

# Pipeline Authority

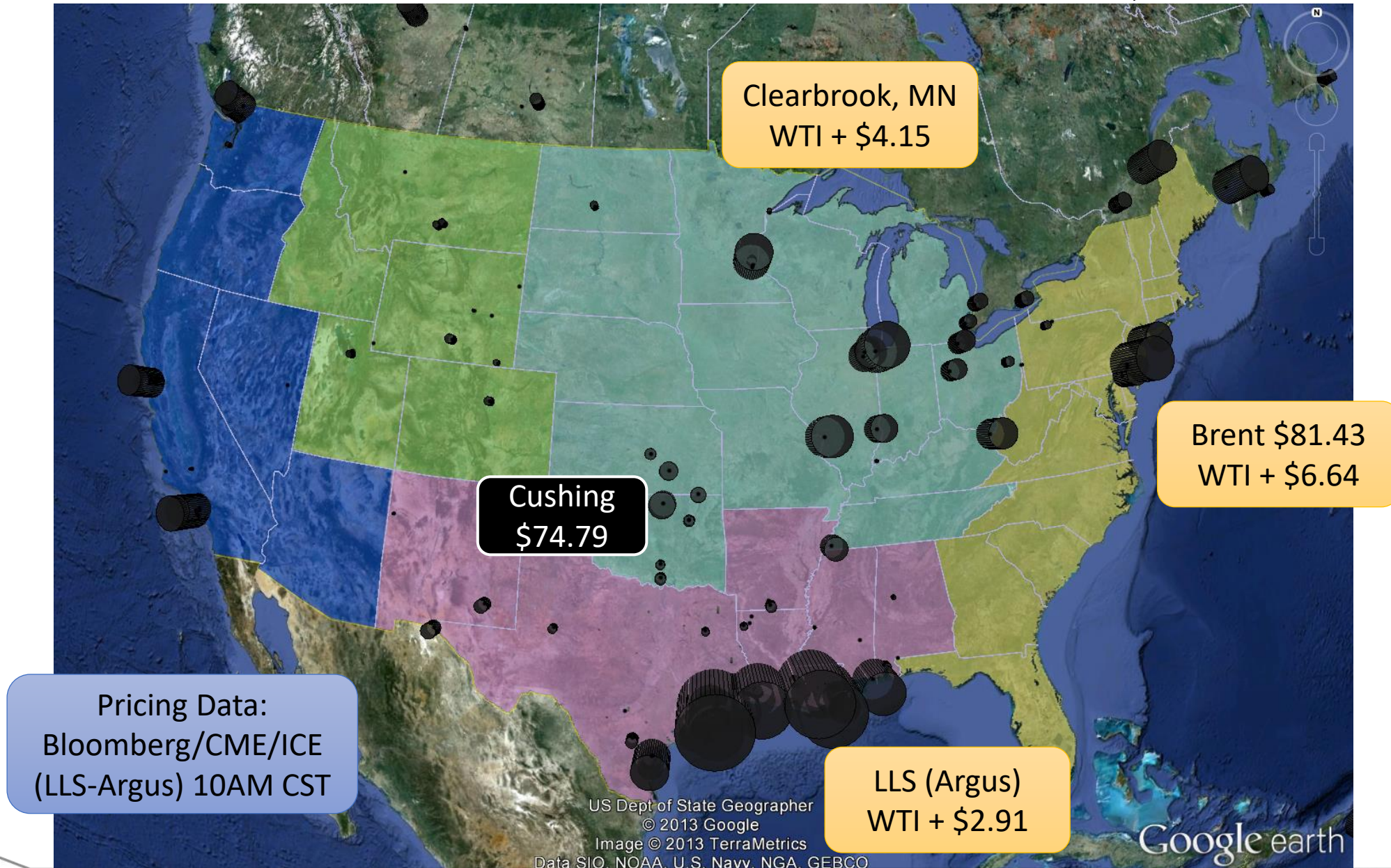
## *Senate Appropriations*



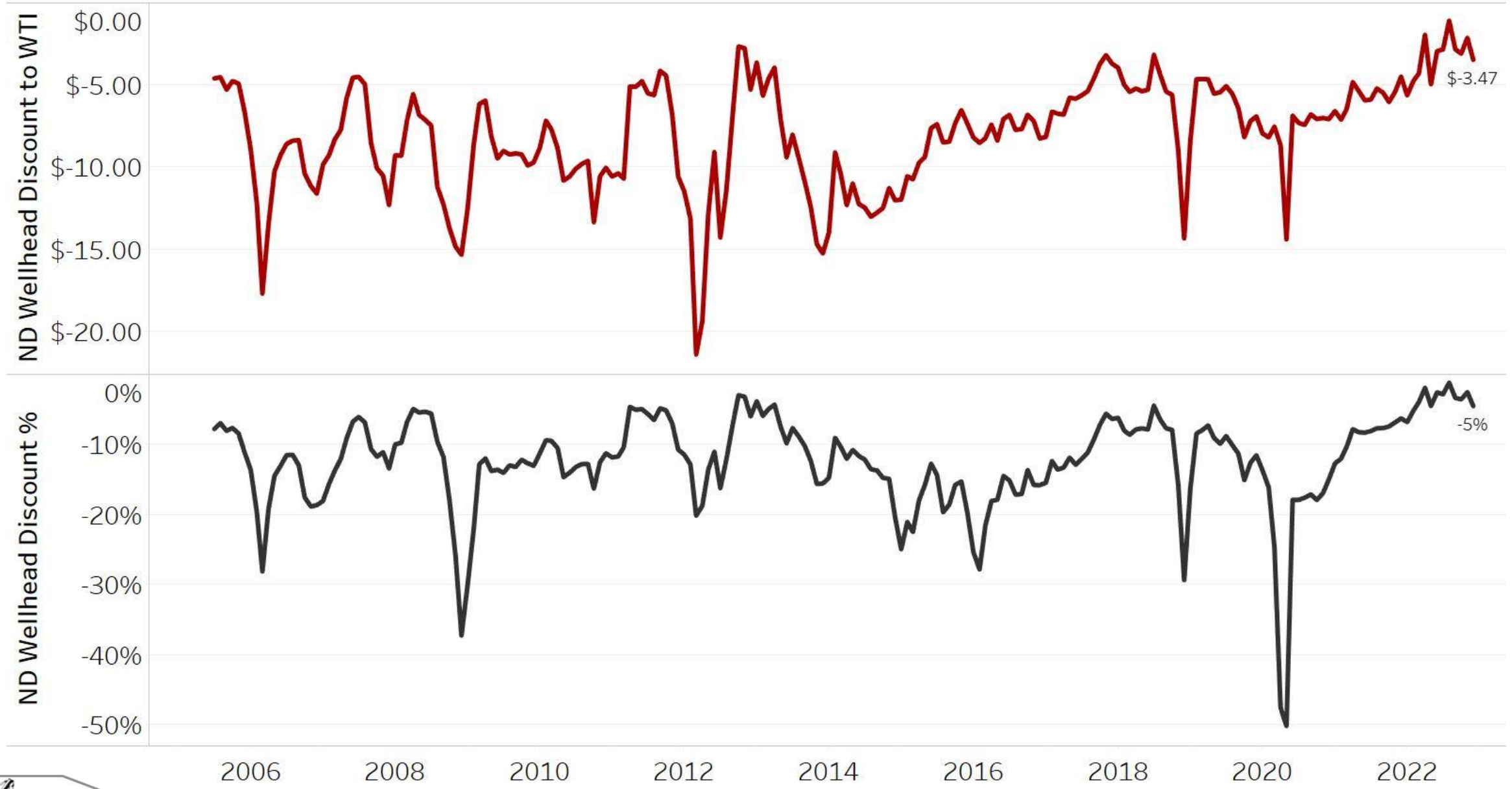
PIPELINE  
CONSTRUCTION  
AHEAD



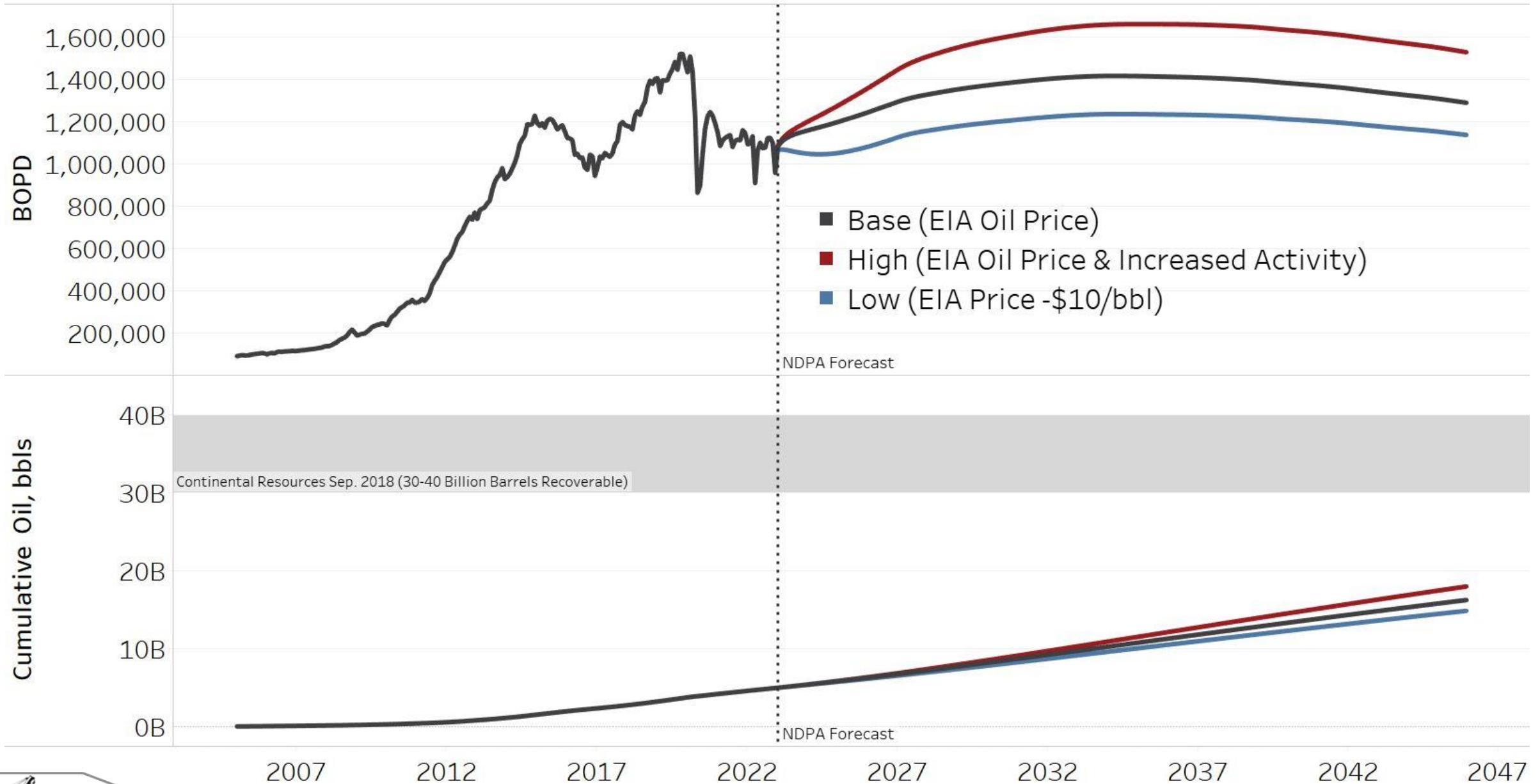
# Crude Oil Prices – Feb. 23, 2023



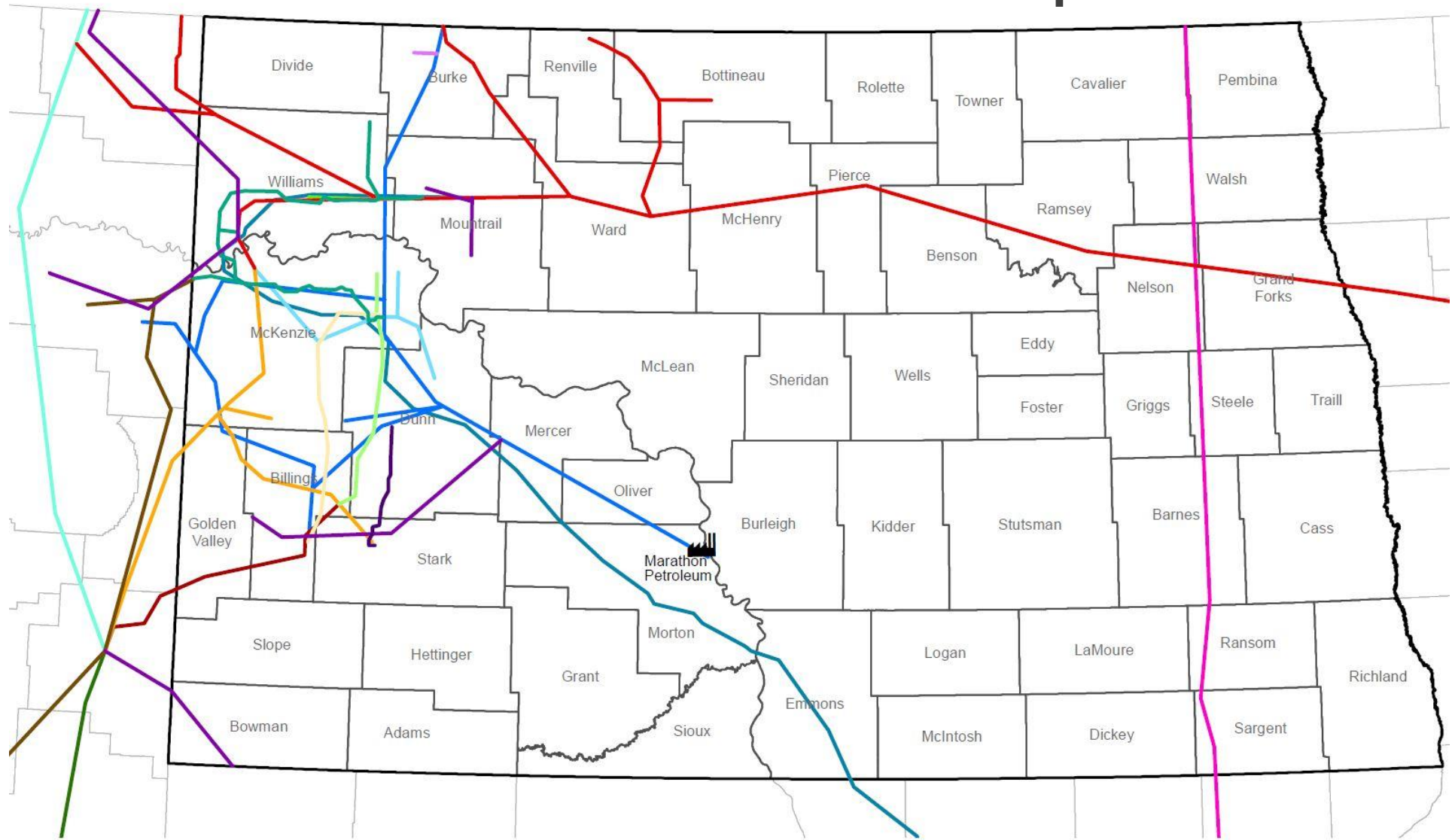
# Average North Dakota Oil "Discount" to WTI



# ND Oil Production: EIA Price Deck



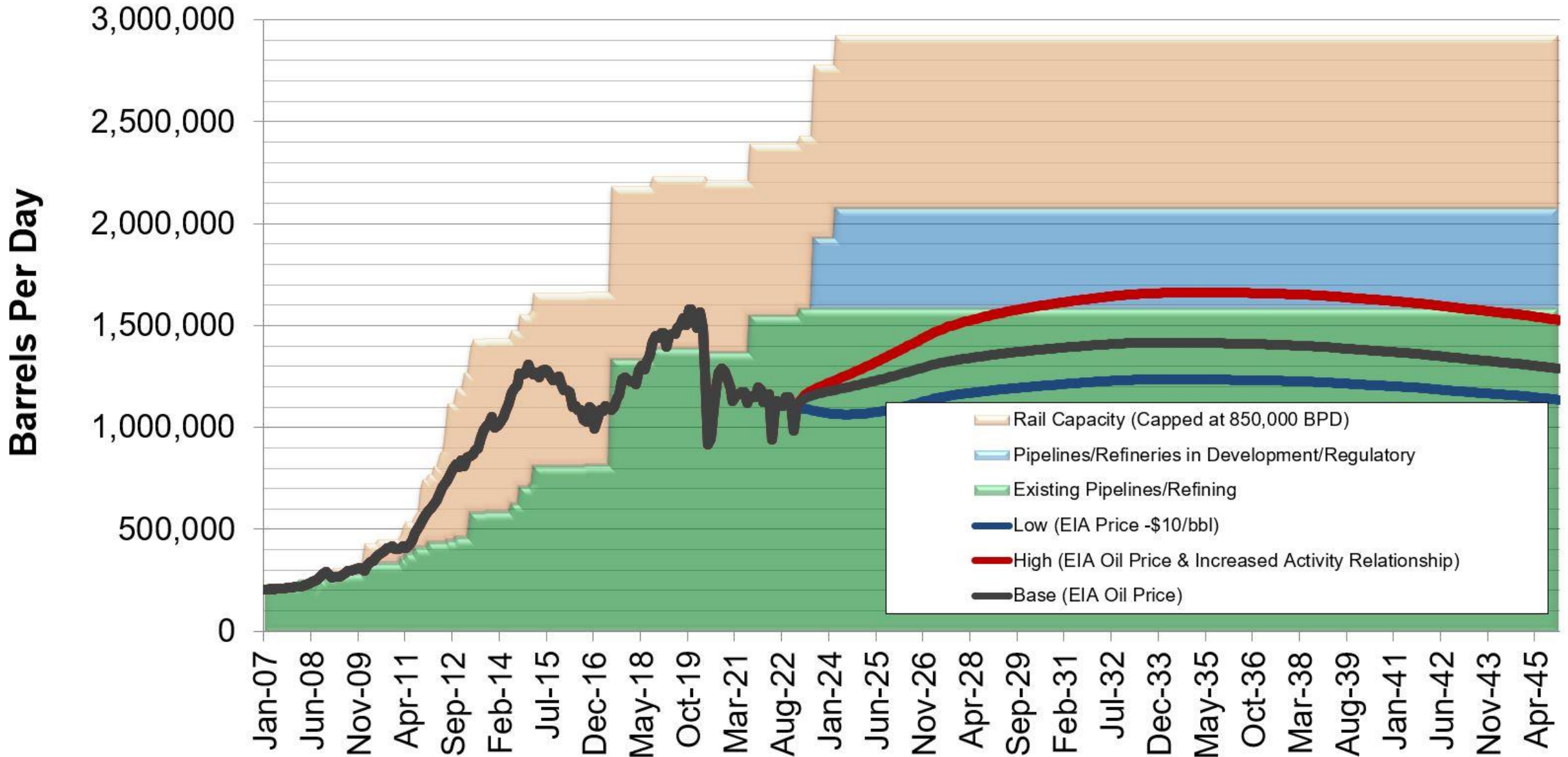
# North Dakota Oil Transmission Pipelines



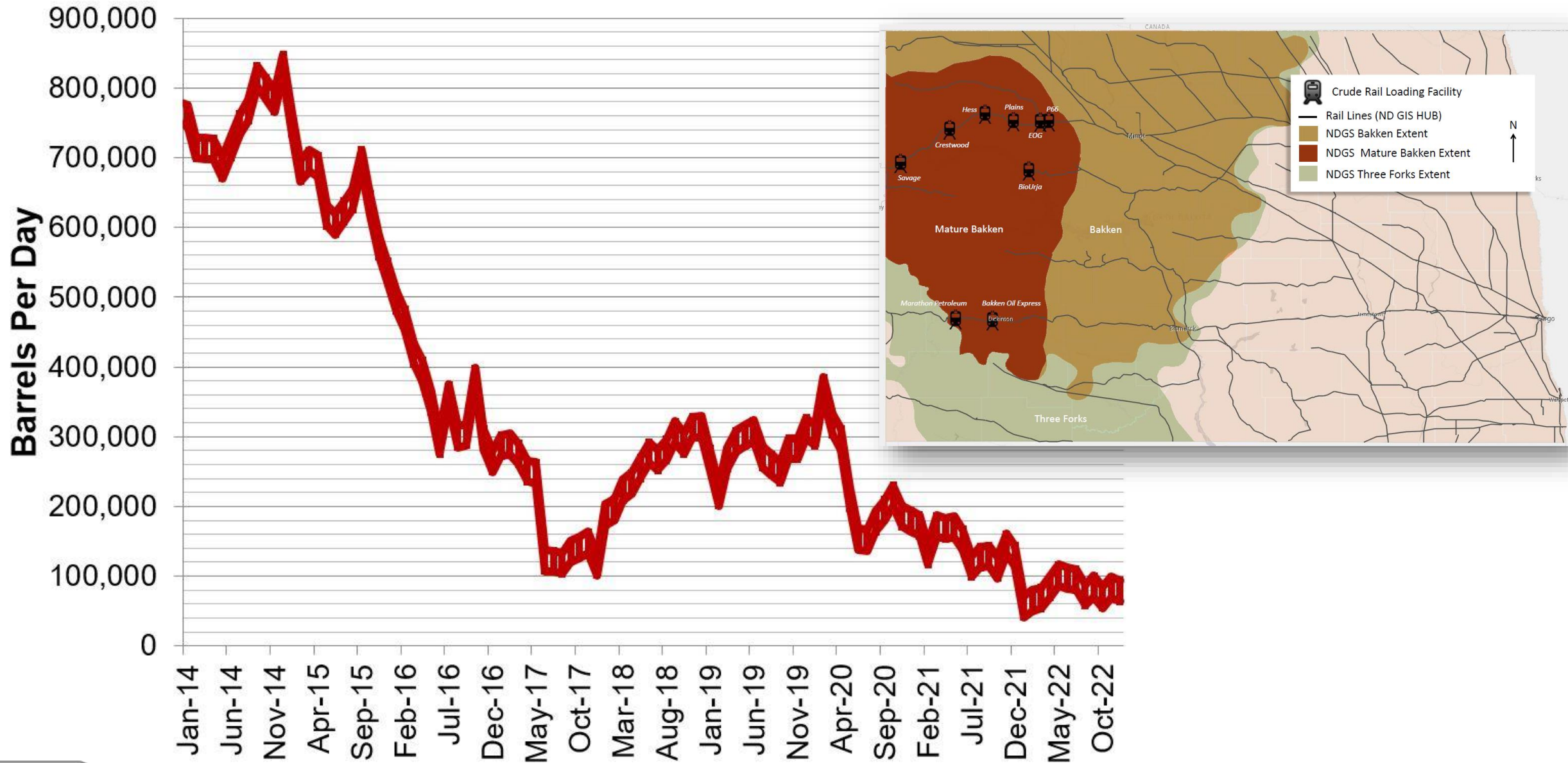
- |                    |                 |               |            |                   |          |
|--------------------|-----------------|---------------|------------|-------------------|----------|
| Refinery           | Basin Transload | Butte         | Double H   | Hiland            | Bridger  |
| Bakken Oil Express | Belle Fourche   | Crestwood     | Enbridge   | Keystone Pipeline | Targa    |
| BakkenLink         | Bridger         | Dakota Access | Four Bears | Little Missouri   | Marathon |



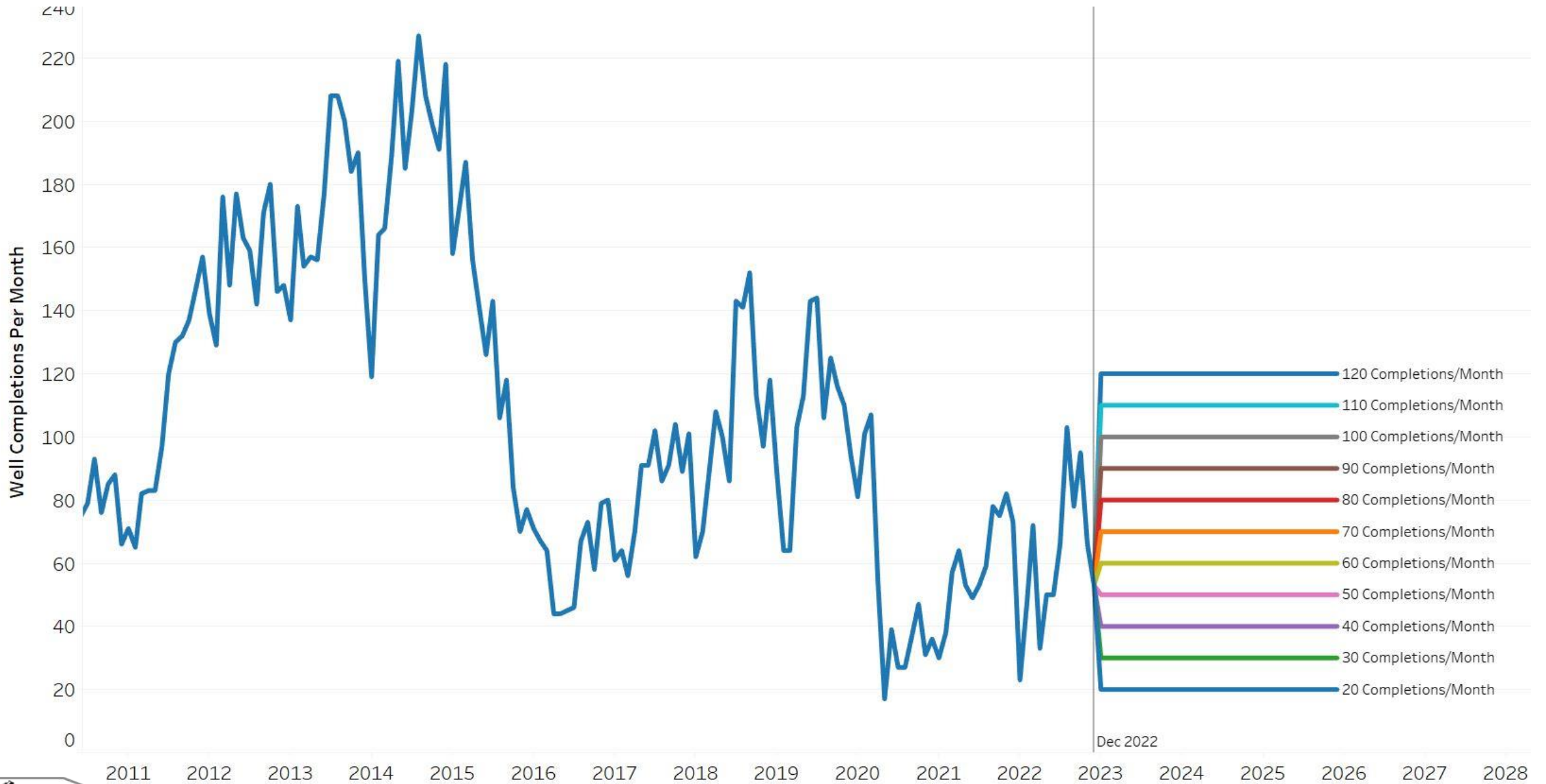
# Williston Basin Oil Production & Export Capacity, BOPD



# Estimated ND Rail Export Volumes



# Completions Per Month Exercise

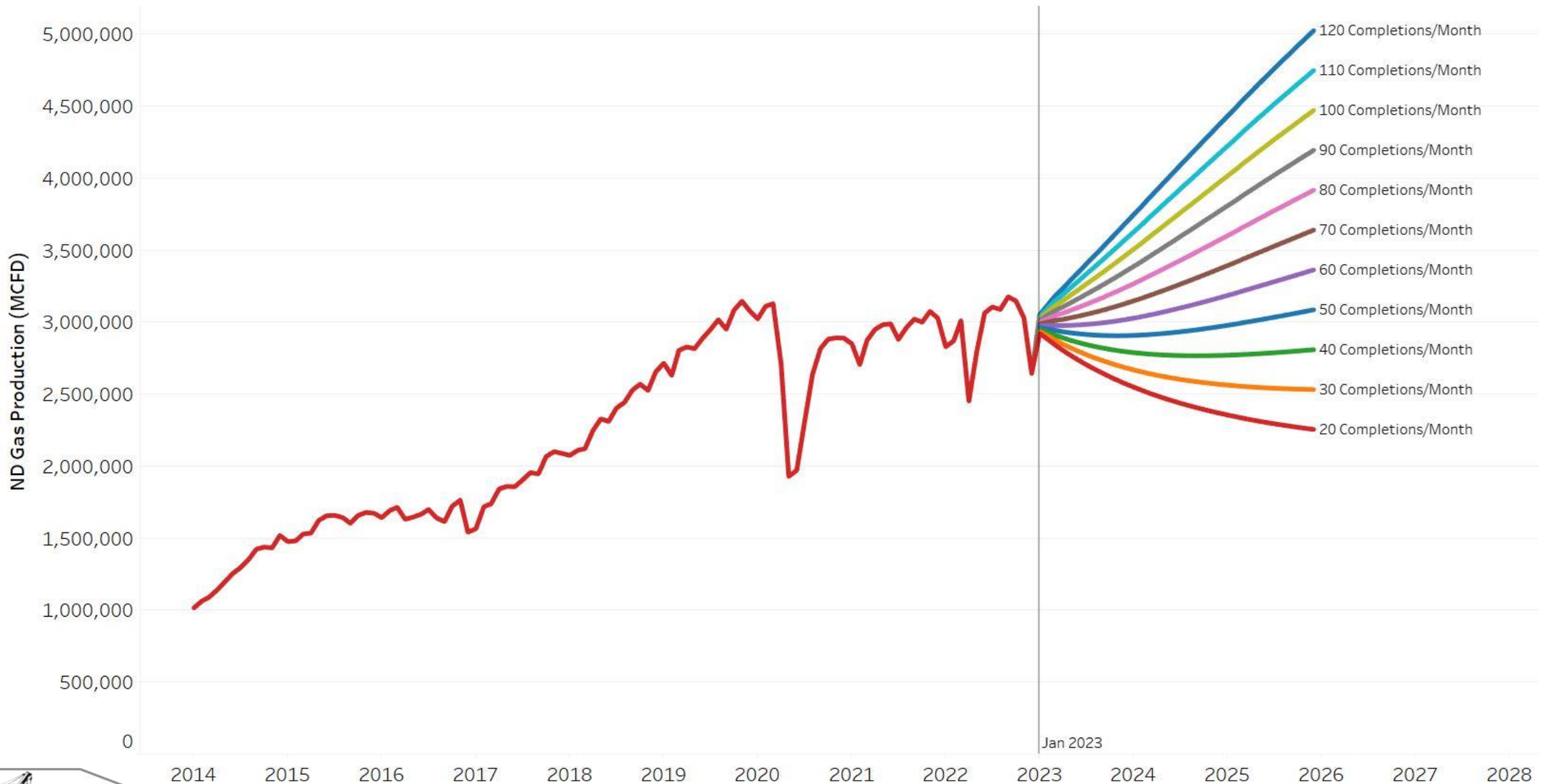




# Monthly Completion Scenarios - Oil



# Monthly Completion Scenarios - Gas



# Natural Gas Update



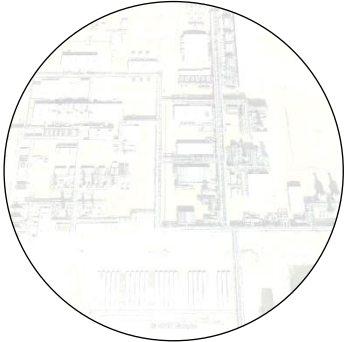
## Production

- Technology
- Markets



## Gathering

- Capacity
- Connections



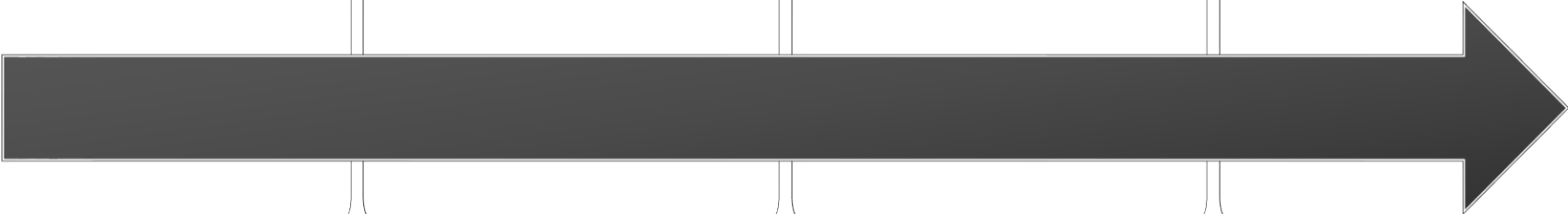
## Processing

- Capacity
- Location

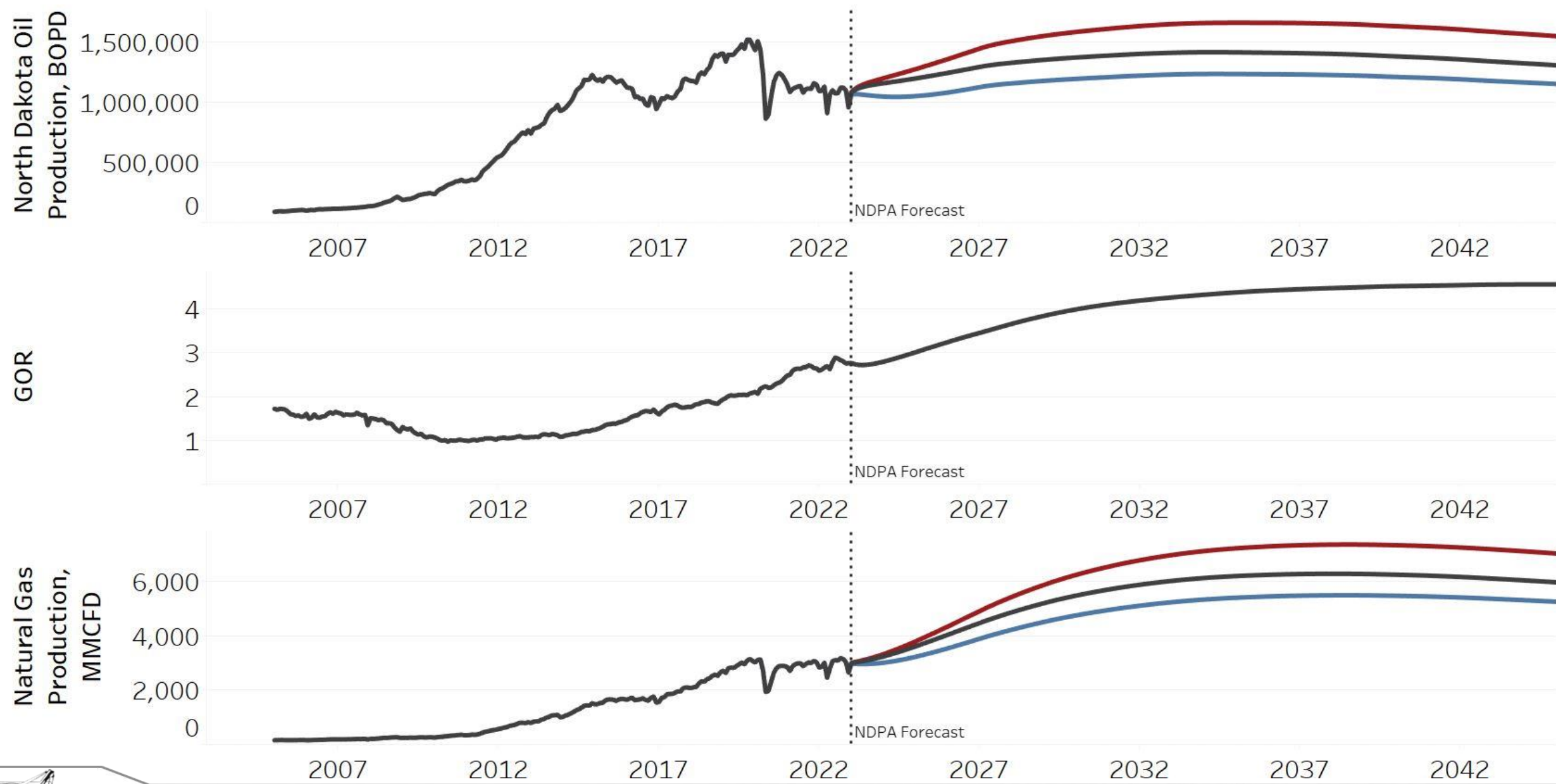


## Transmission

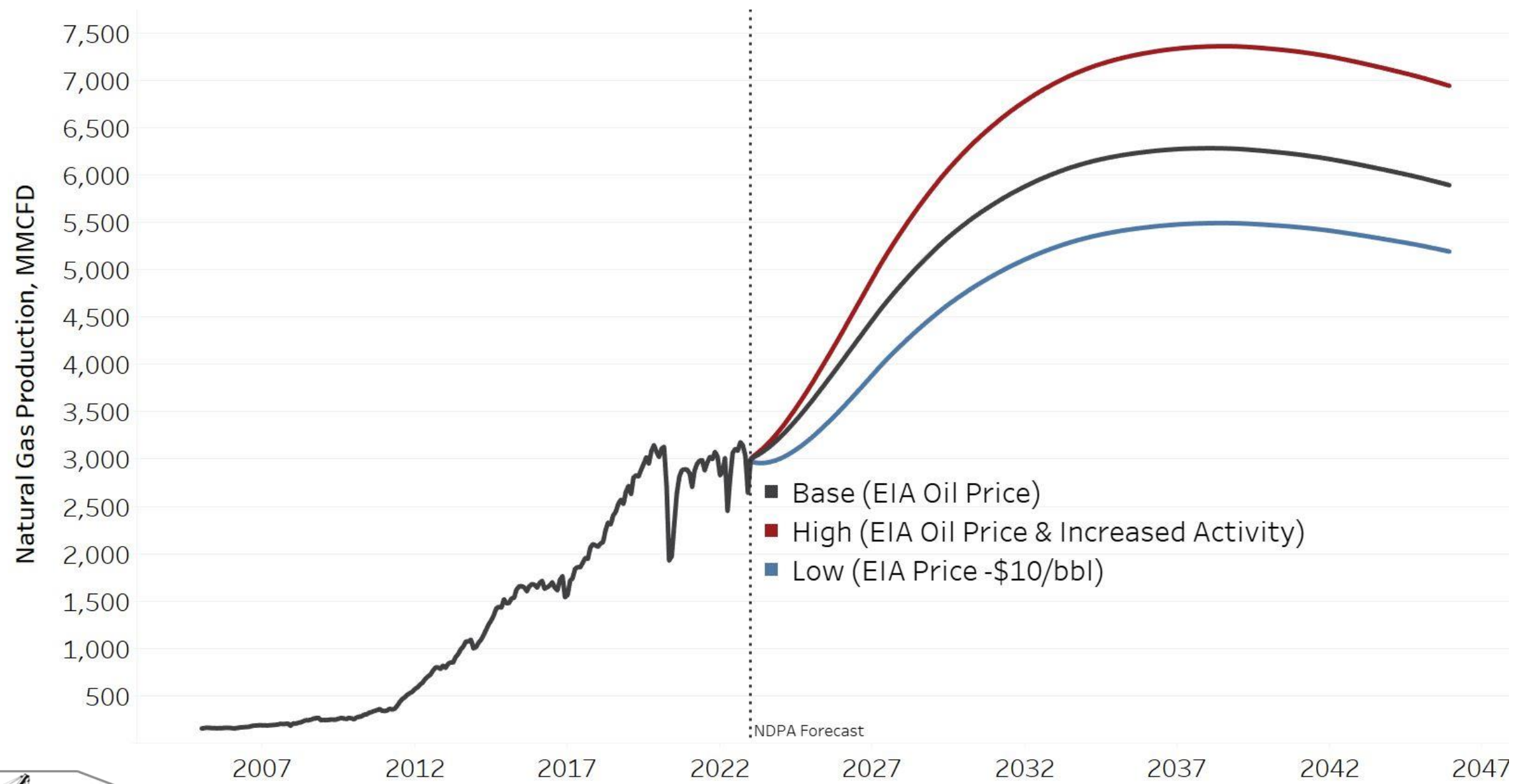
- Dry Gas
- Natural Gas Liquids



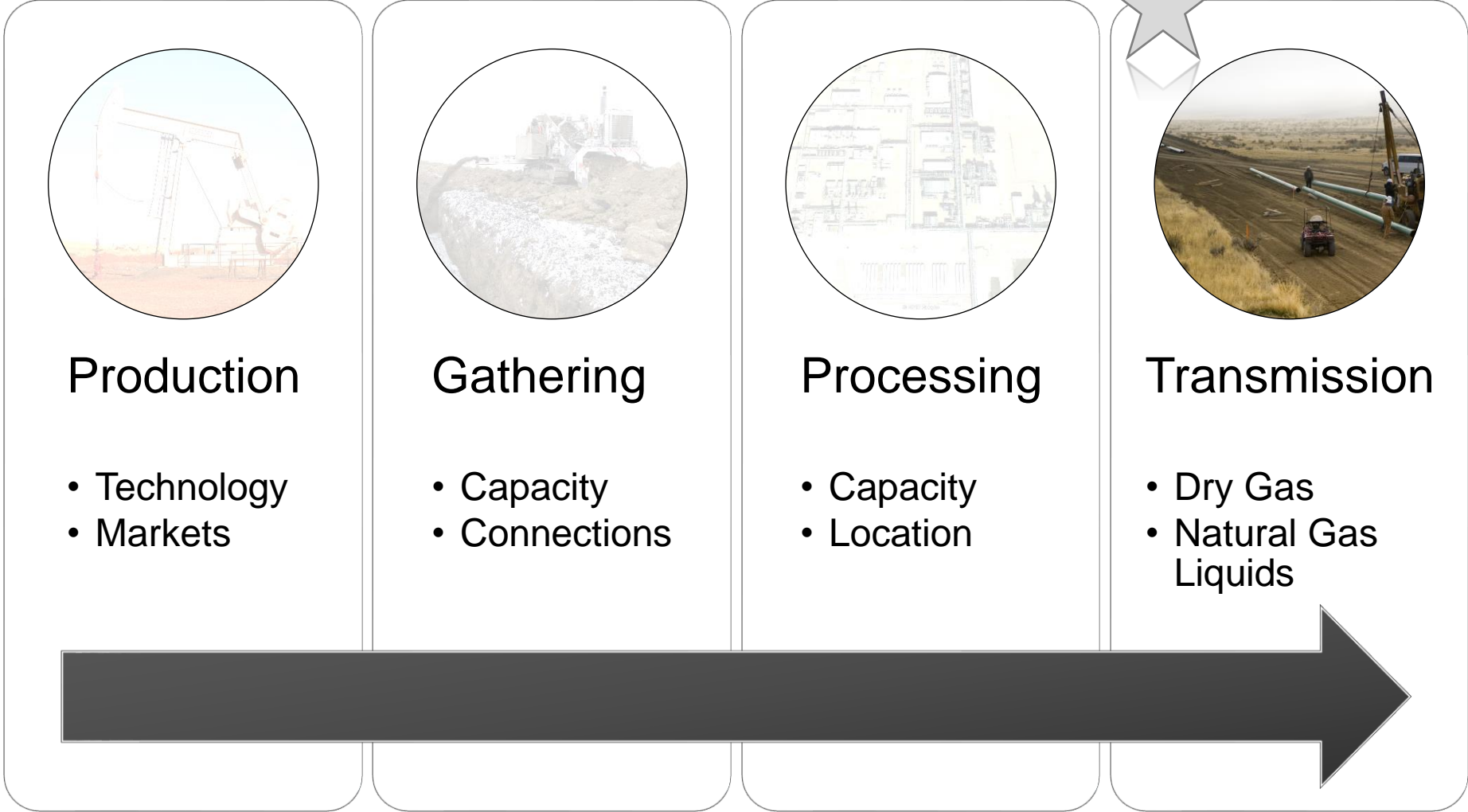
# ND Oil Production: EIA Price Deck



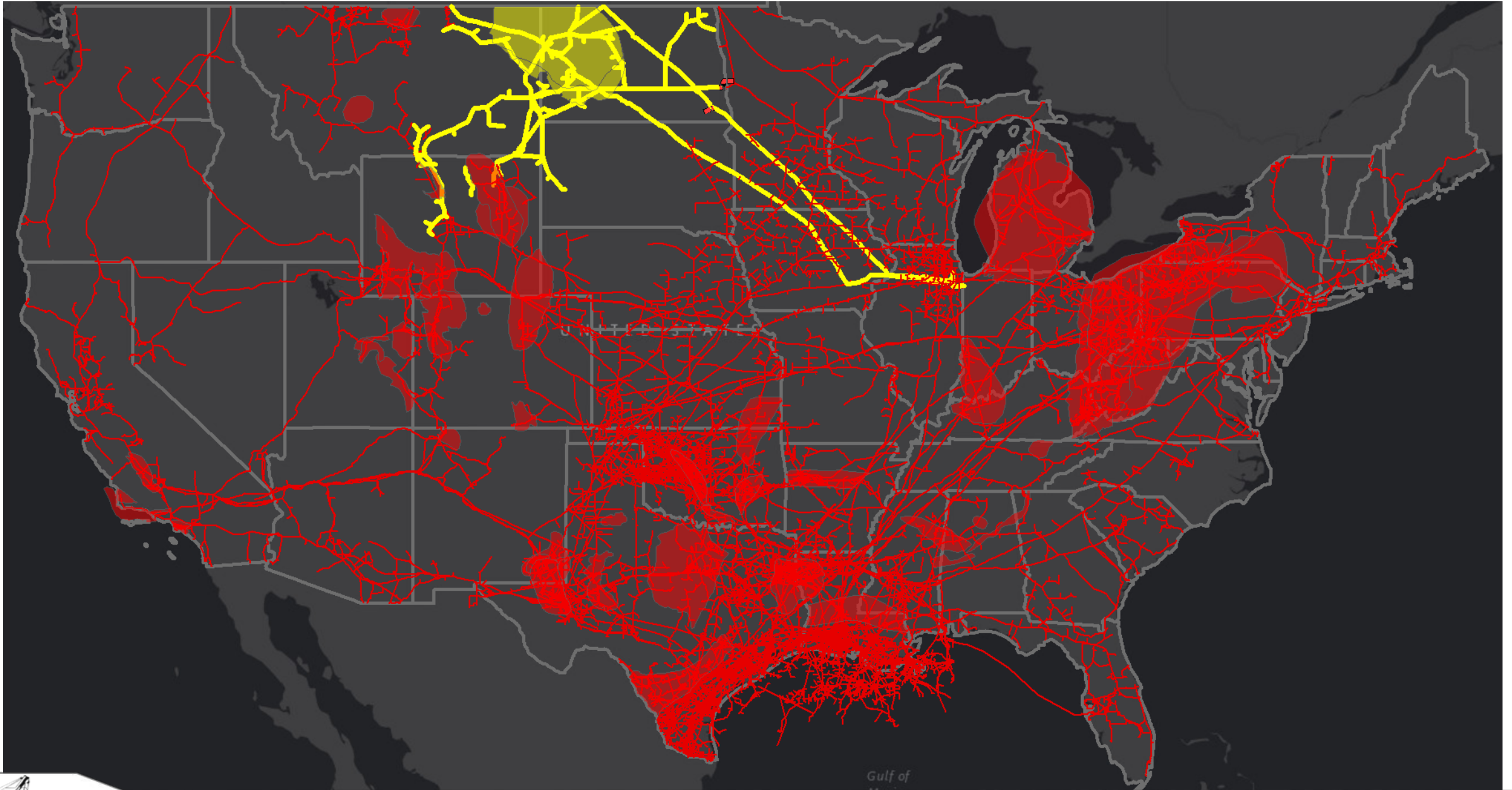
# ND Gas Production: EIA Price Deck



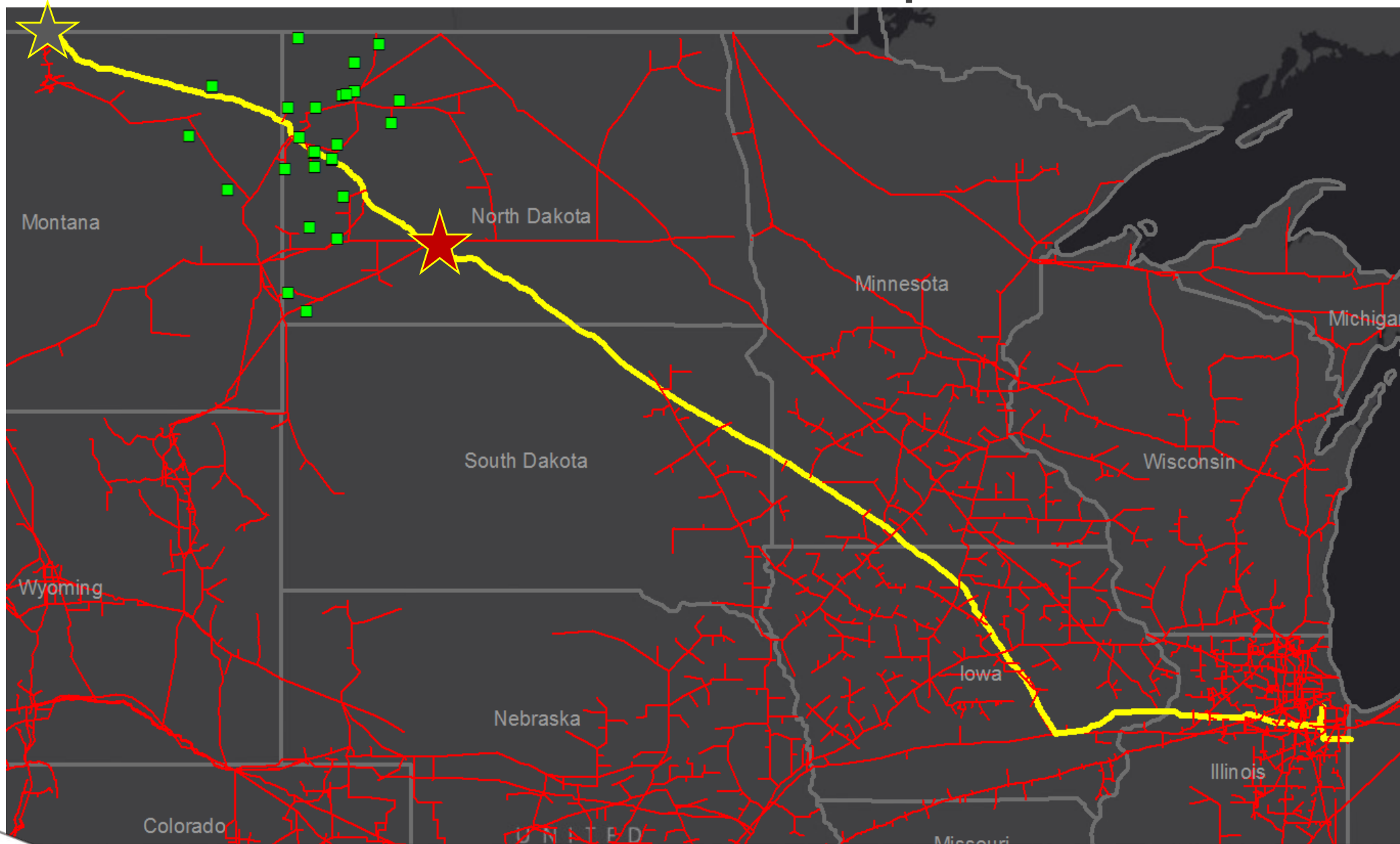
# Natural Gas Update



# Bakken Natural Gas Infrastructure

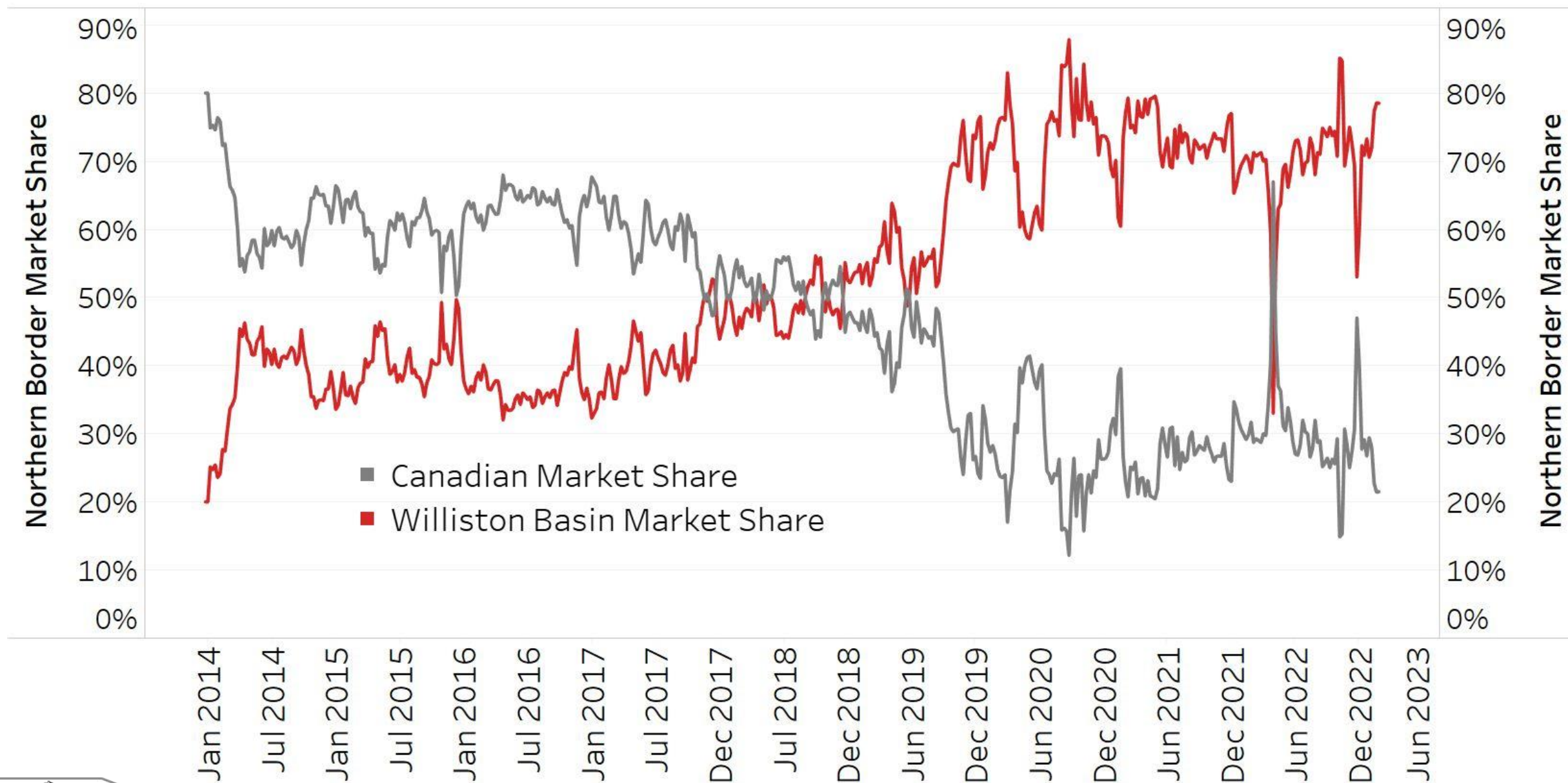


# Northern Border Pipeline





# Northern Border Pipeline Market Share



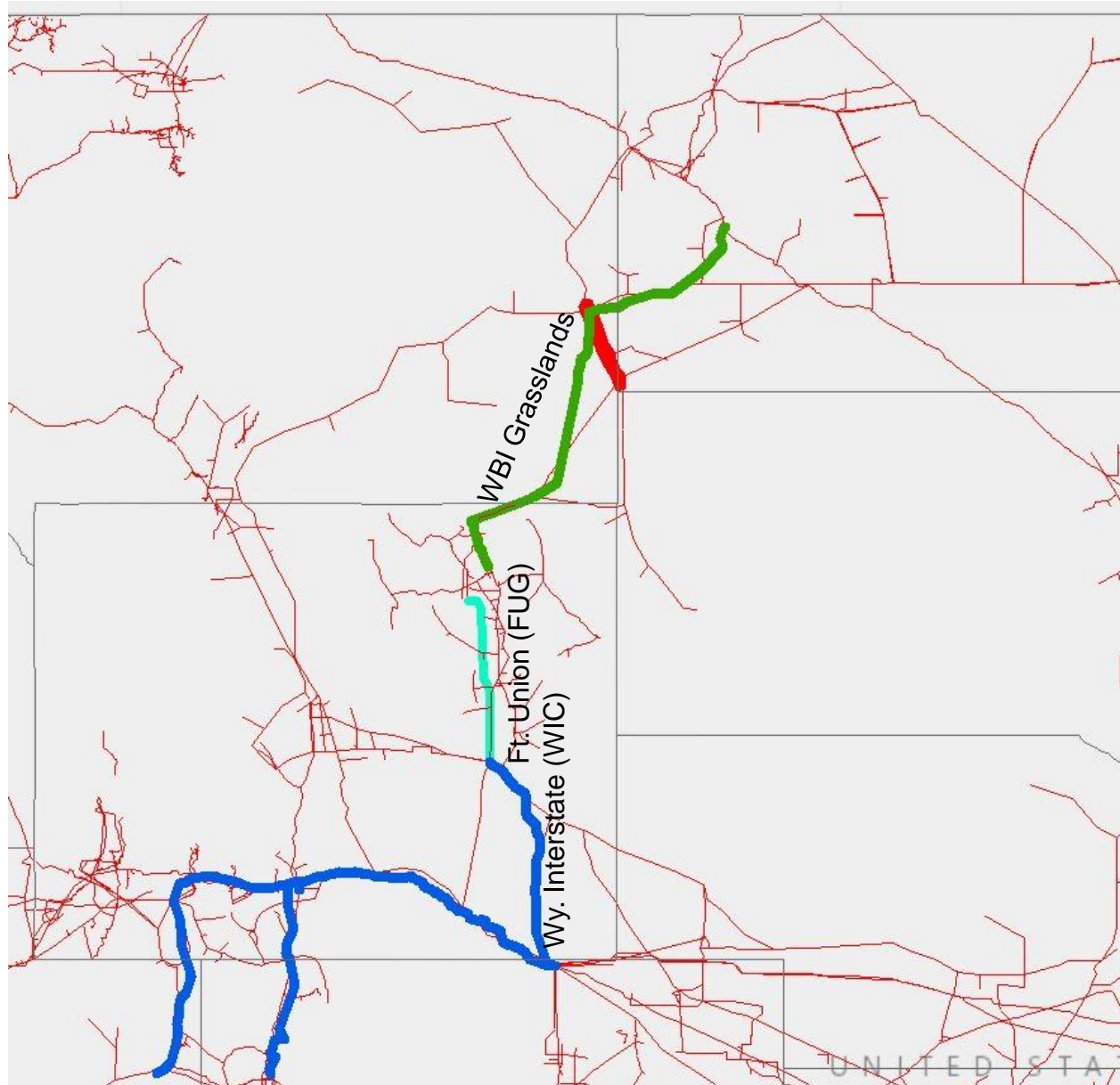
# WBI Energy – Grasslands South Project

## Project Highlights

- Binding open season Jan 10 – Feb 25, 2022
- Repurpose Grasslands Pipeline (16")
- Proposed Capacity 94,000 Dth/Day
- Access to Baker storage field
- Q3 2023 proposed completion
- Seeking commitments 10yrs or Longer
- Fort Union Gas Gathering and Wyoming Interstate Company provide further transport to Cheyenne hub.

## Proposed Tariff Rates

- WBI \$0.32356/Dth + Fuel/Elec to WIC/FUG Interconnect
- FUG/WIC to Cheyenne \$0.2899/Dth + Fuel/Elec



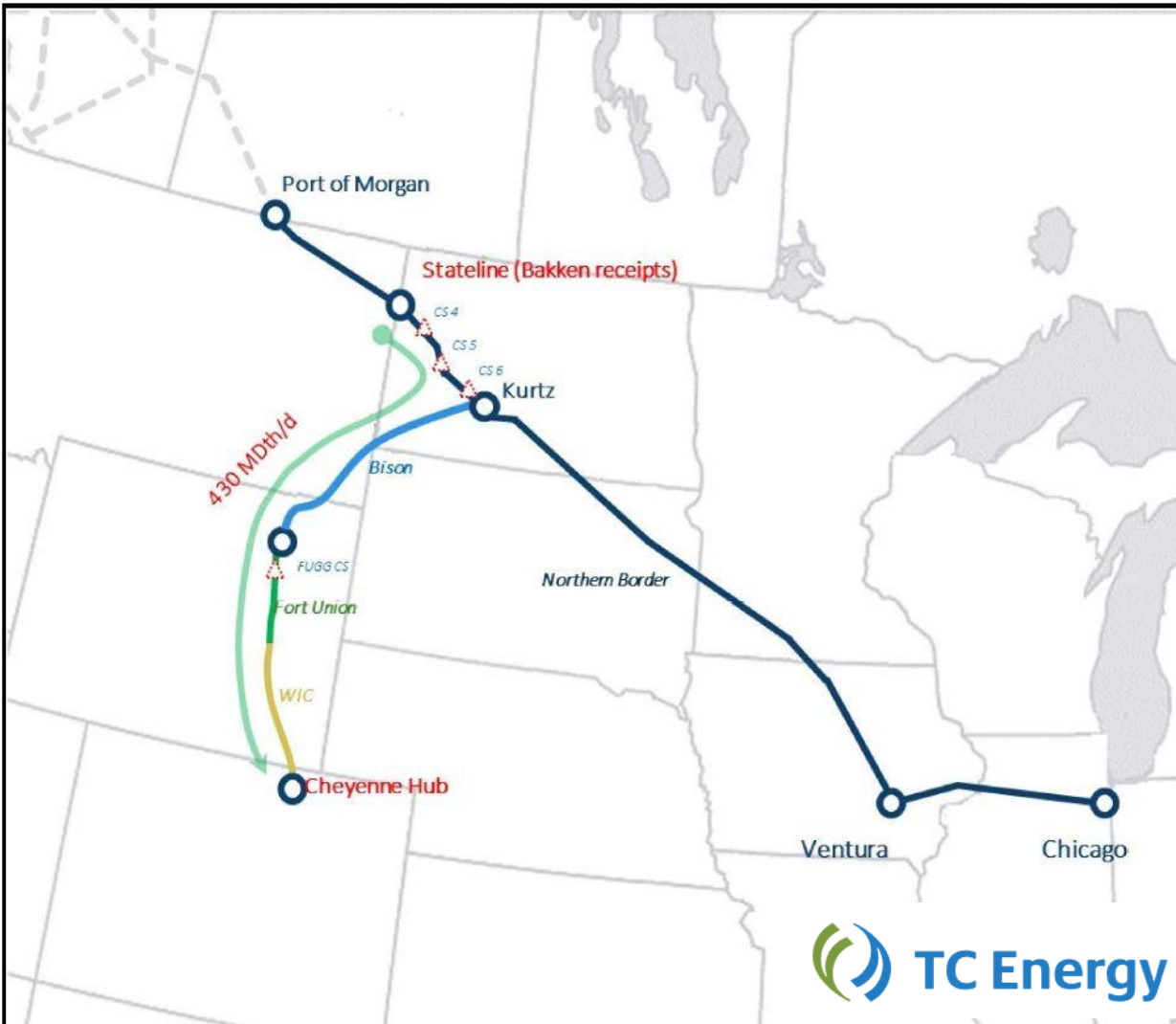
# TC Energy – Proposed Bison XPress Project

## Project Highlights

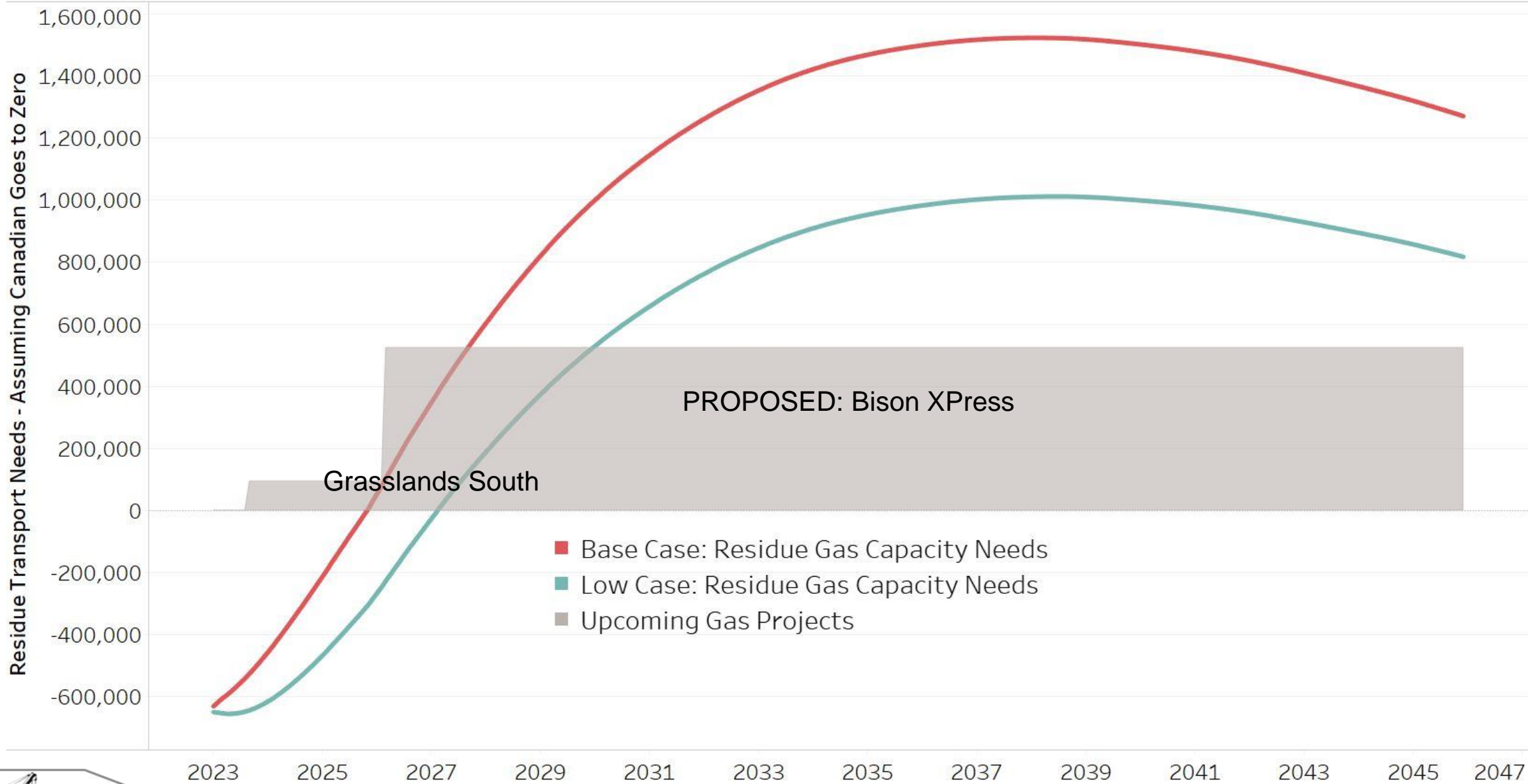
- Non-binding open season April 4 - May 6, 2022
- Three compressor upgrades in North Dakota
- Reverse the idle Bison Pipeline (30" – 302 Mile)
- Proposed capacity 430,000 Dth/Day
- Q1 2026 targeted in-service date
- Fort Union Gas Gathering and Wyoming Interstate Company provide further transport to Cheyenne hub.
- Seeking commitments 10yrs or Longer

## Proposed Tariff Rates

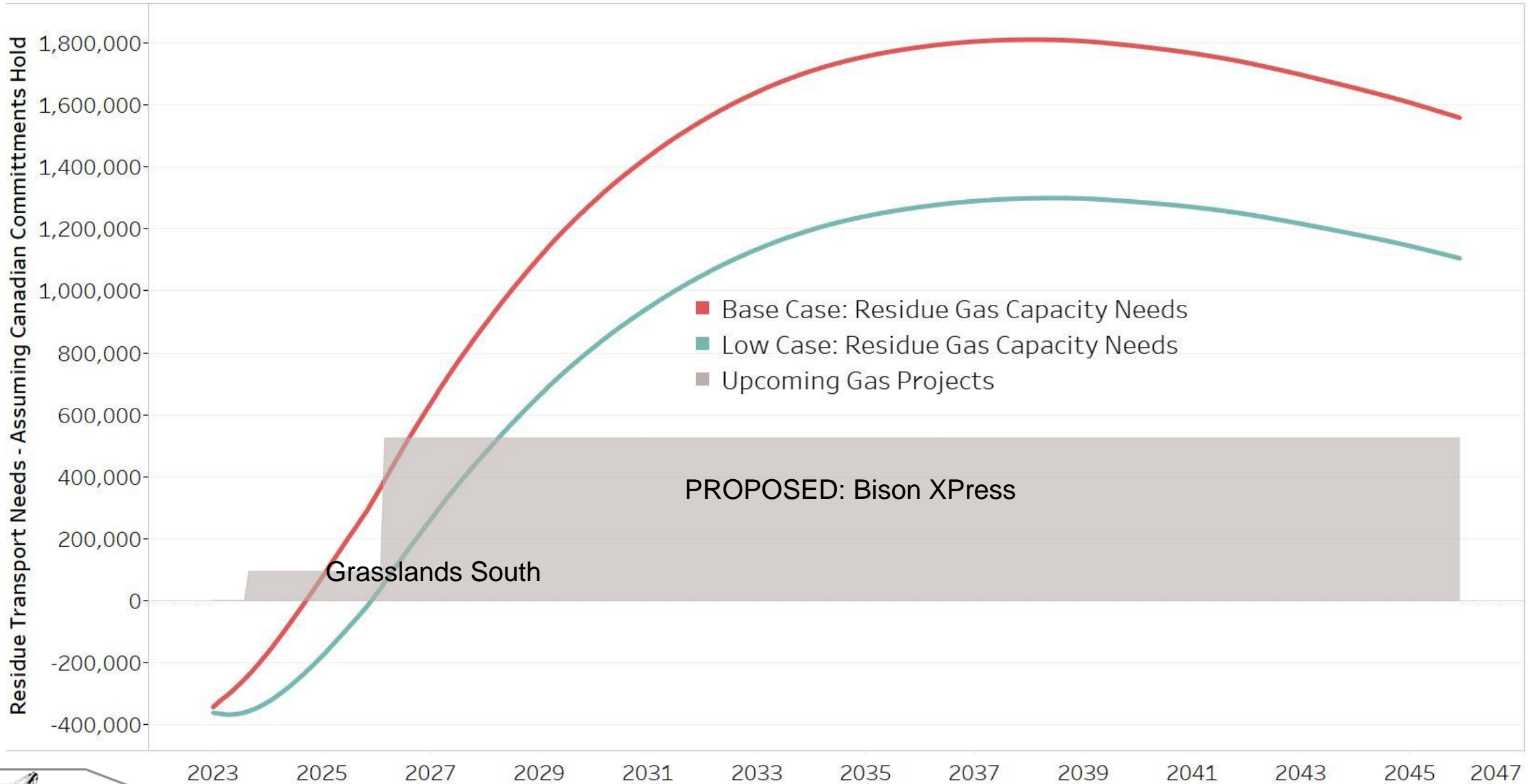
- NBPL/Bison \$0.45/Dth + Fuel/Elec to WIC/FUG Interconnect
- WIC/FUG to Cheyenne \$0.30/Dth + Fuel/Elec
- Anchor Shipper Minimum: 50,000 Dth/Day



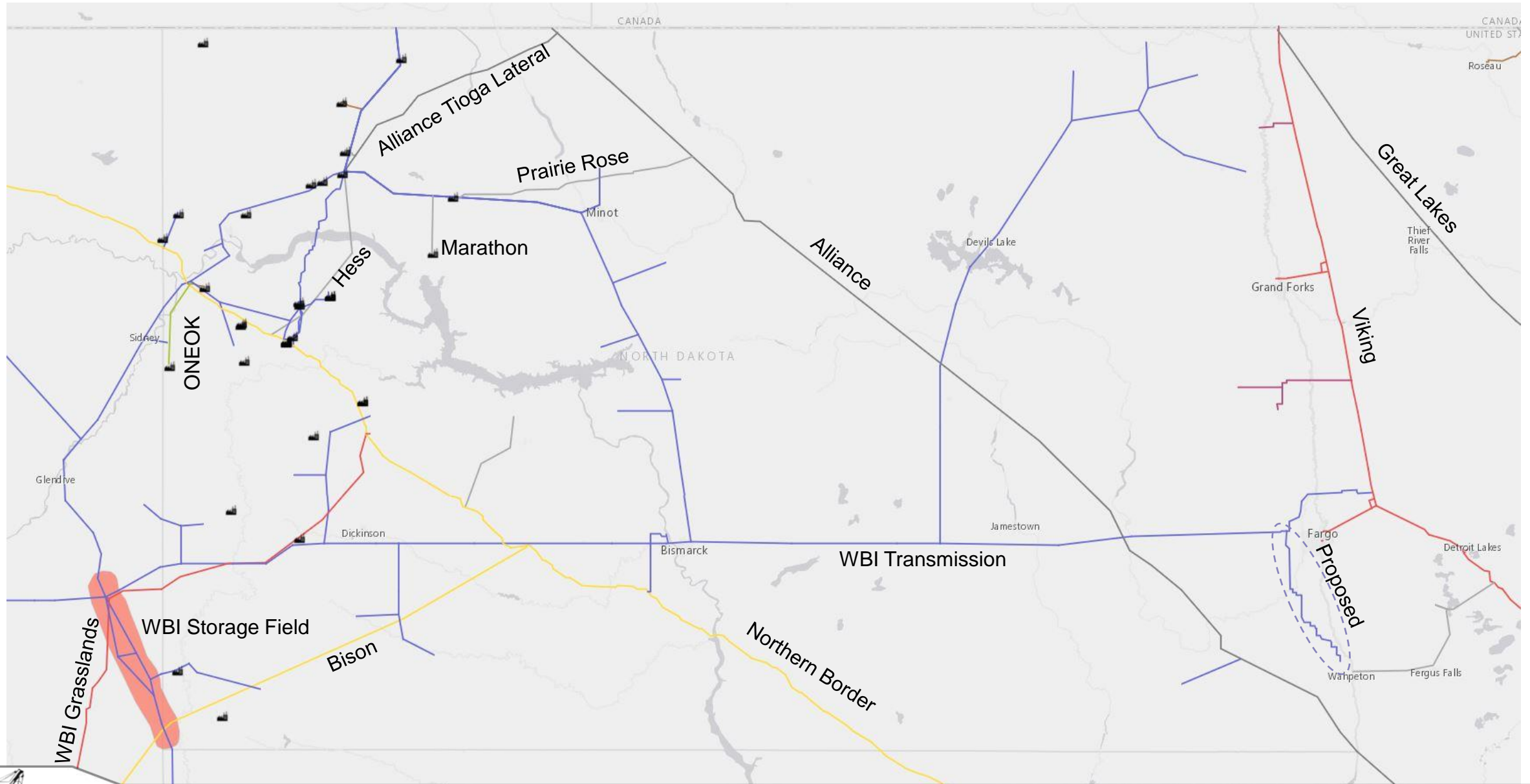
# Residue Capacity Needs : ZERO CANADIAN



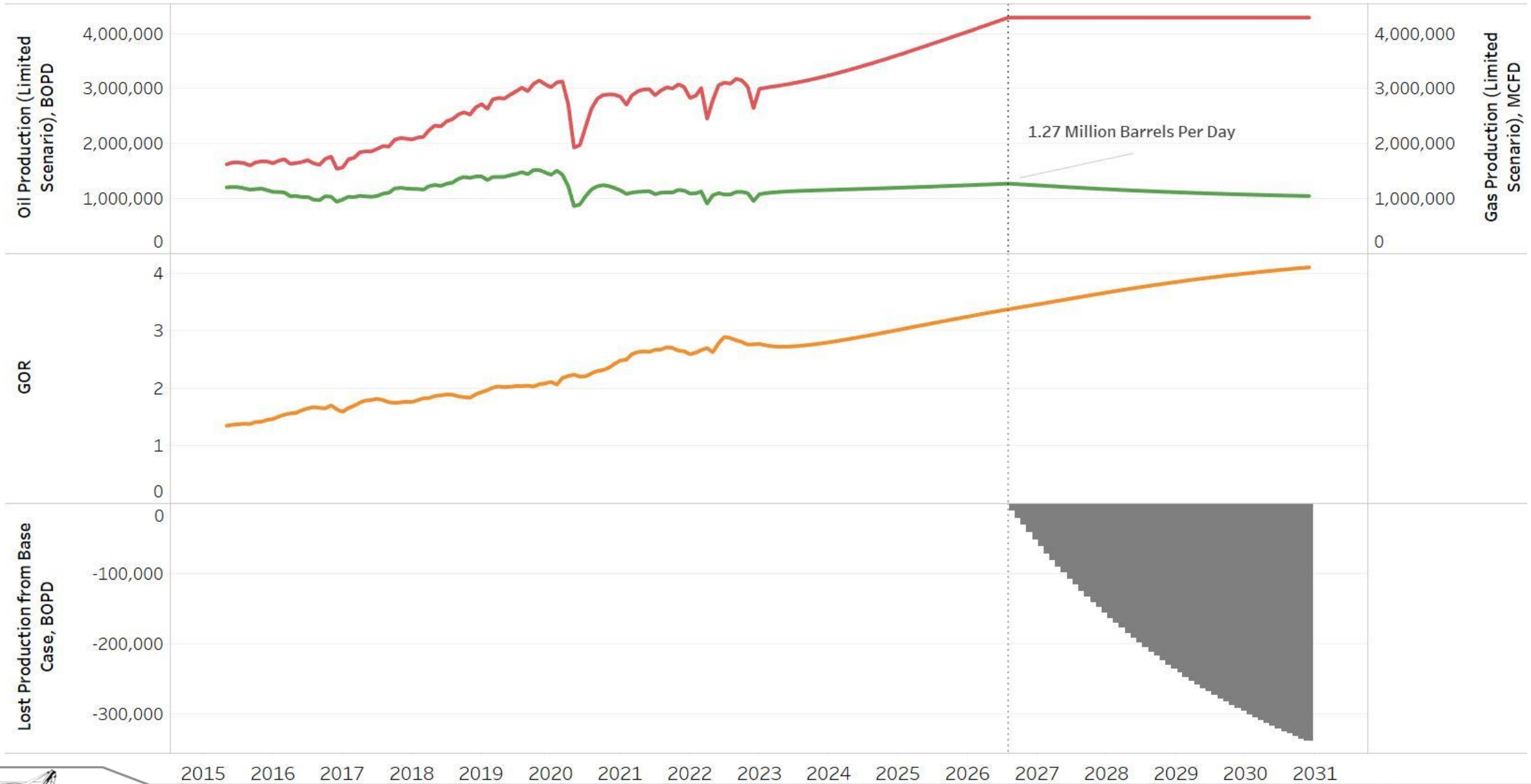
# Residue Capacity Needs: ~288,000 MMBTU CDN



# Major Residue Gas Pipeline Infrastructure

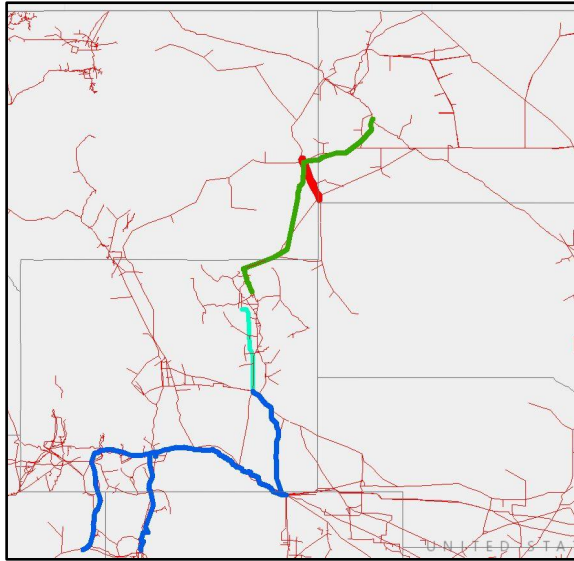


# Gas Limitations Would Force Oil Production Down As GOR Rises

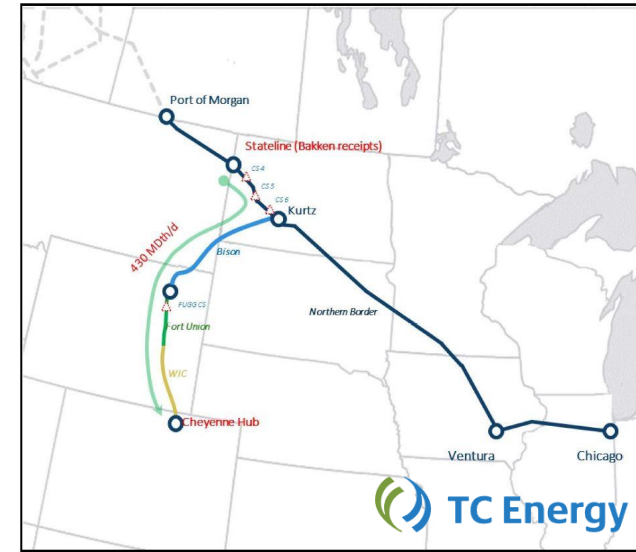


# Value of a Dekatherm (MMBTU)

**WBI Grasslands**  
94,000 Dekatherms  
Per Day



**Bison XPress**  
430,000 Dekatherms  
Per Day



## Combined Oil and Natural Gas Tax Value

- Combined 524,000 Dekatherms per day of needed gas takeaway capacity
- \$3.74\* in oil/gas tax value per Dekatherm x 524,000 Dekatherms = \$1,959,760 per day
- **\$715+ Million per year in oil and natural gas taxes to the State of North Dakota**
- *At 570,000 BOPD, DAPL's impact to reduce oil discount vs rail ~\$60 million per year in oil taxes*





# Pipeline Authority Tools

## 54-17.7-04. Powers.

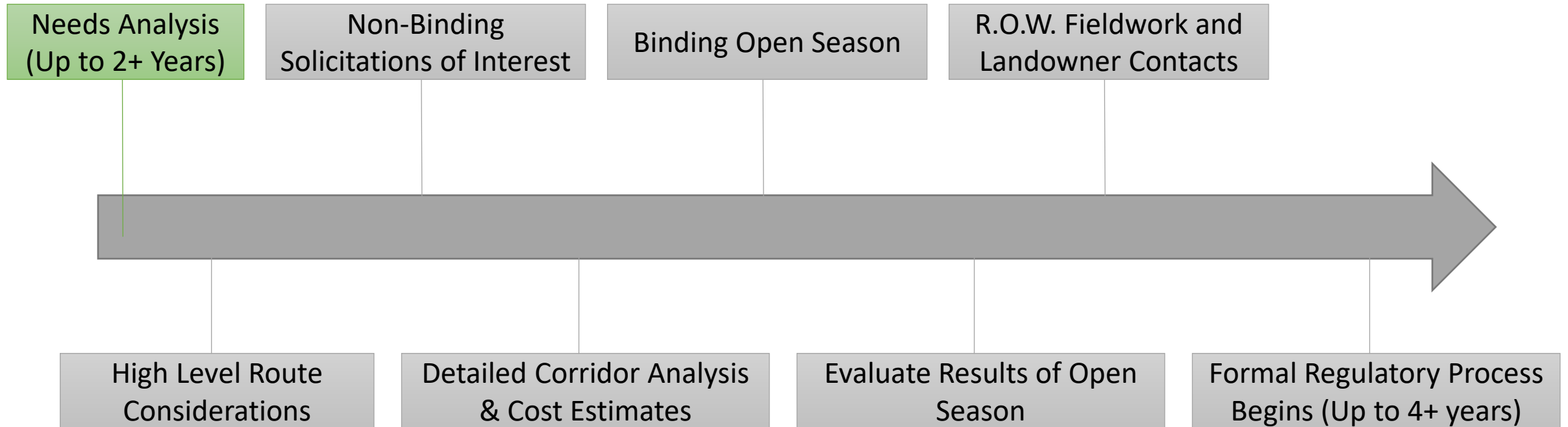
The authority has all powers necessary to carry out the purposes of this chapter, including the power to:

1. Make grants or loans and to provide other forms of financial assistance as necessary or appropriate for the purposes of this chapter.
2. Make and execute contracts and all other instruments necessary or convenient for the performance of the authority's powers and functions.
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 as a purchaser of last resort. The obligation of the state may not exceed ten percent of the pipeline authority's acquisition or purchase of a right to capacity in any pipeline system or systems, or interconnection of pipeline systems, and the state's obligation is limited to the funding available from the oil and gas research fund.
4. Borrow money and issue evidences of indebtedness as provided in this chapter.

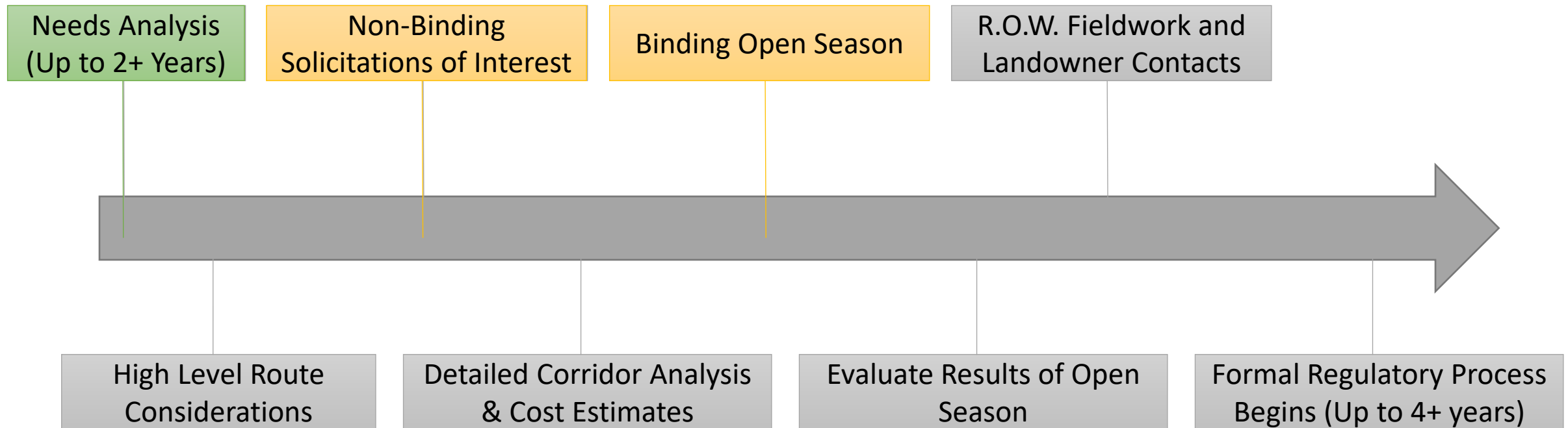
*Additional Tools 5-18*



# Early Stages of Pipeline Development

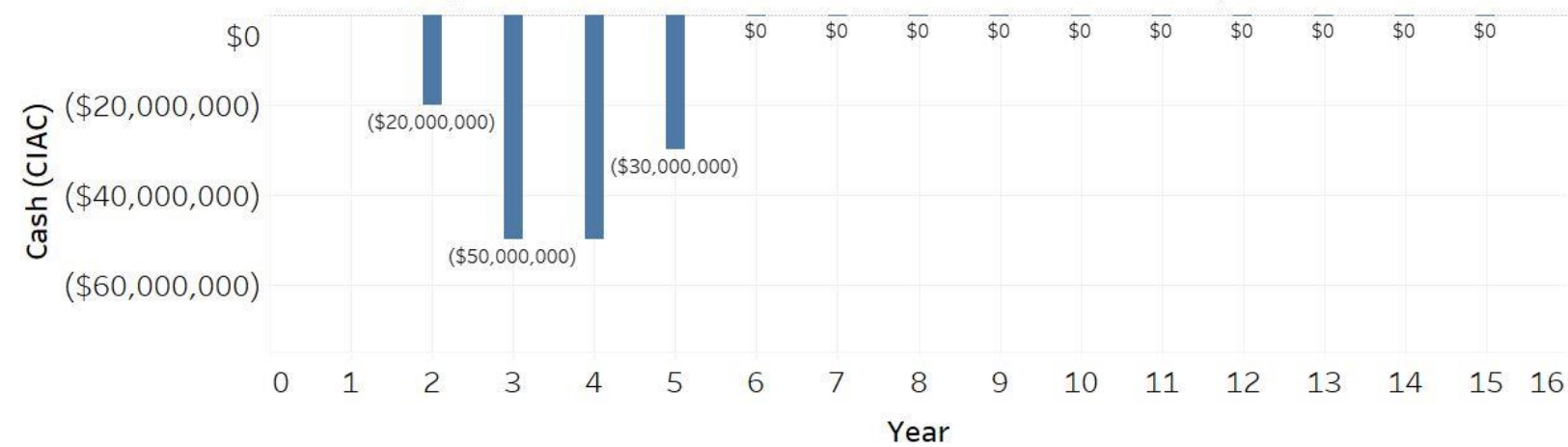


# Early Stages of Pipeline Development



# \$150M Examples (CIAC vs Capacity)

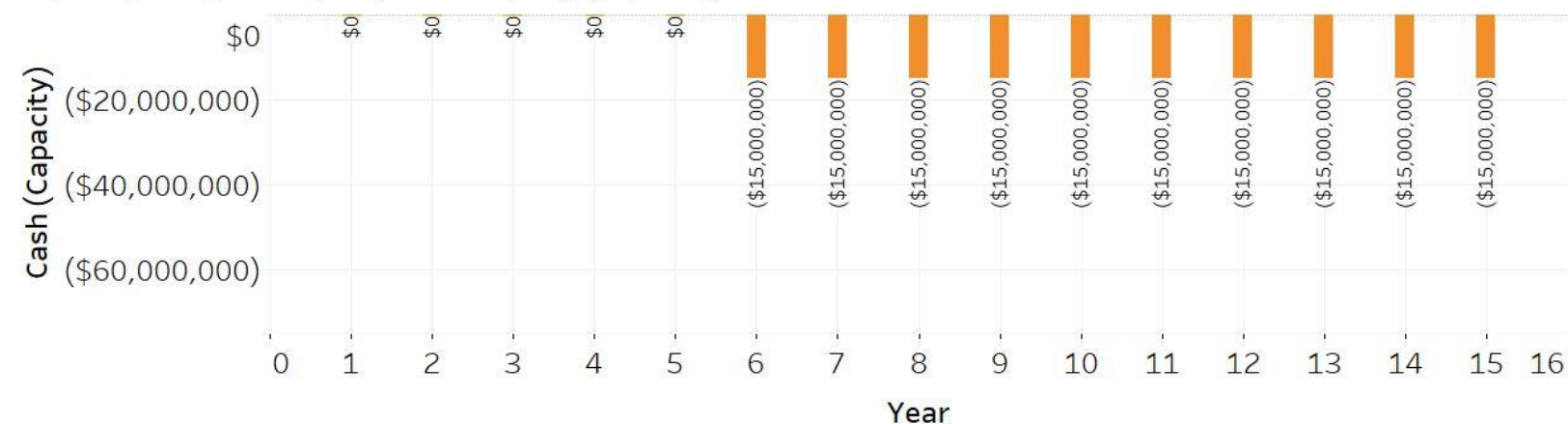
Upfront Capital Contribution (\$150M Contribution in Aid of Construction - "CIAC")



## Considerations (+/-)

- Upfront contribution (+)
- Transport rate buydown (+)
- No direct recovery mechanism (-)
- Federal tax consideration (-)
- NPV @ 6% = \$129M

Capacity Obligation (~41,000 Dth/Day @ \$1.00)

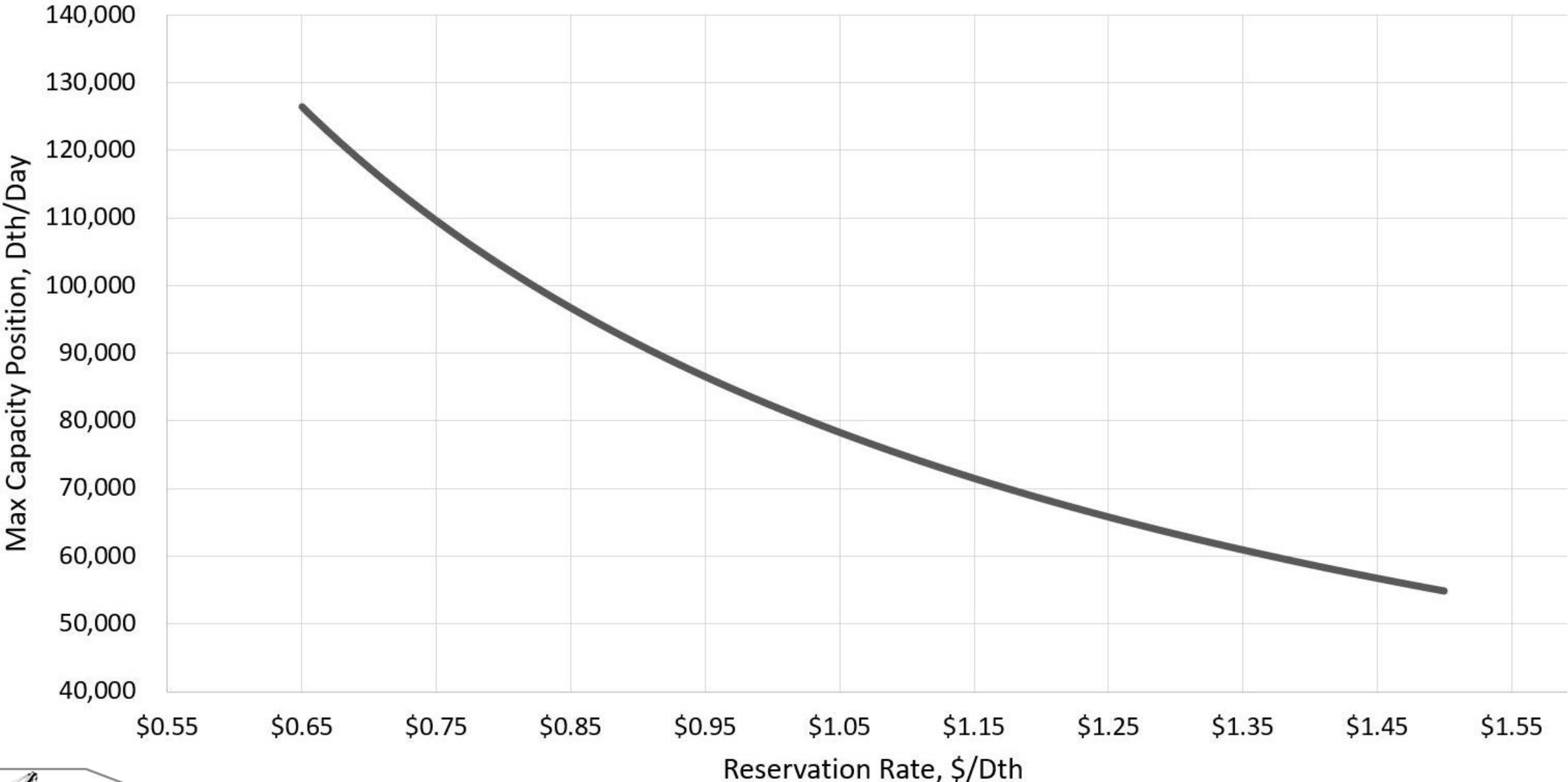


## Considerations (+/-)

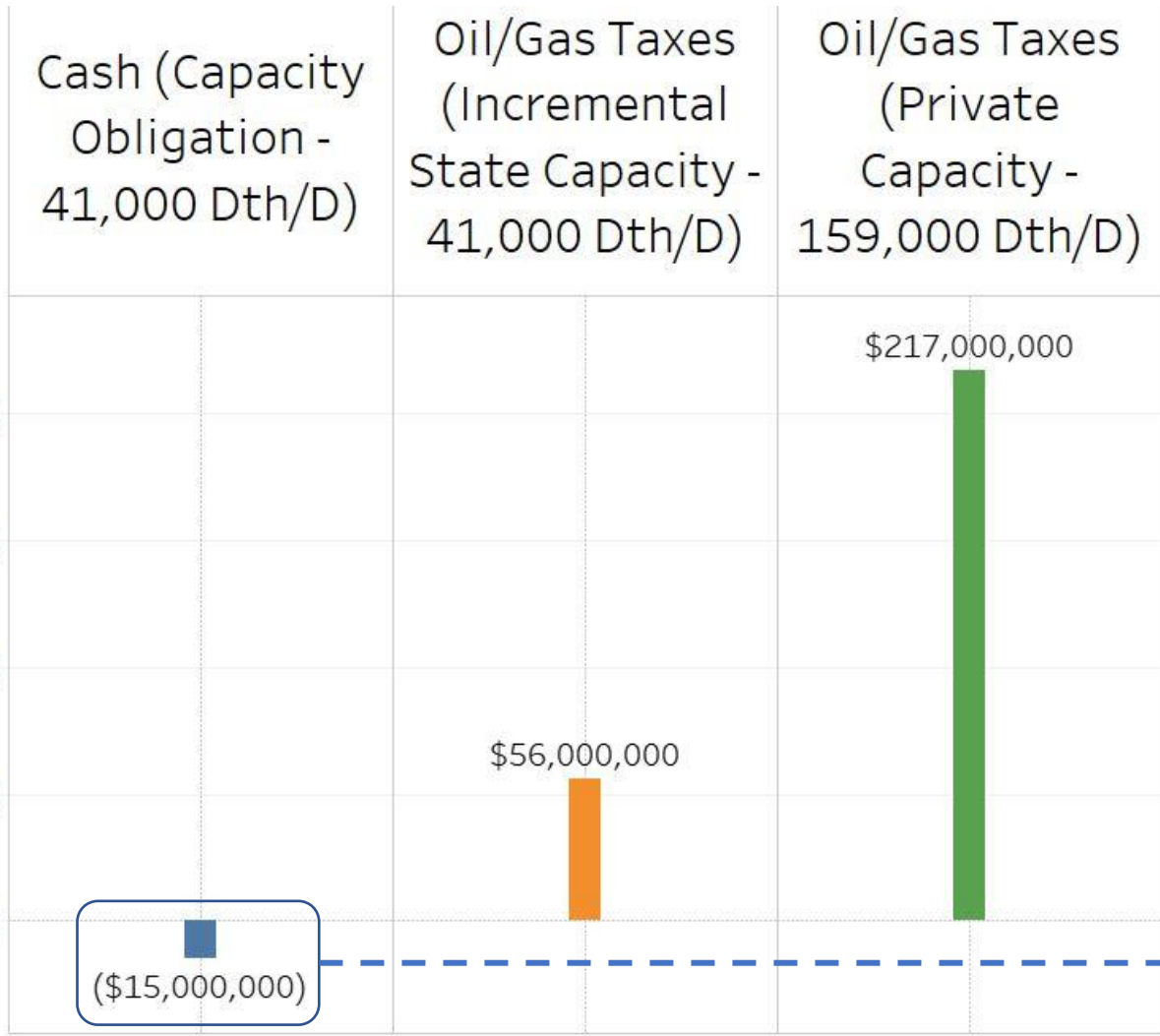
- Opportunity to release obligations (+)
- Obligation recovery possible through asset management agreement (+)
- If obligation is not released or recovered with AMA, max risk is the total transport obligation (\$150M in this example) (+/-)
- No direct transport rate buydown, but rate influenced by total committed volume.
- NPV @ 6% = \$82.5M



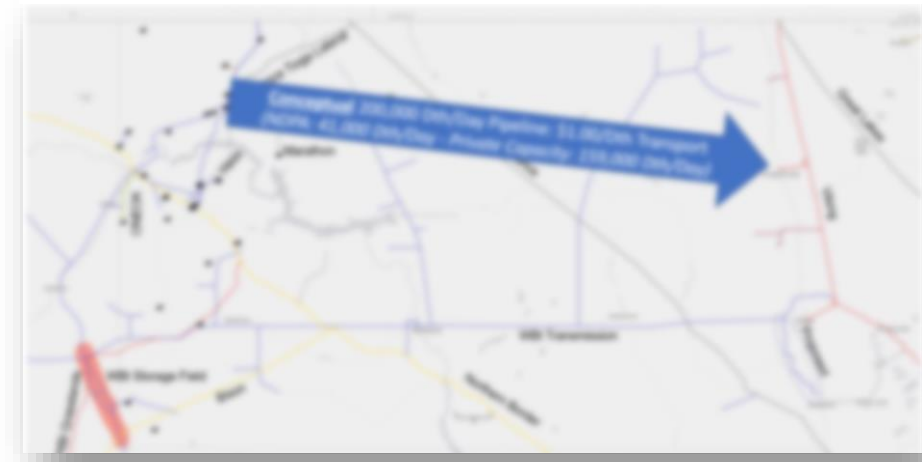
# Capacity and Reservation Rate at \$30M/Yr



# Example Operating Project Cashflows



**Hypothetical Project Needs 200,000 Dth/D Capacity Commitment to Move Forward**

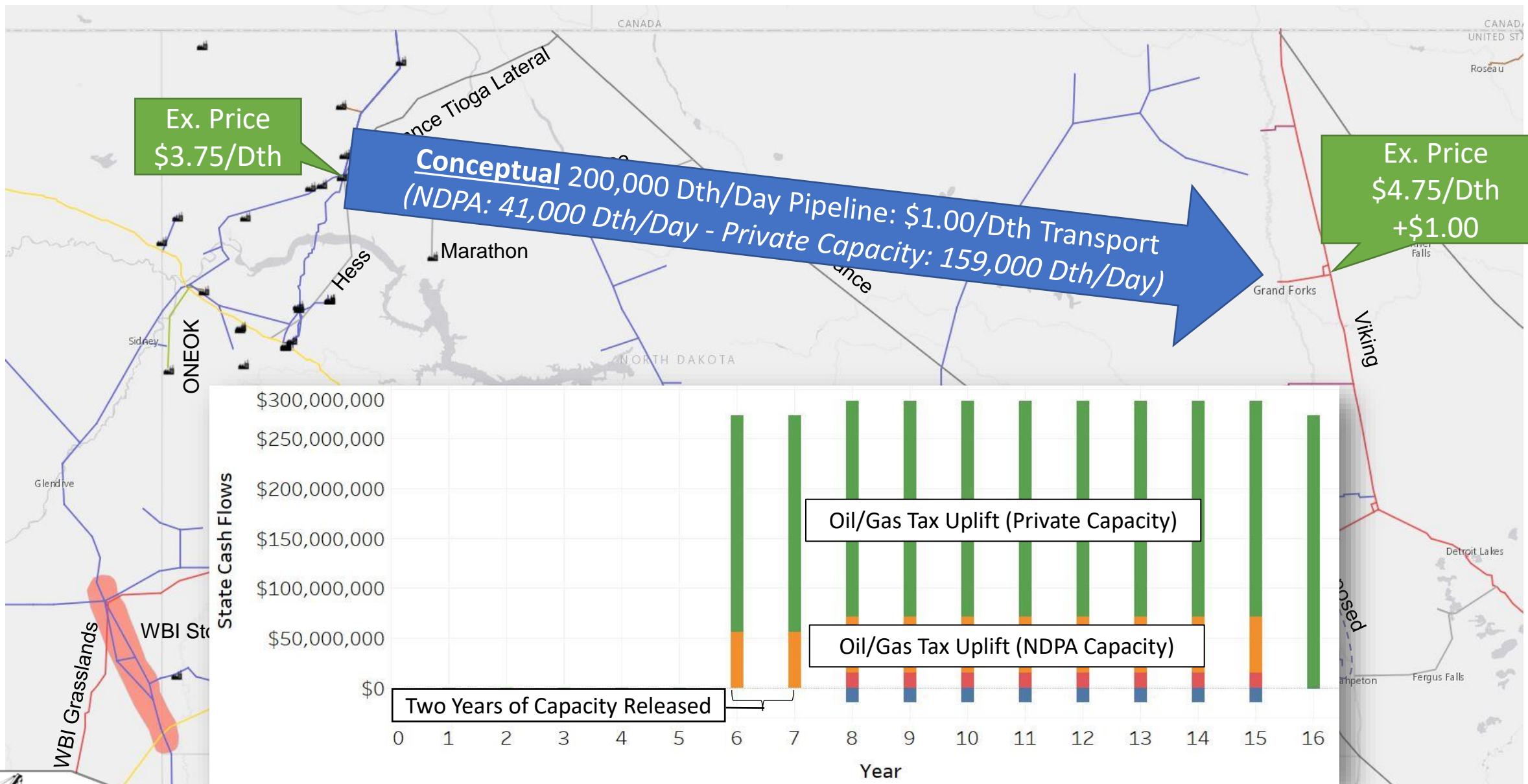


## Options for State Capacity Obligation

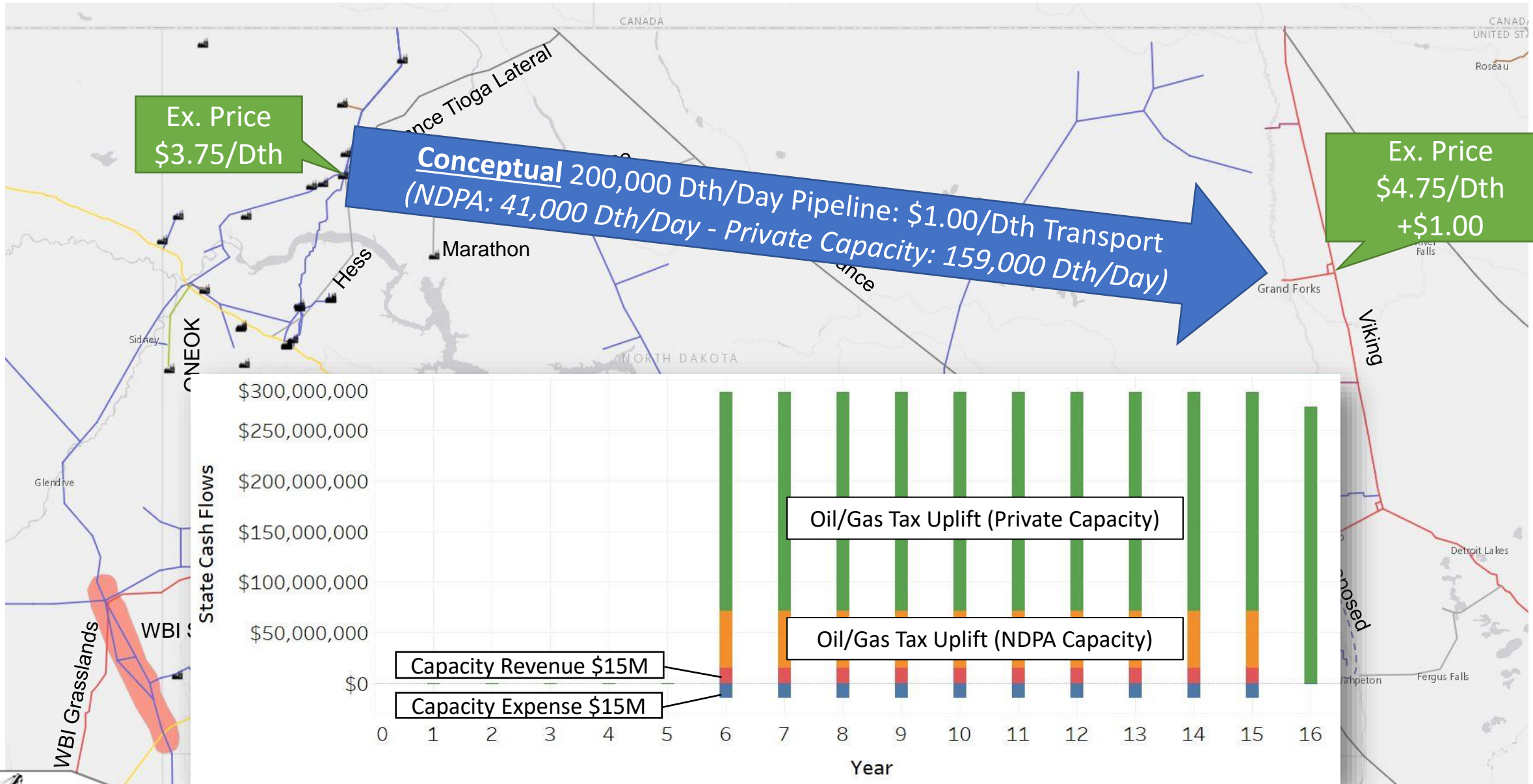
- Release (full or partial) to private sector
- Monetize capacity through asset management agreement (AMA)
- Worst case – Continue to pay obligations without recovery or release on 41,000Dth



# Simplified Capacity Release Example

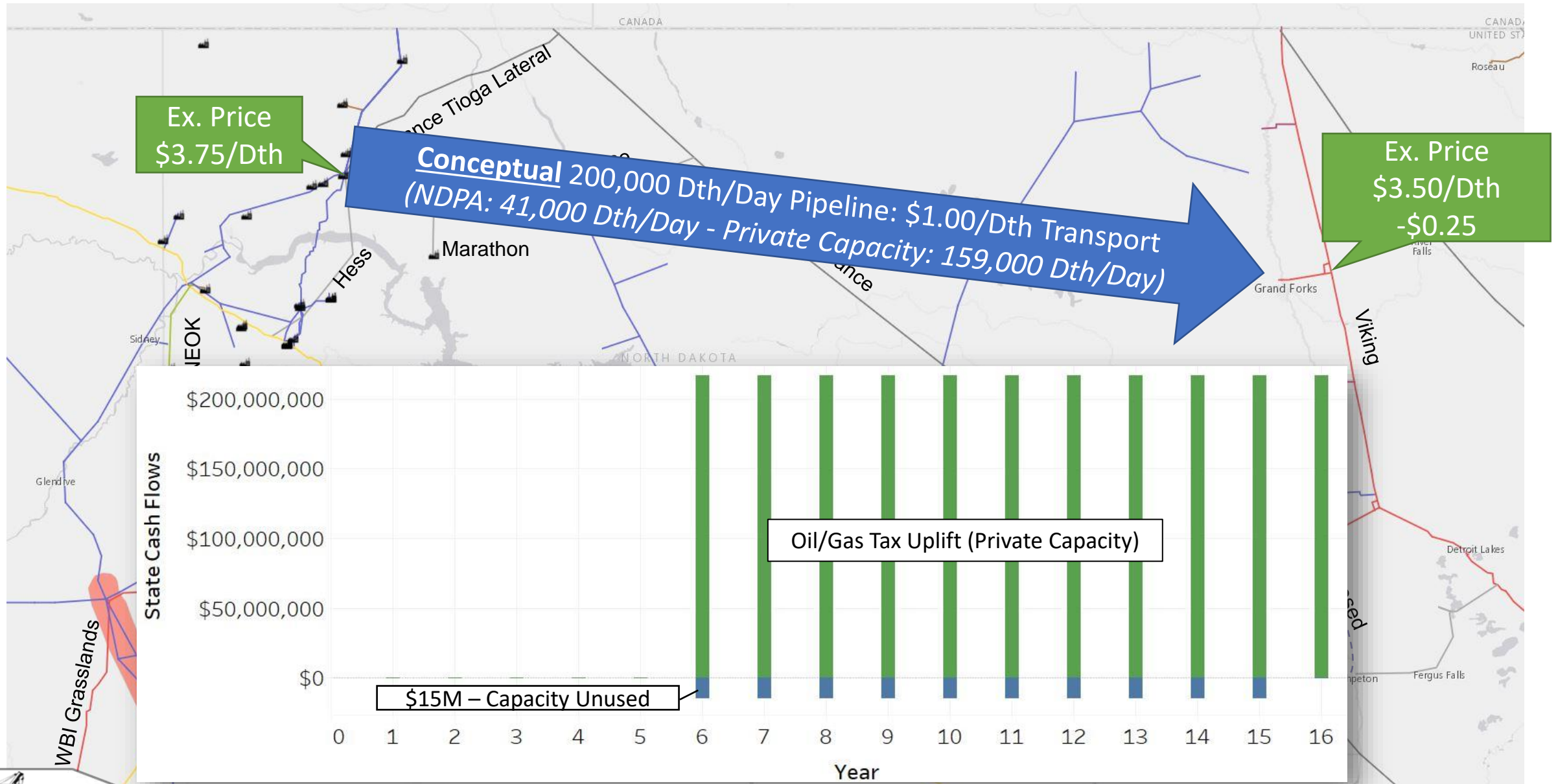


# Simplified "Breakeven" Example

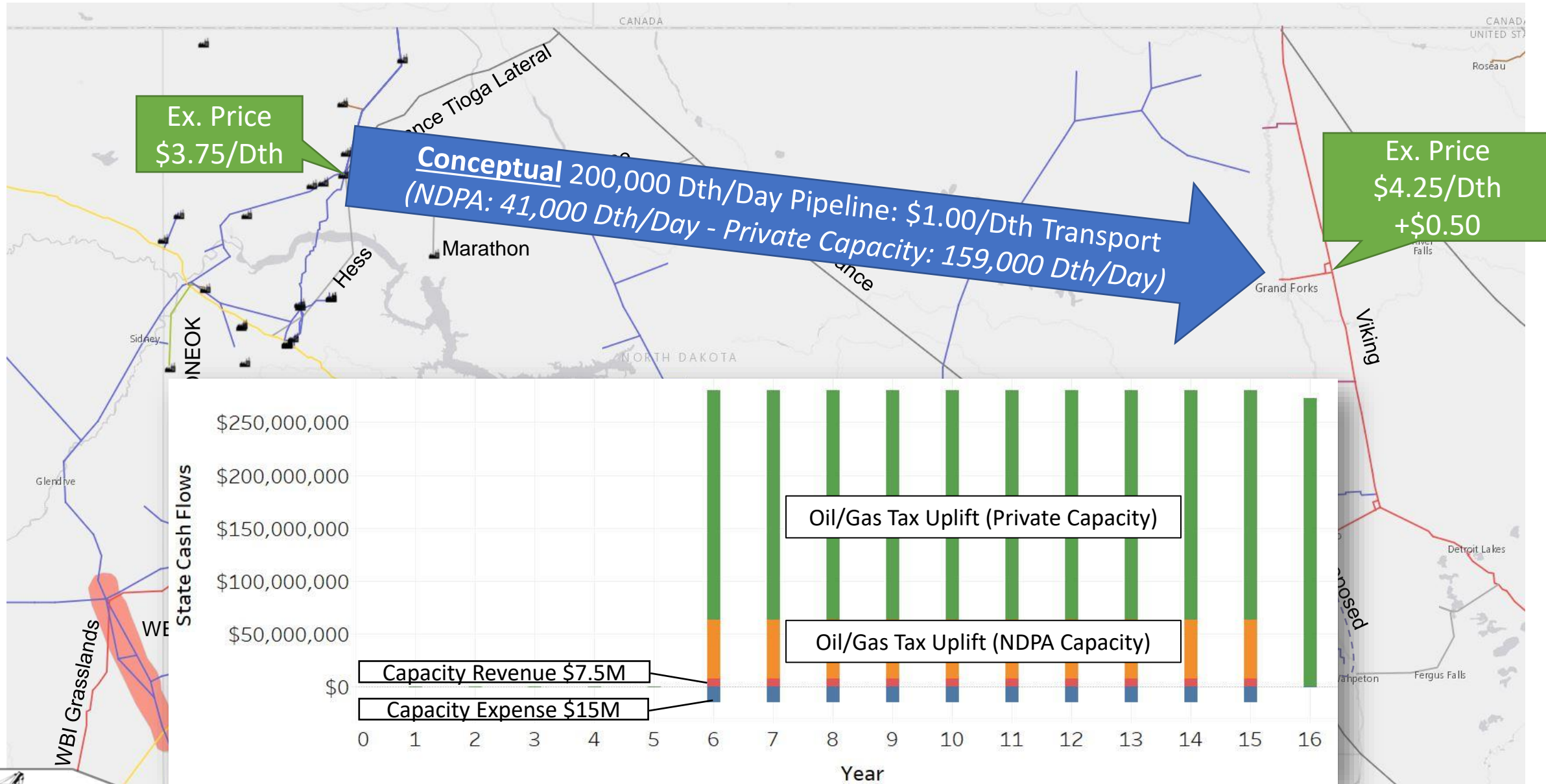




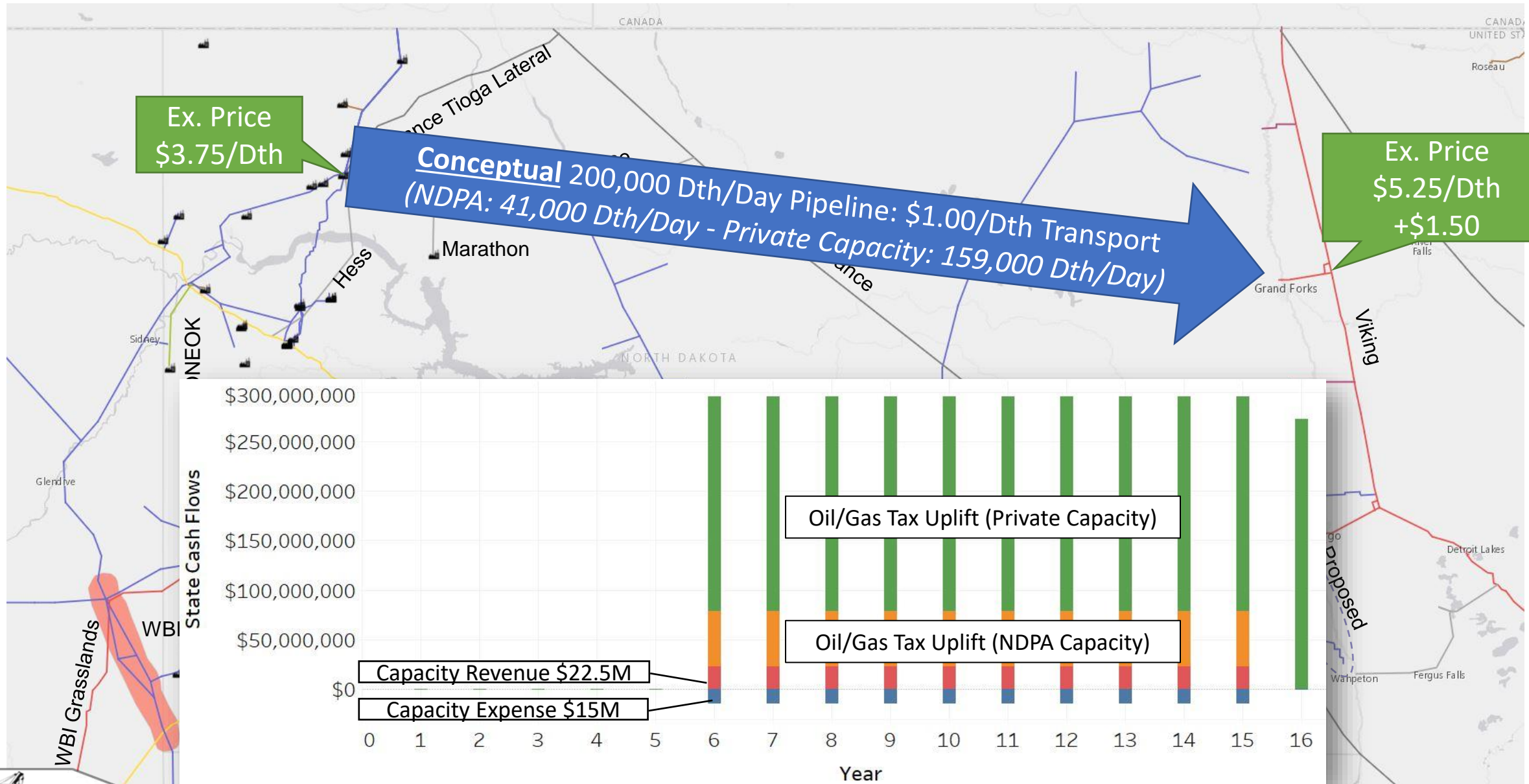
# Simplified Uneconomic Scenario



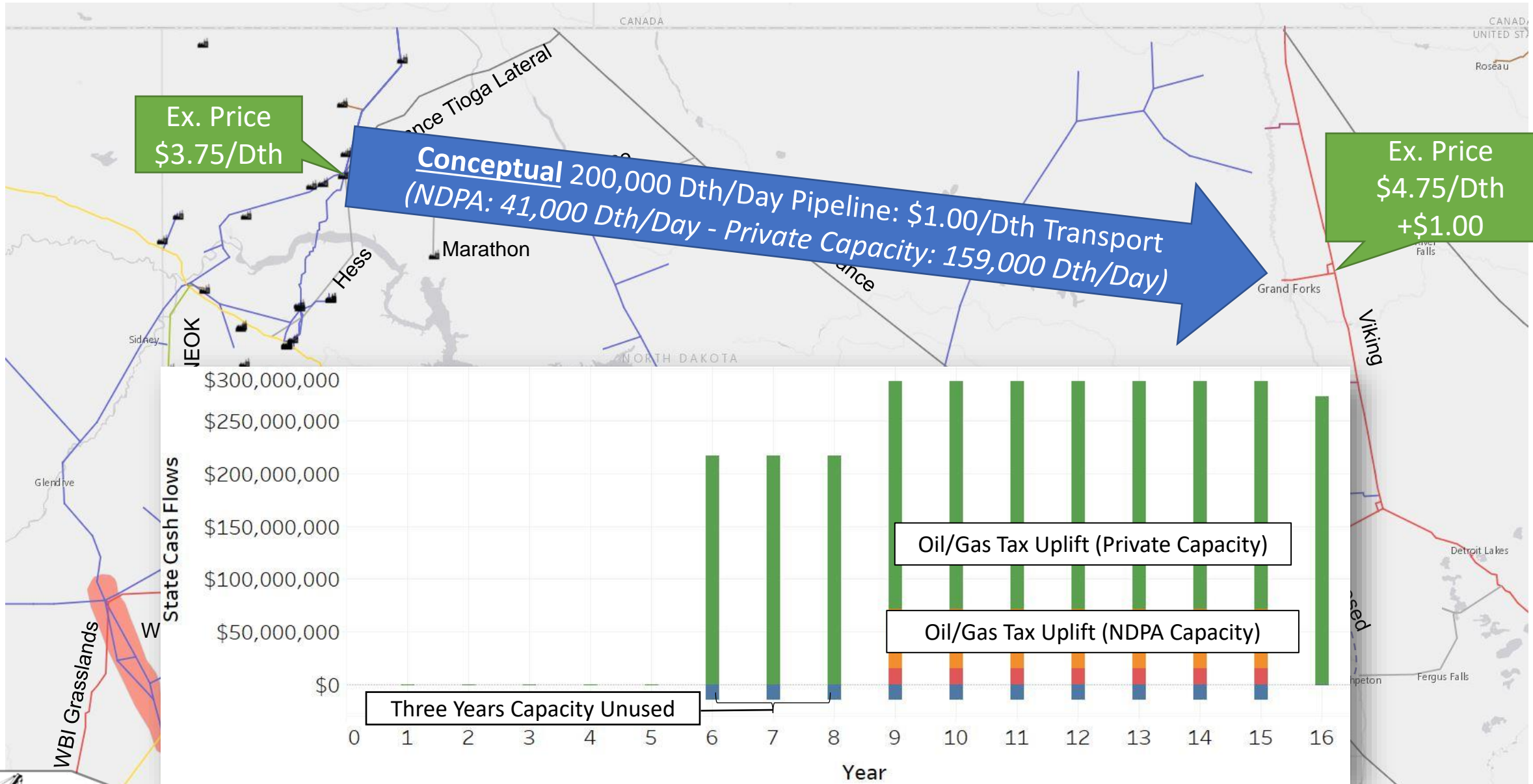
# Simplified Partial Rate Recovery



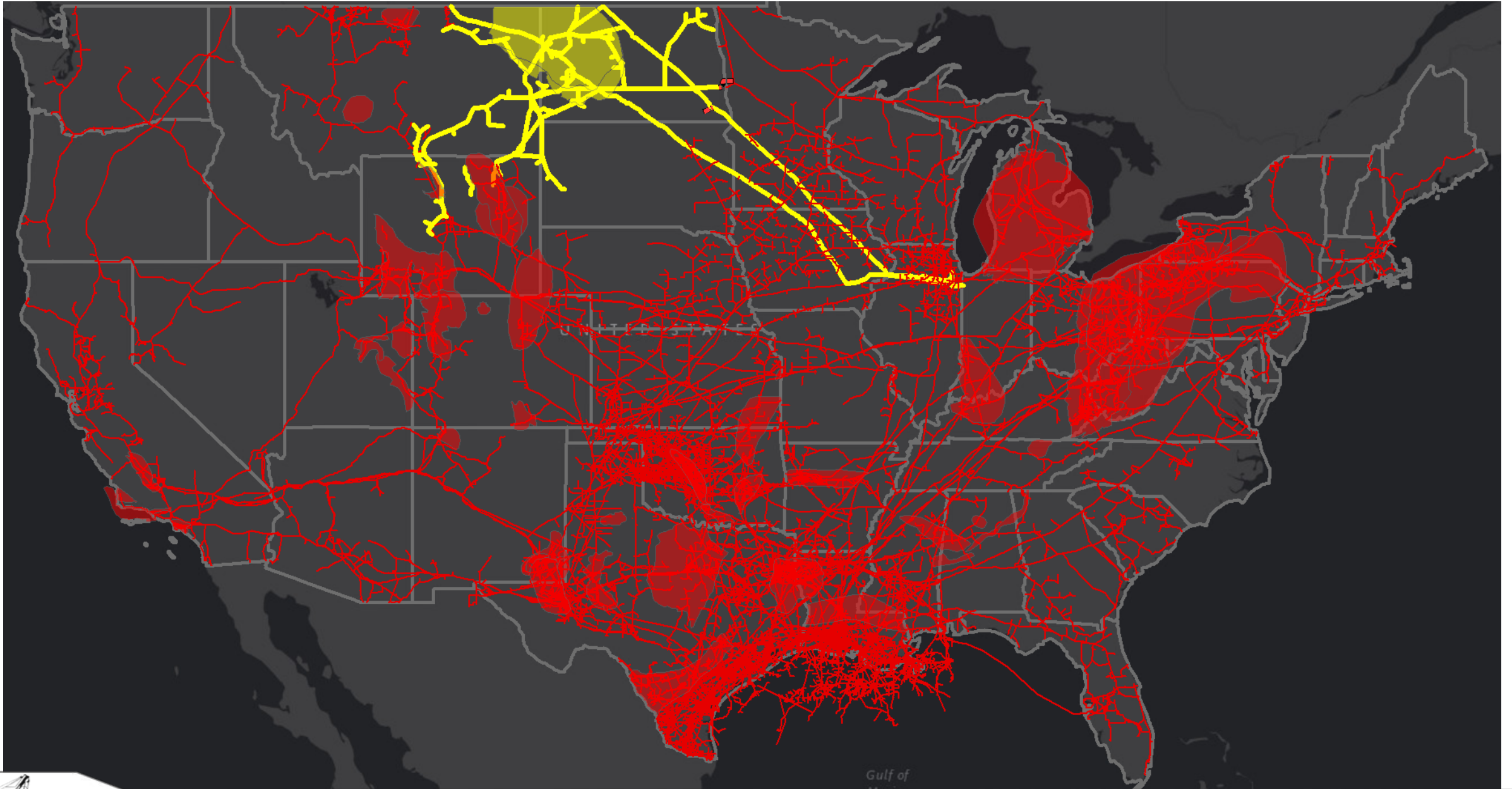
# Simplified Profitable Example



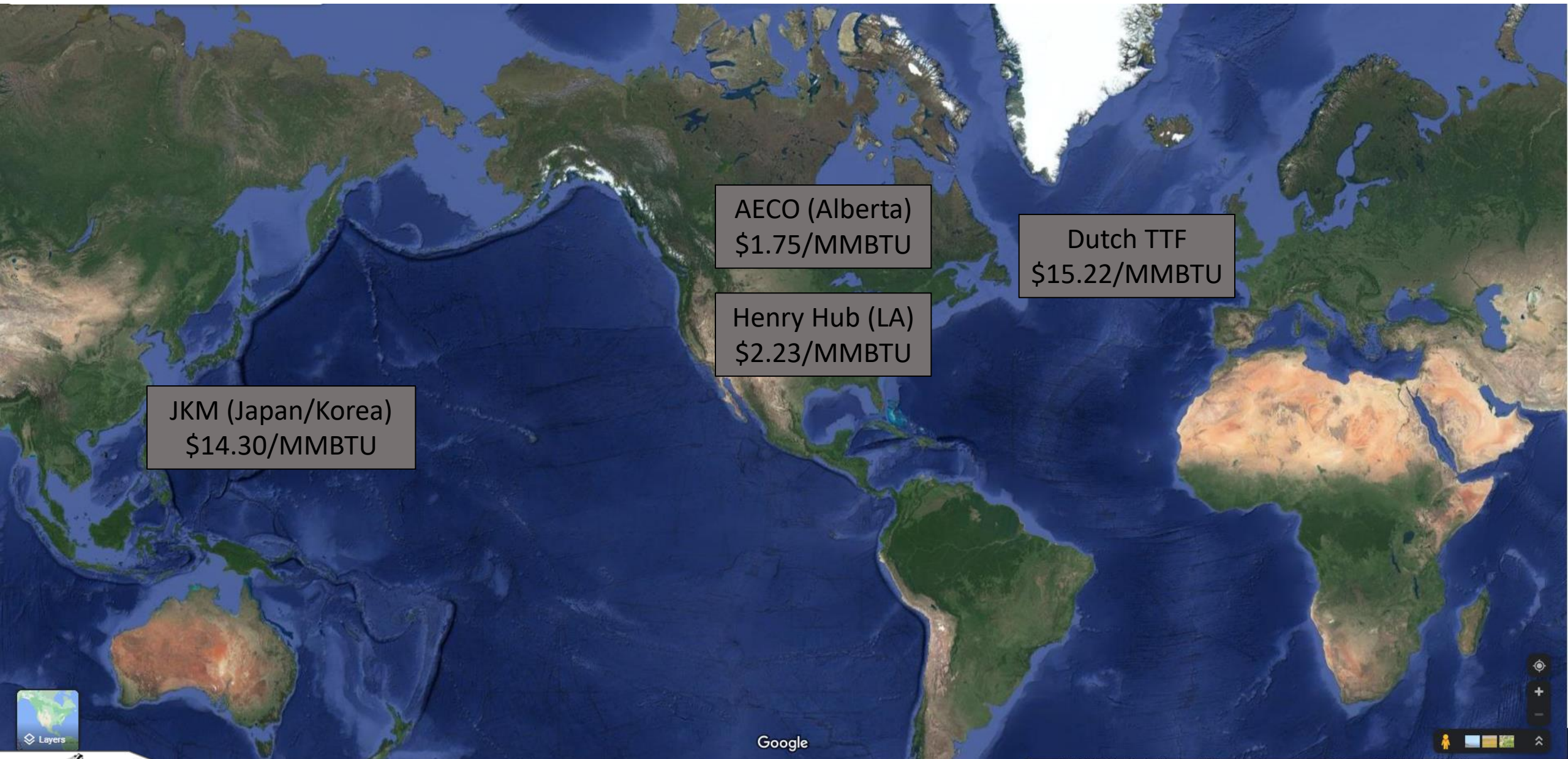
# PA Capacity Unused for 3 Years



# Bakken Natural Gas Infrastructure



# Global Natural Gas Prices



Google

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# Contact Information

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