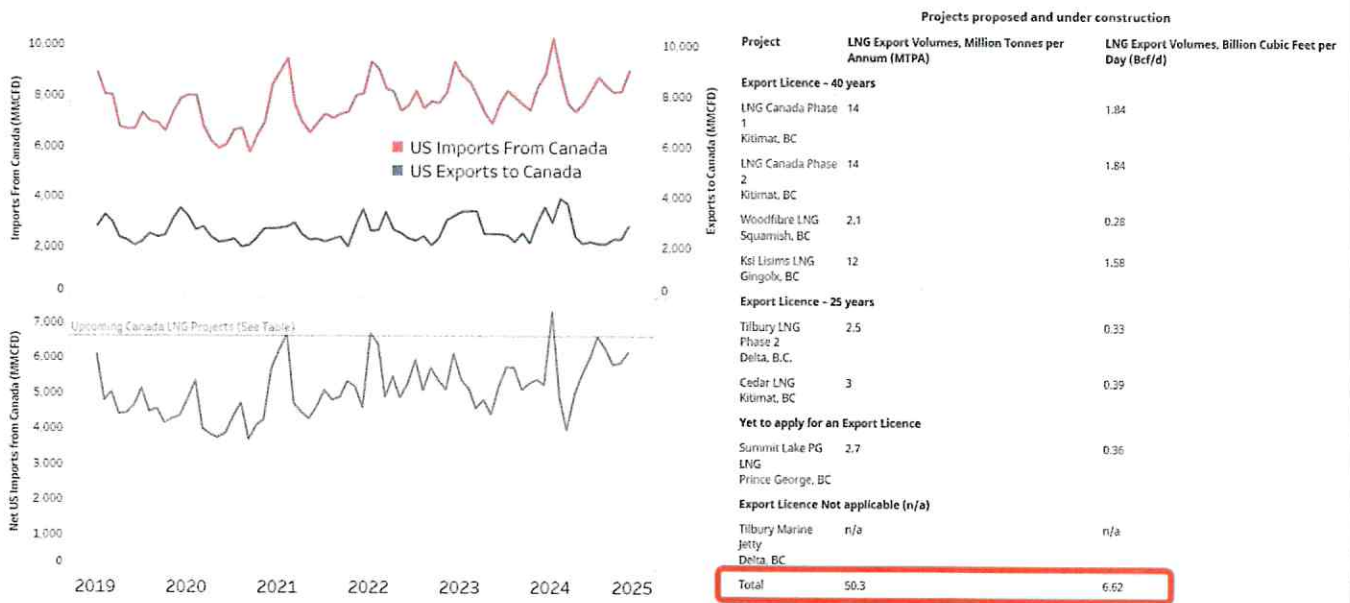
### ANR – Chicago Market Supply

- Grand Forks: 22,000 Dth/Day
- Fargo: 50,118 Dth/Day
- Not Included: East Grand Forks, Moorhead, Etc.

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# United States Canada Gas Movements & LNG



# Driving Forces for New Gas Pipelines



Supply Push



Demand Pull



System Reliability/Security



# Who Signs Up For Project Capacity?

Shippers



Producers/Midstream



Marketing Firms

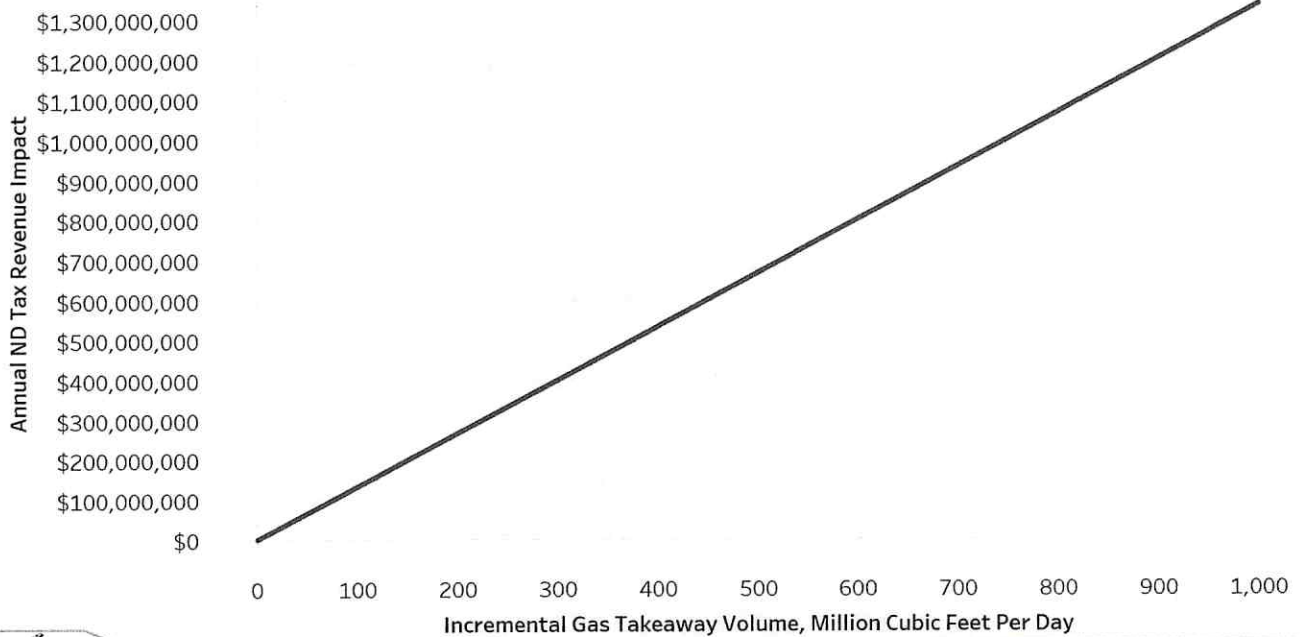


Industrial Consumers/LDC

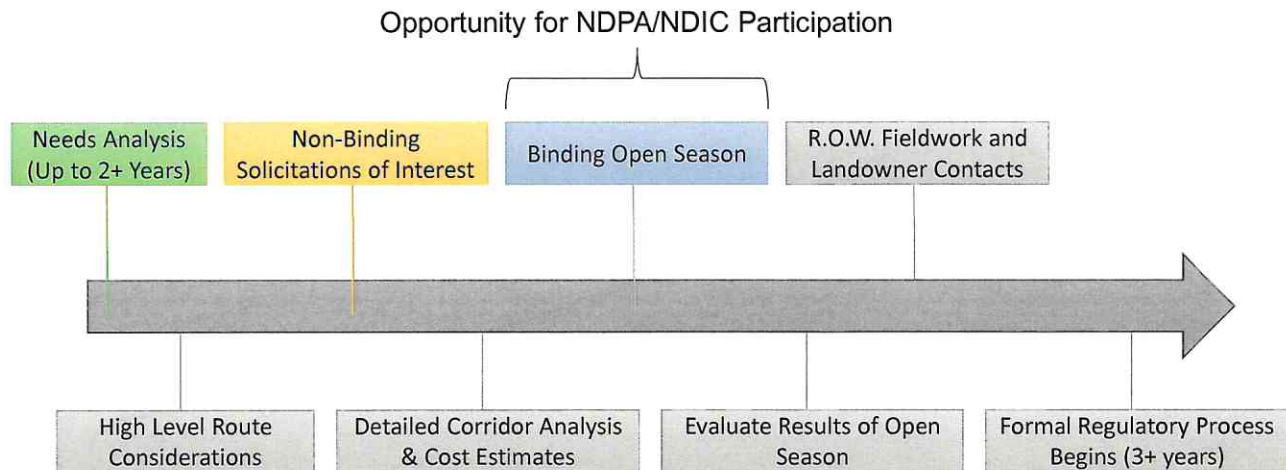


State of North Dakota (PA/IC)

# ND Tax Impact of Incremental Gas Capacity



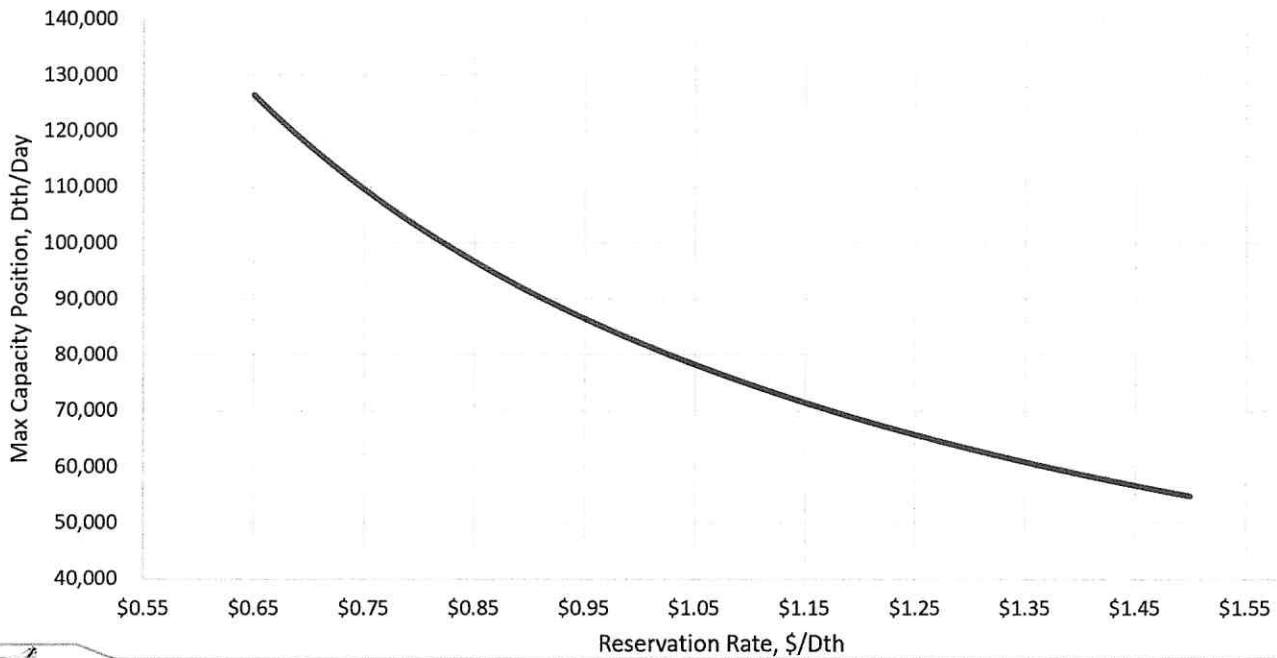
# Early Stages of Pipeline Development



## Pipeline Authority Century Code– 54-17.7-04.

3. Acquire, purchase, hold, use, lease, license, sell, transfer, and dispose of an undivided or other interest in or the right to capacity in any pipeline system or systems, including interconnection of pipeline systems, within or without the state of North Dakota in order to facilitate the production, transportation, distribution, or delivery of energy-related commodities produced in North Dakota. If the authority acquires, purchases, holds, uses, or leases capacity positions, the authority shall sell, transfer, release, or dispose of the capacity positions at intervals that are no more frequent than monthly and in an amount that is equal to or greater than the market rate, but only if the sale, transfer, release, or disposal of the capacity positions is sufficient to cover the expenses and obligations incurred. The authority's contract obligations for the capacity positions are limited to the capacity rates, charges, and terms.

# Capacity and Reservation Rate at \$30M/Yr



# How Will NDPA Manage Contracted Capacity?





# Options Beyond 2026: The 5 “C’s”

## Construction (Interstate)

- Long-haul Pipe to New or Expanded Markets

## Compete

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## Compression

- Increase Capacity on Existing Interstate Systems

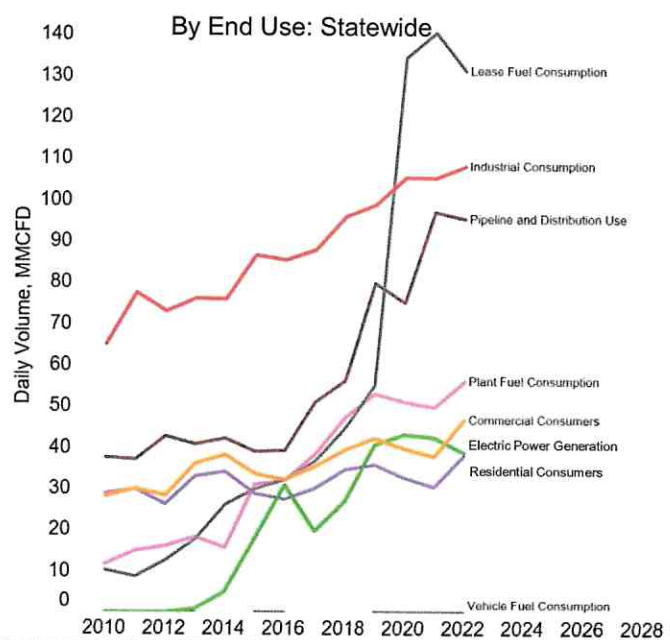
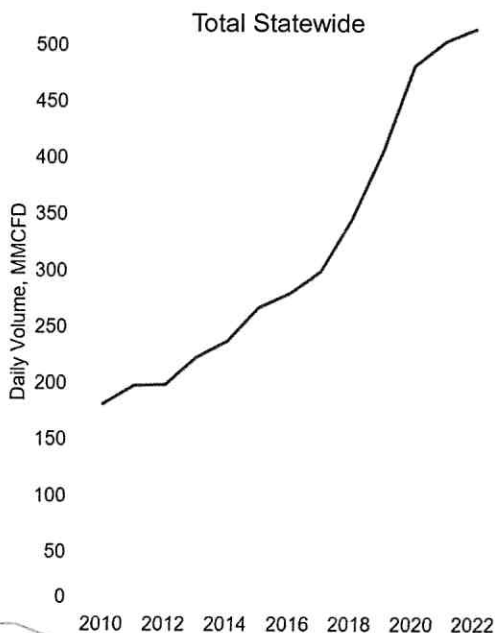
## Consumption

- Intra Region Gas Demand Expansion

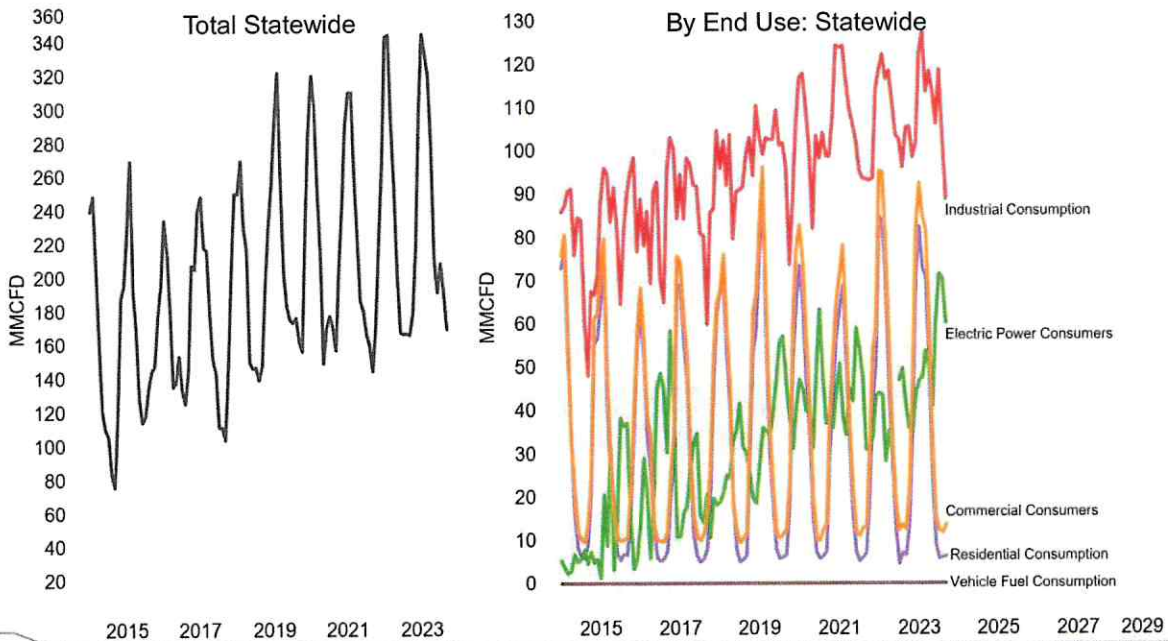
## Contraction

- Reduce E&P Activity to Meet Limited Gas Options

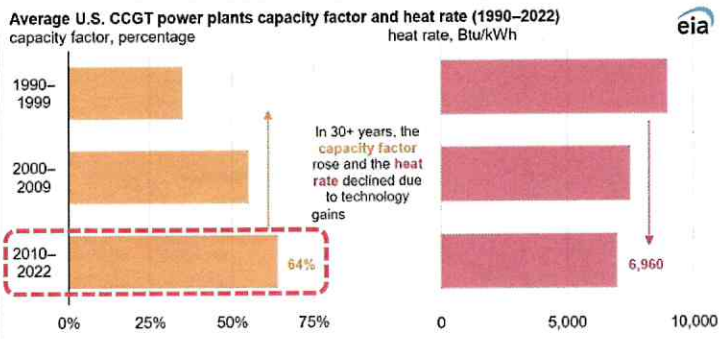
# North Dakota Gas Consumption (Annual)



# Non-Midstream Consumption (Monthly)

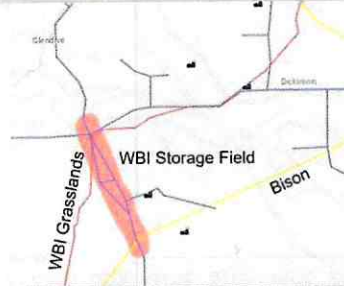
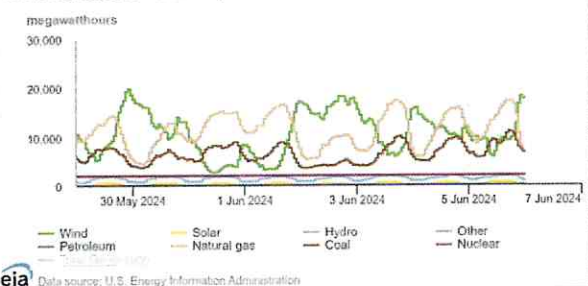


# Intermittent Gas-Fired Generation Challenging to Match Oilfield Output



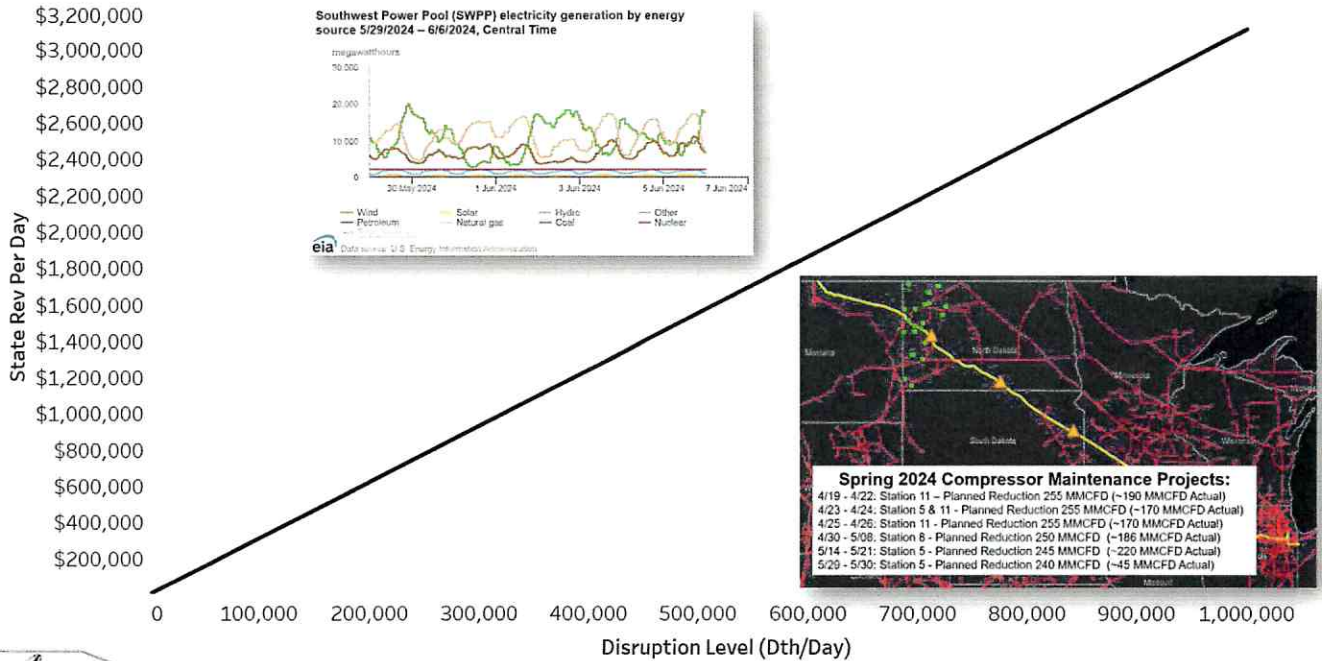
Gas-fired demand can fluctuate hourly, daily, and weekly, depending on system load, weather, etc.

Southwest Power Pool (SWPP) electricity generation by energy source 5/29/2024 – 6/6/2024, Central Time



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

## Gas Disruptions Could Be Costly Without Alternatives



## Options Beyond 2026: The 5 "C's"

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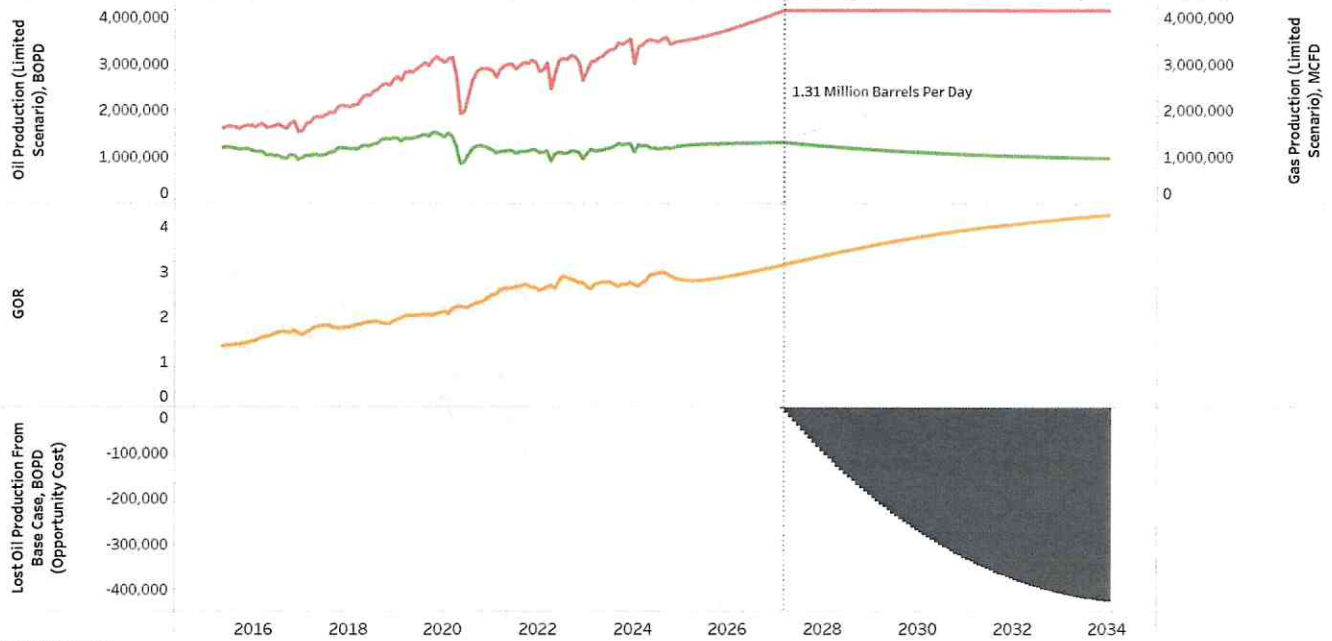
- Intra Region Gas Demand Expansion

### Contraction

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# Gas Limitations Could Force Oil Production Down As GOR Rises

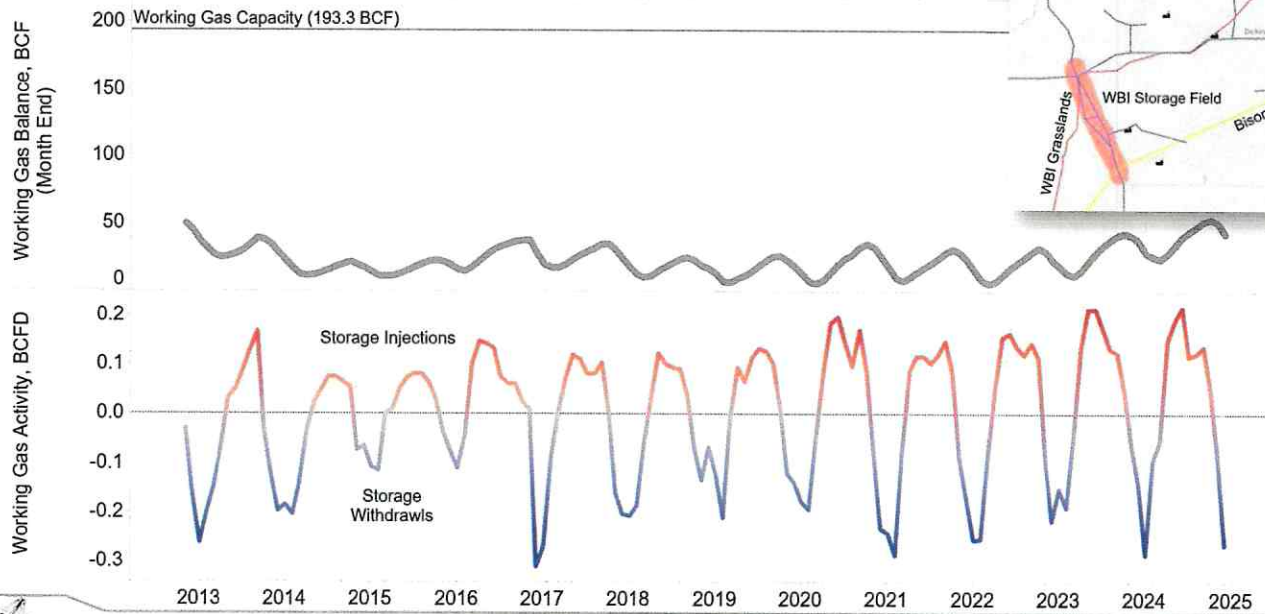


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# Regional Natural Gas Storage

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# Residue Gas Storage – WBI Energy\*



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\*WBI Energy Storage Fields: Baker & Elk Basin

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## iPIPE Program Update

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**Finding What We Couldn't See, & Finding it First**



In-line inspection  
"small diameter"



Artificial intelligence  
monitoring



Advanced acoustics



Subsurface polymer  
absorption monitoring



Intelligent sensors  
for early detection  
anywhere



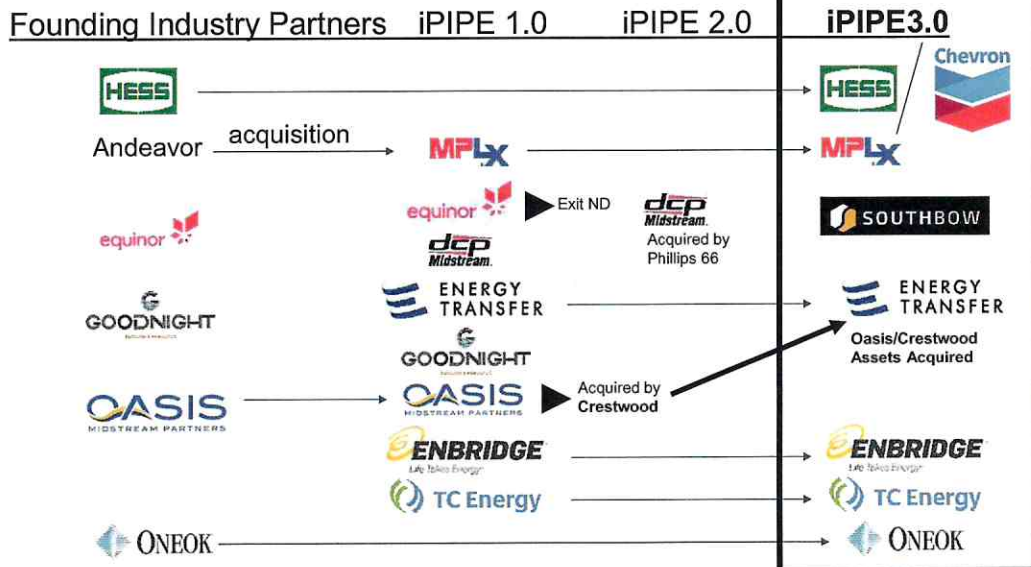
Advanced aerial  
sensor technology



New generation  
monitoring from  
space



**Membership Evolution**





# TECHNOLOGY SCOUTING: 170+ Vetted, 19 projects

iPIPE RFP Statistics						
	2018	2019	2020	2021	2022-2023	2024-2025
Proposals Submitted	7	10	13	24	14	24
Invited to Pitch	7	9	8	10	9	16
Awarded	2	2	2	2	4	7



Critical Challenges. Practical Solutions.

## Current Projects



- Prevention – ILI



- Technology Advancement



- External



- Methane



Critical Challenges. Practical Solutions.

## Contact Information

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