

Pipeline Authority

*House Appropriations -
Government Operations*

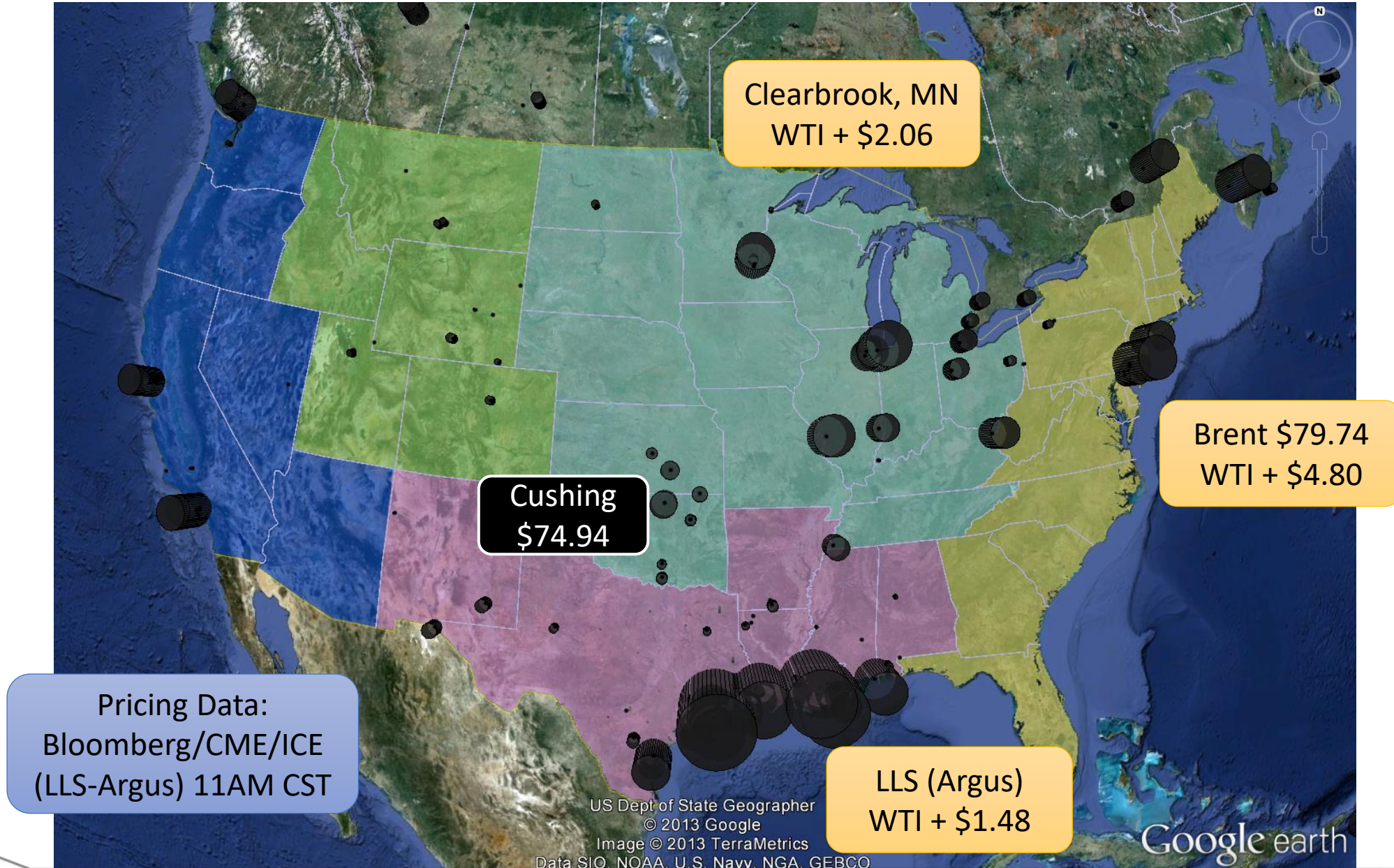
Division



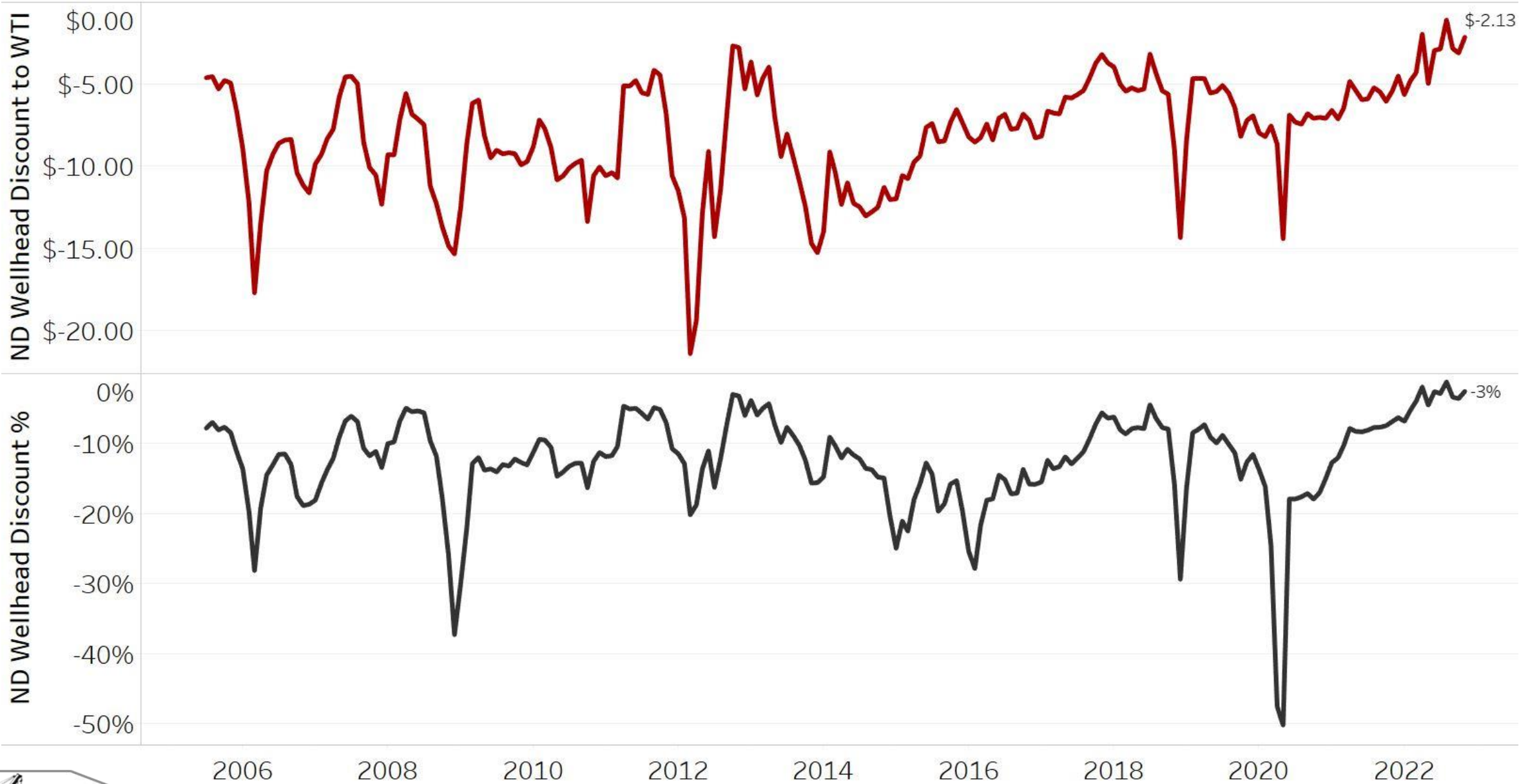
PIPELINE
CONSTRUCTION
AHEAD



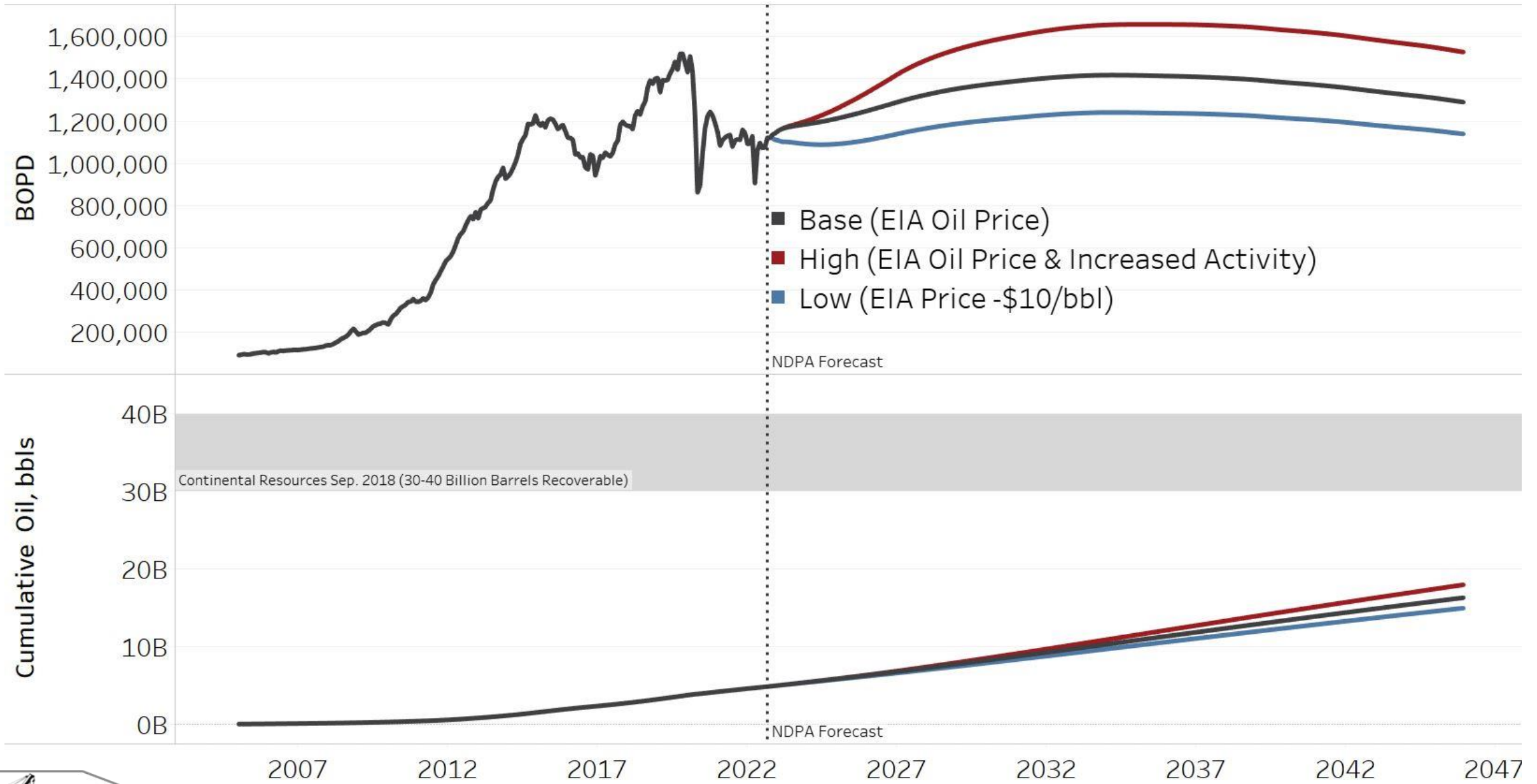
Crude Oil Prices – Jan. 9, 2023



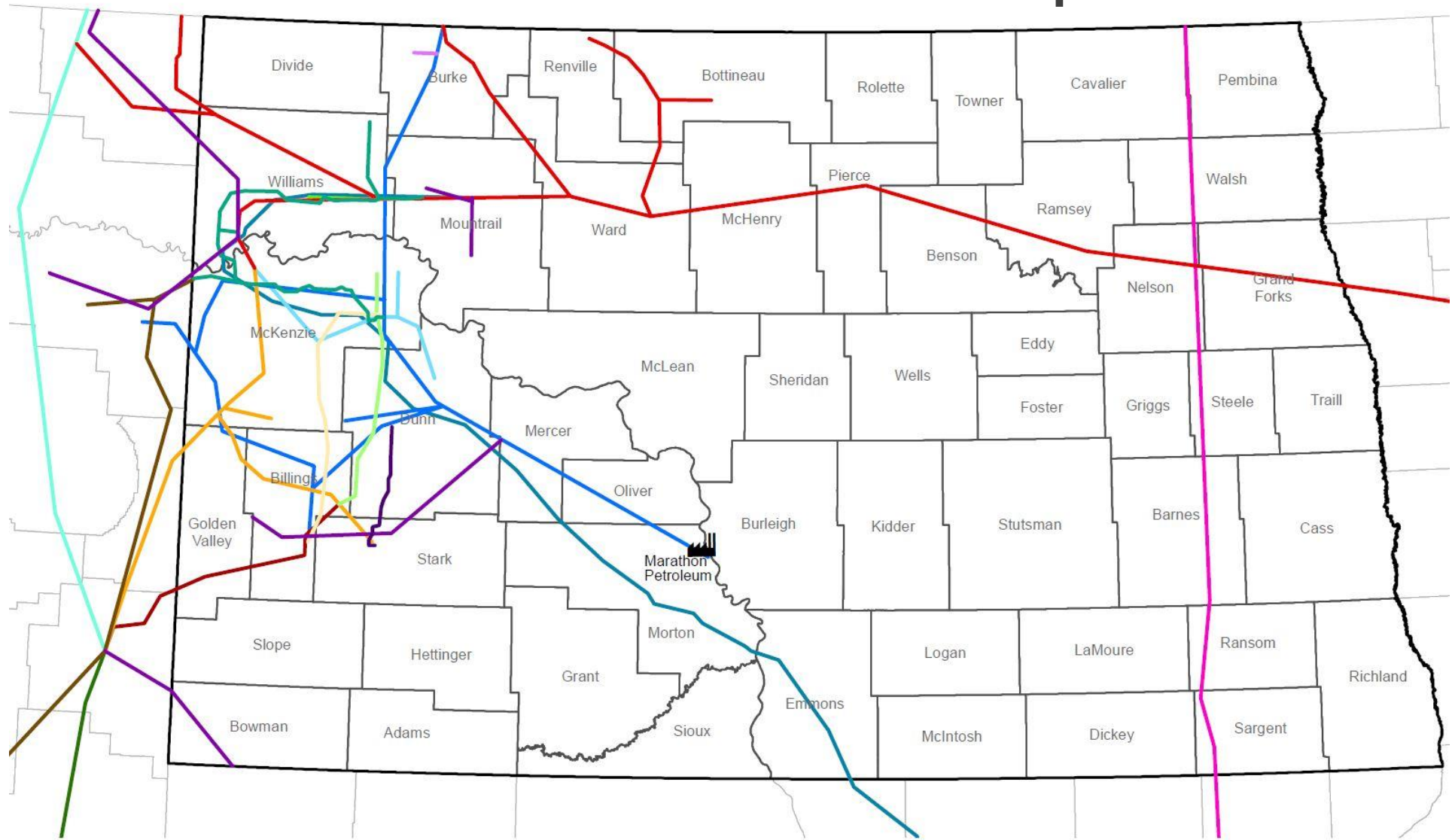
Average North Dakota Oil “Discount” to WTI



ND Oil Production: EIA Price Deck



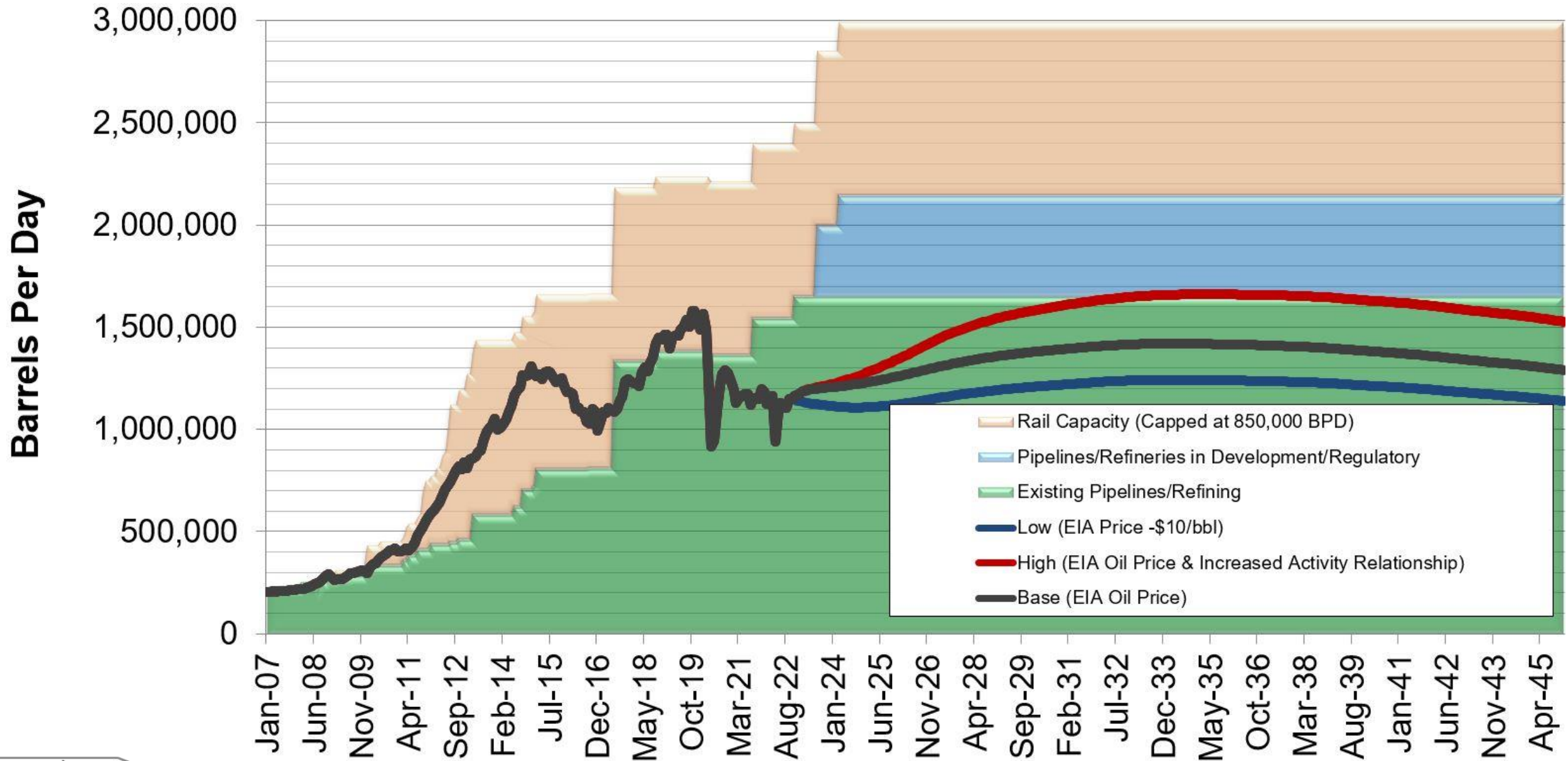
North Dakota Oil Transmission Pipelines



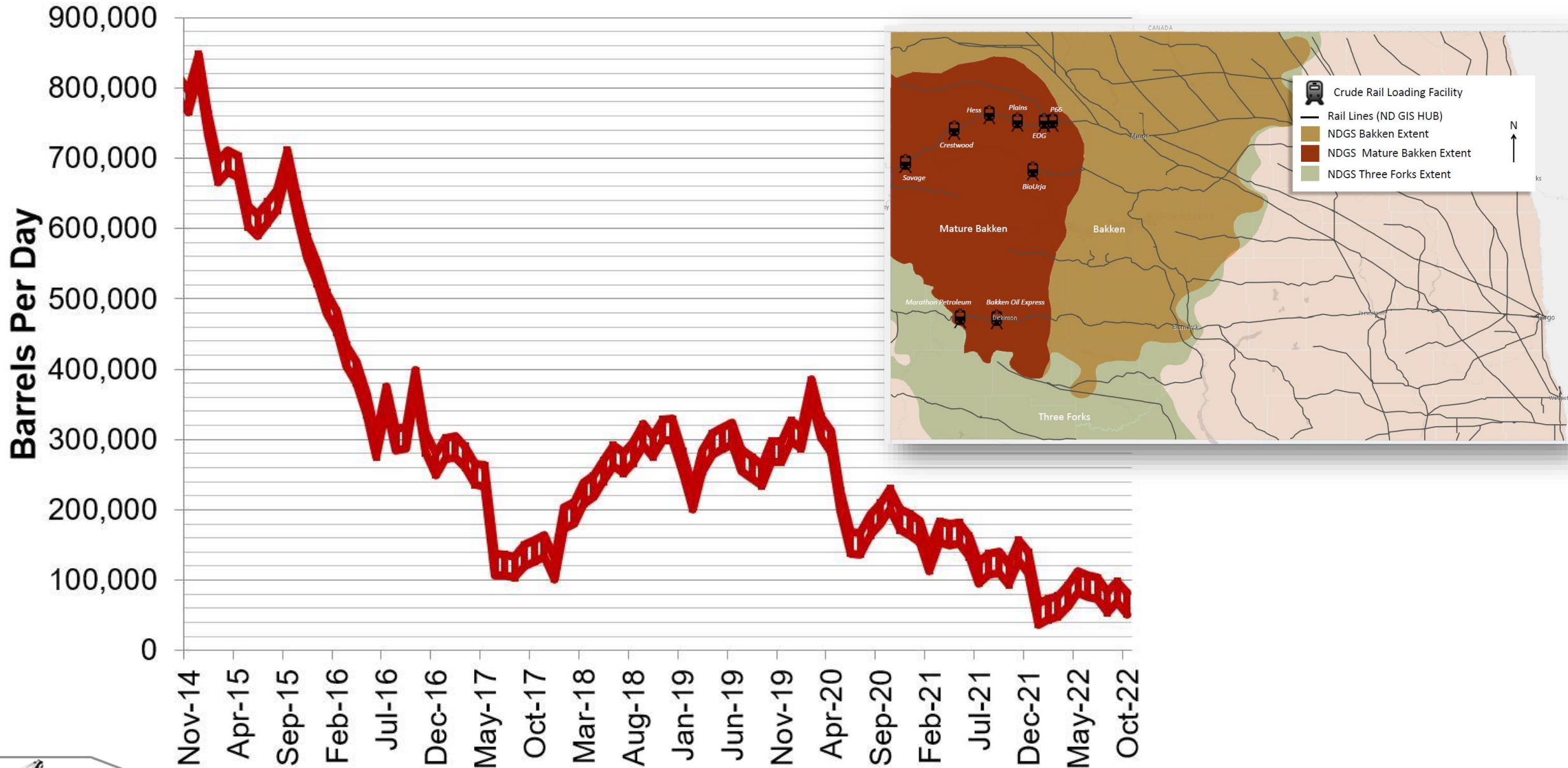
- | | | | | | |
|--------------------|-----------------|---------------|------------|-------------------|----------|
| Refinery | Basin Transload | Butte | Double H | Hiland | Bridger |
| Bakken Oil Express | Belle Fourche | Crestwood | Enbridge | Keystone Pipeline | Targa |
| BakkenLink | Bridger |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



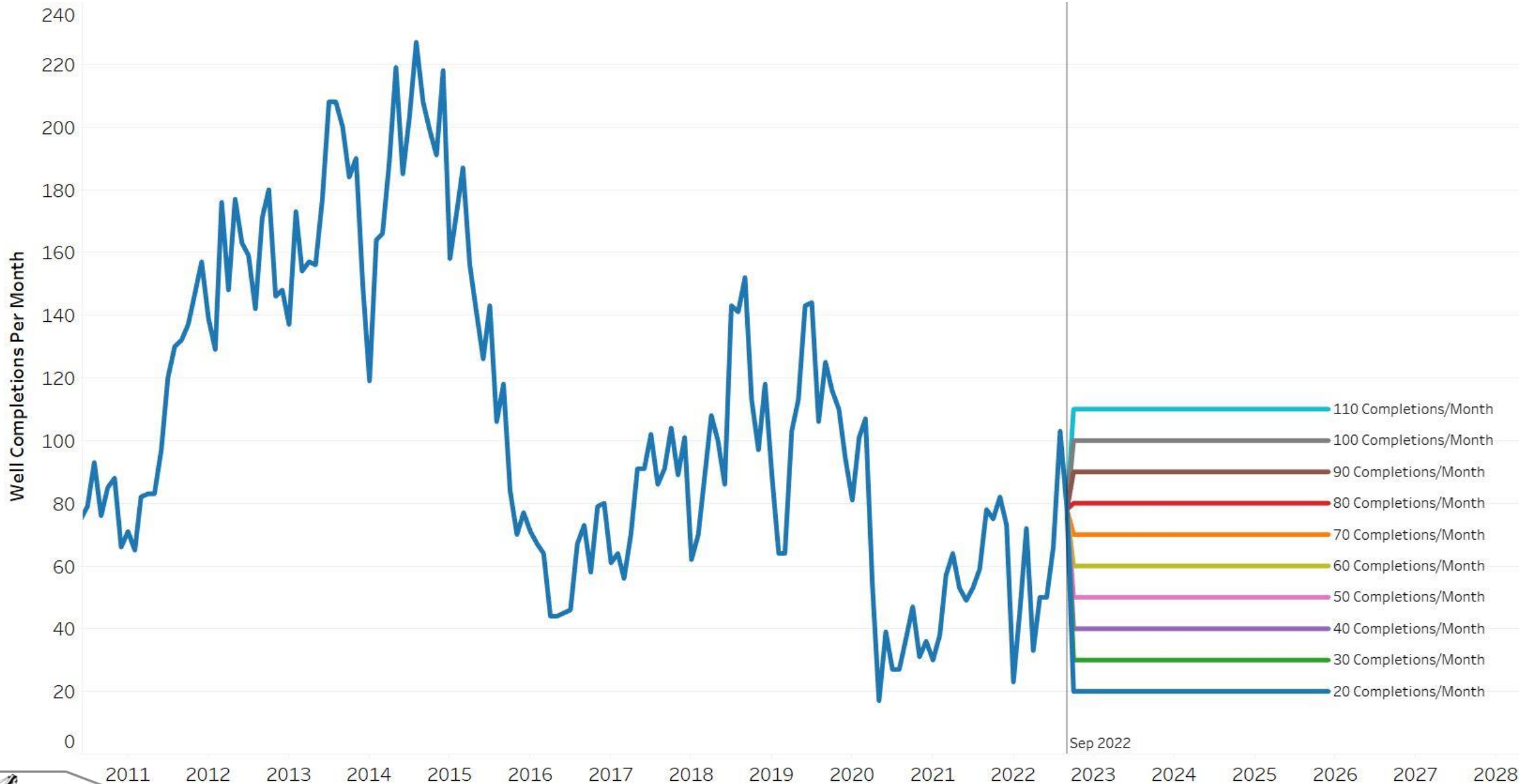
Williston Basin Oil Production & Export Capacity, BOPD



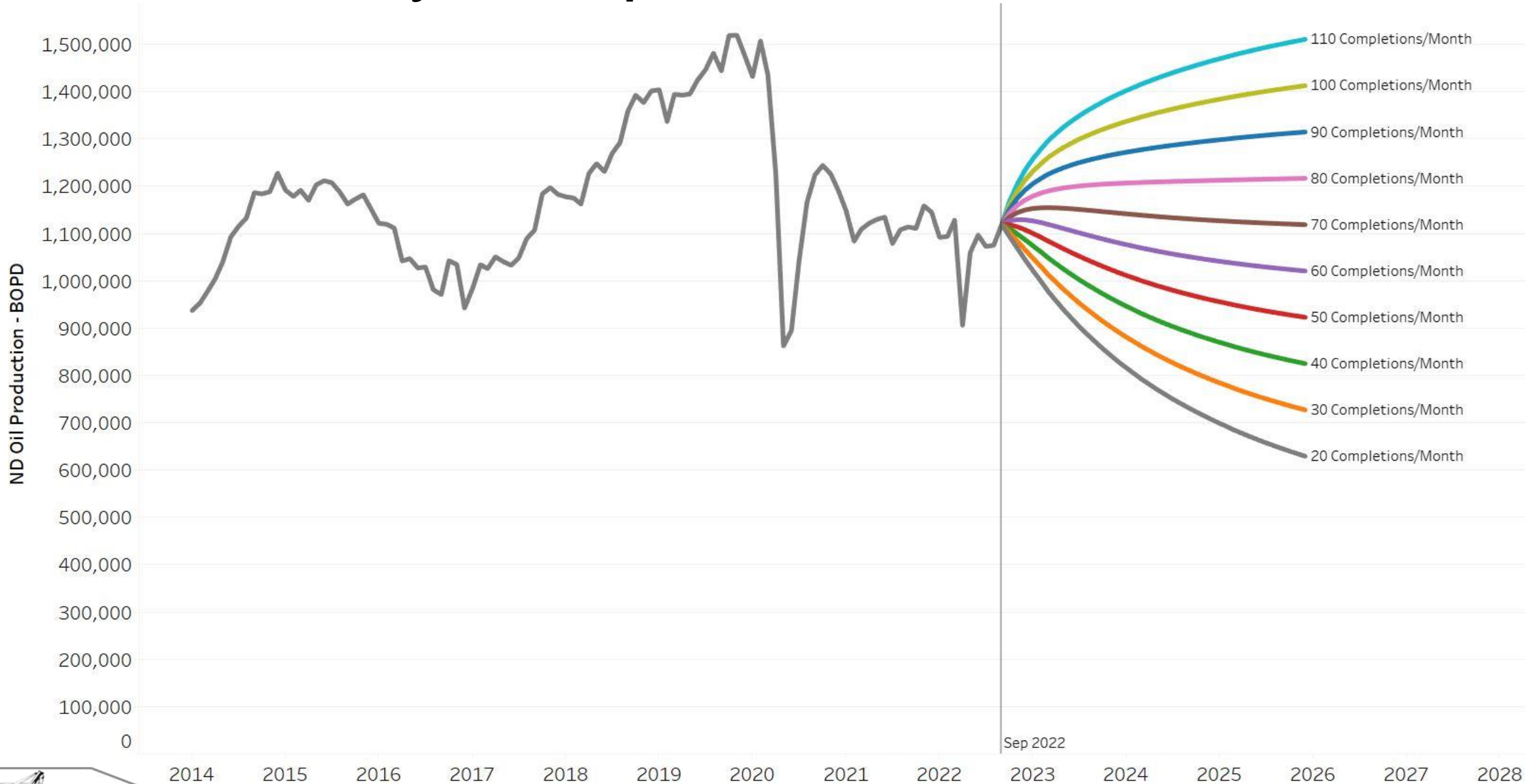
Estimated ND Rail Export Volumes



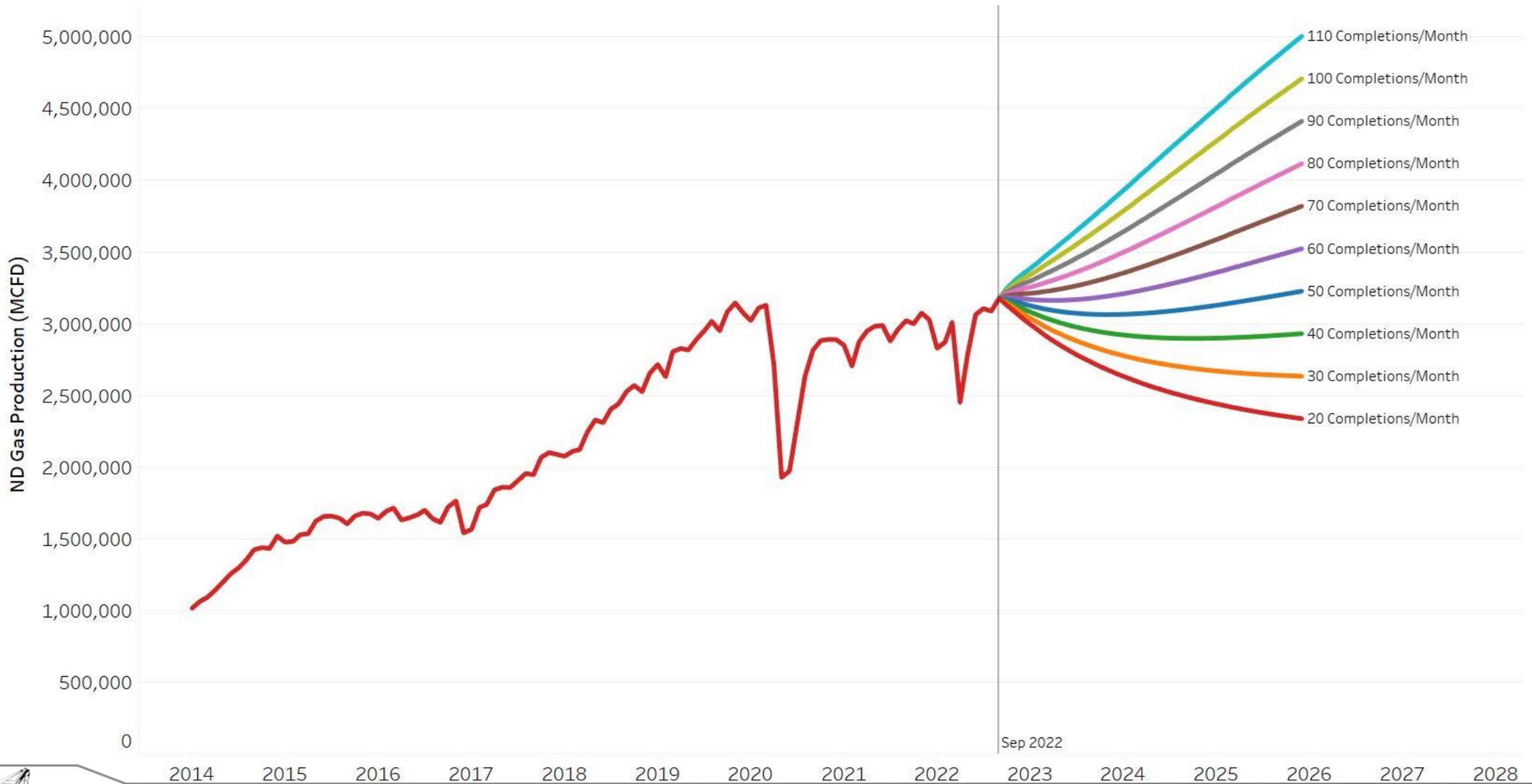
Completions Per Month Exercise



Monthly Completion Scenarios - Oil



Monthly Completion Scenarios - Gas



Sep 2022



Natural Gas Update



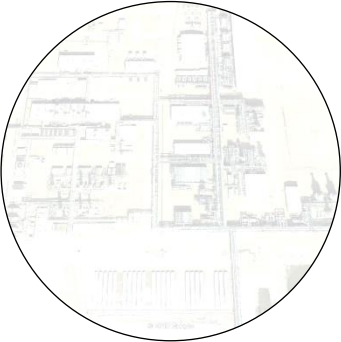
Production

- Technology
- Markets



Gathering

- Capacity
- Connections



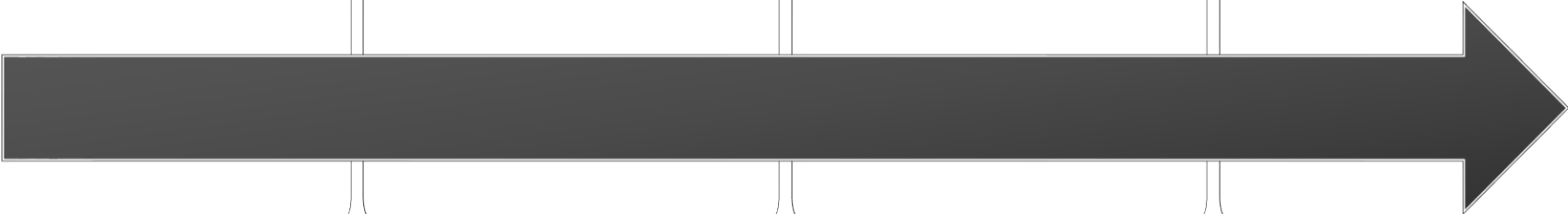
Processing

- Capacity
- Location

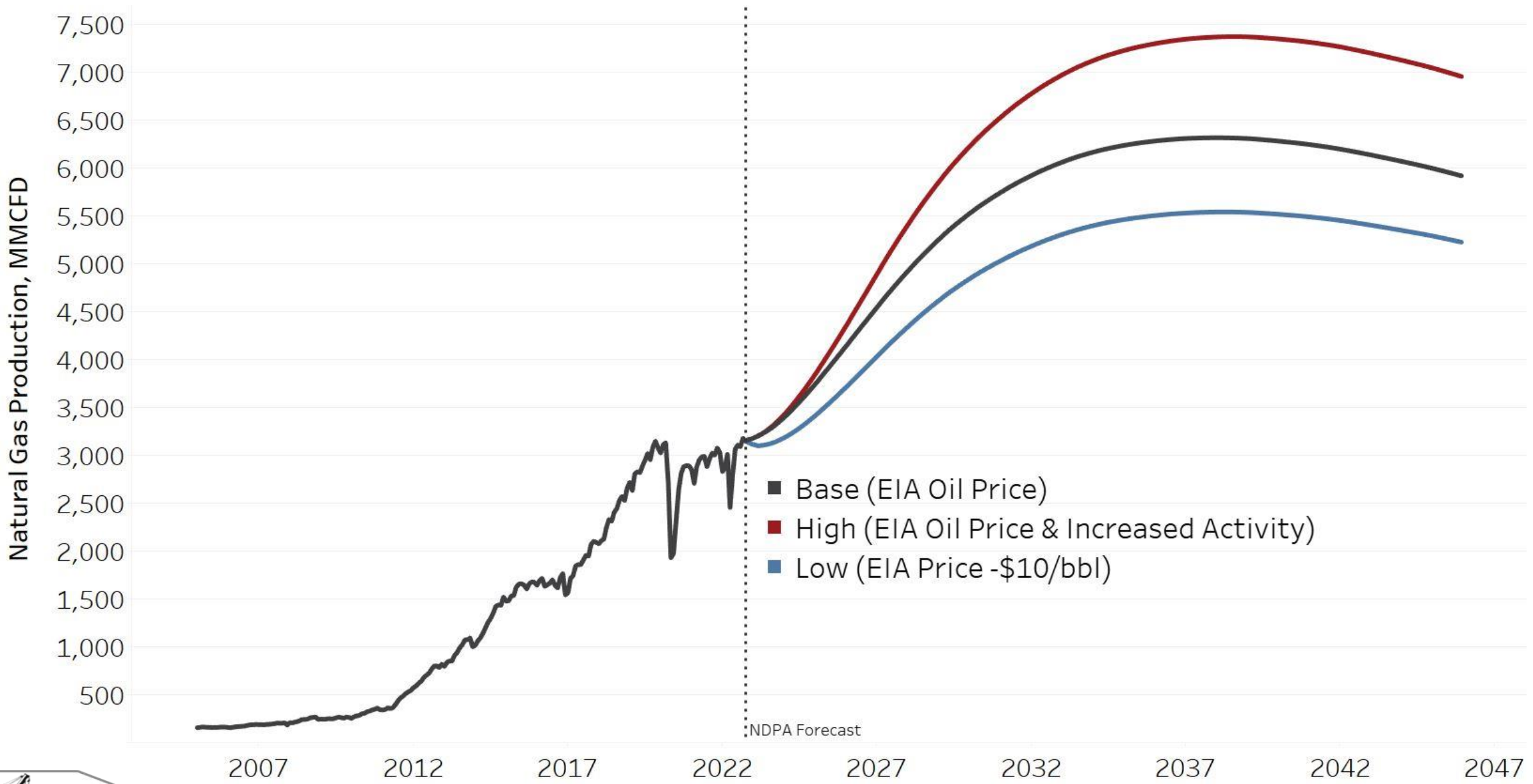


Transmission

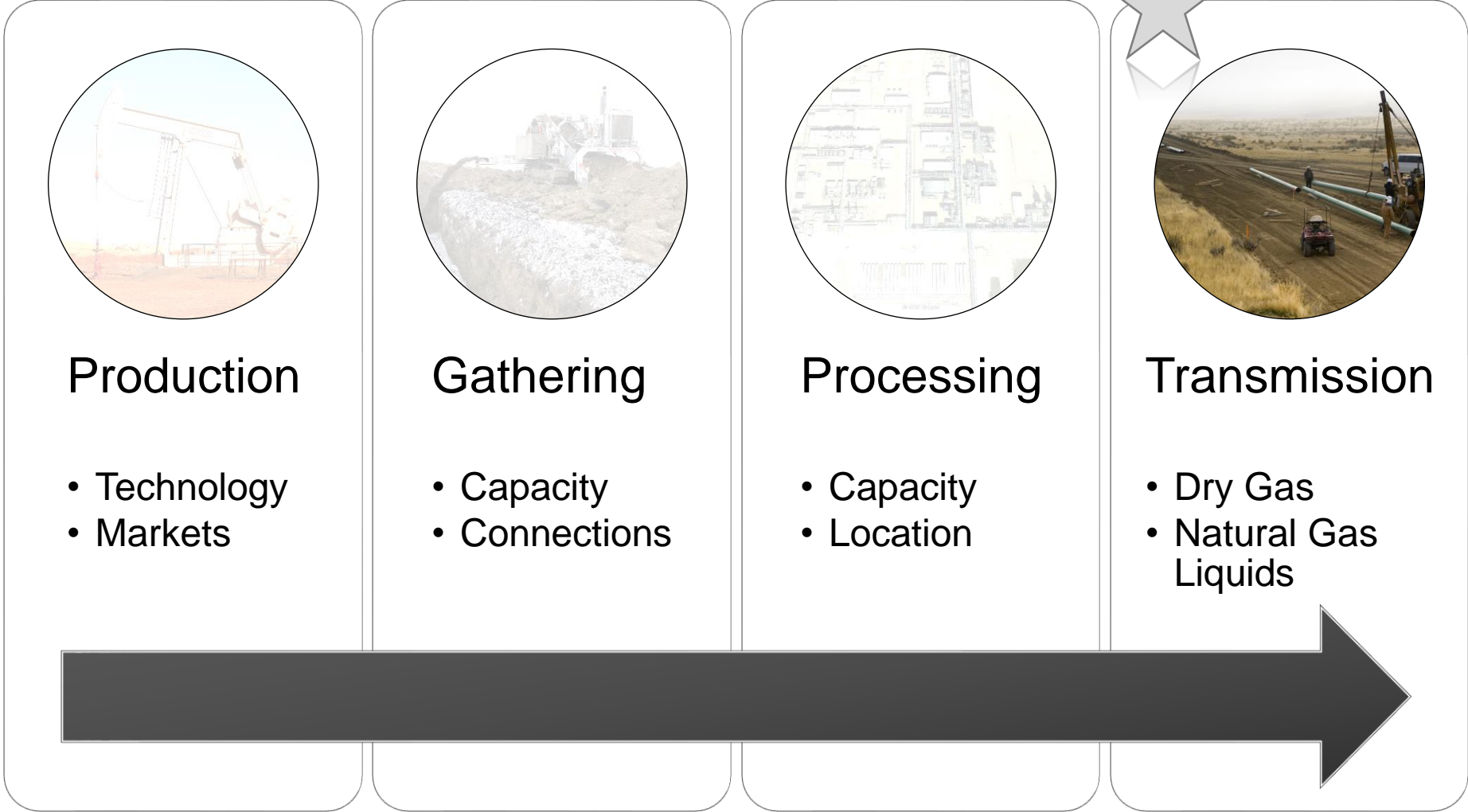
- Dry Gas
- Natural Gas Liquids



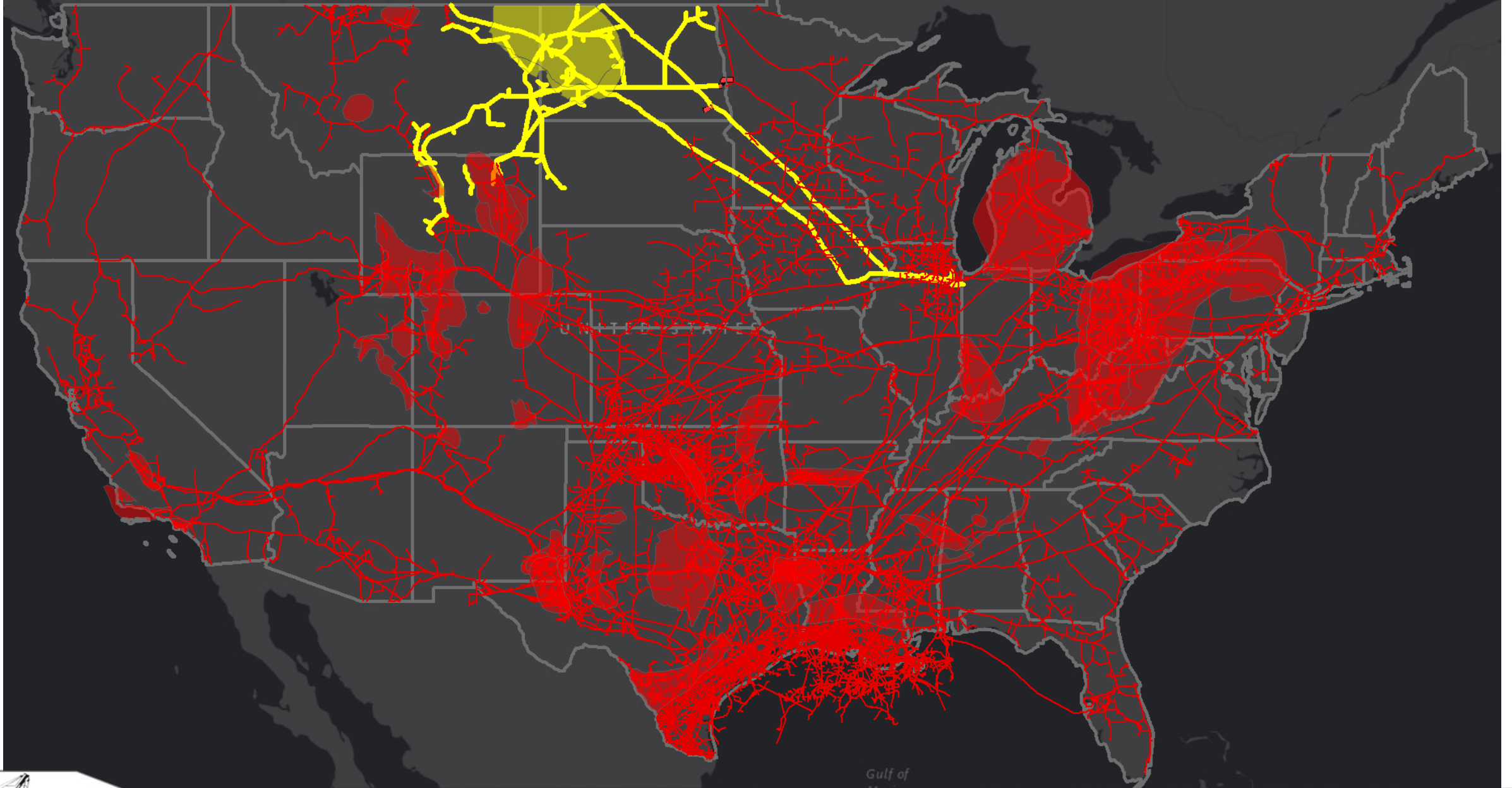
ND Gas Production: EIA Price Deck



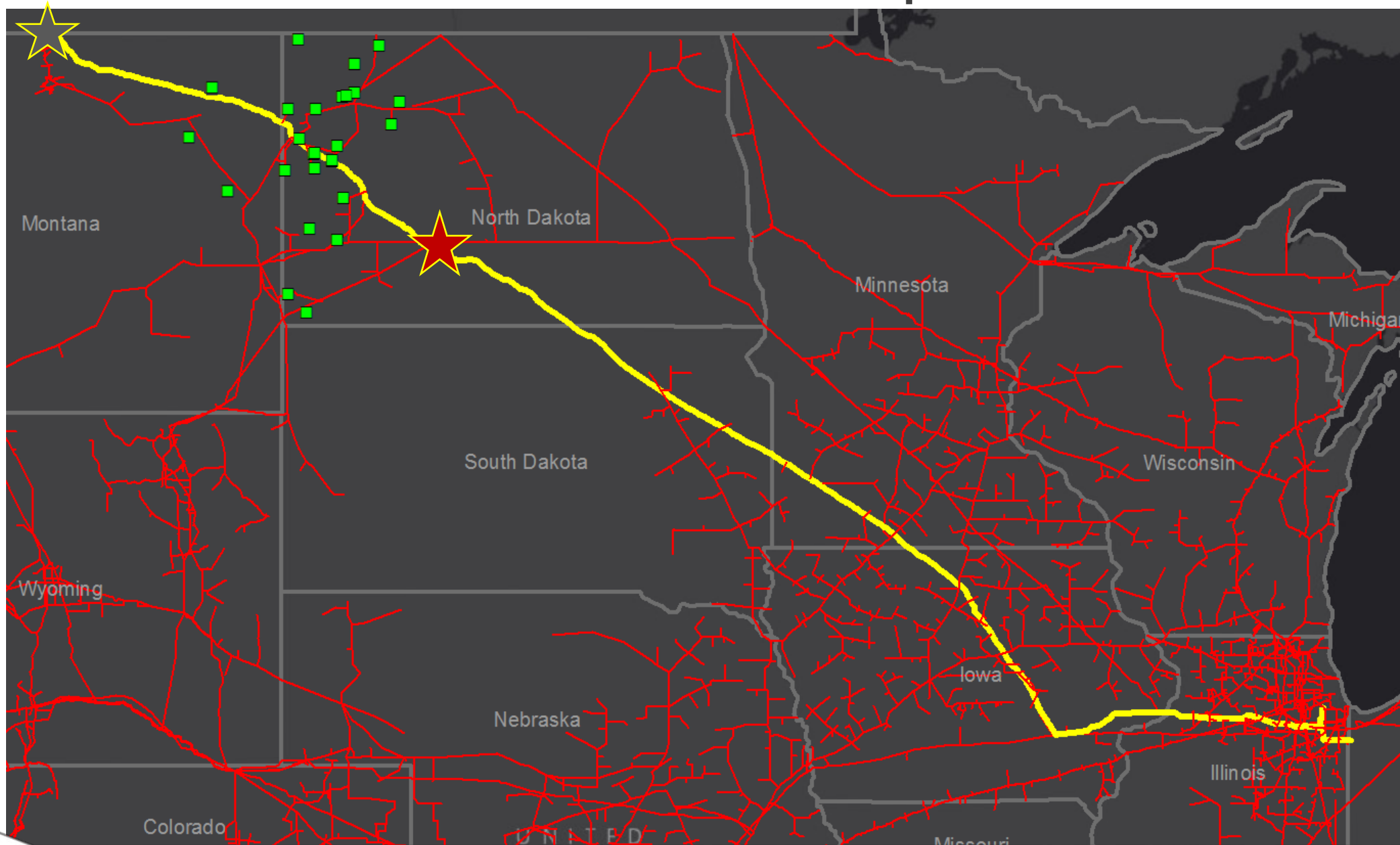
Natural Gas Update



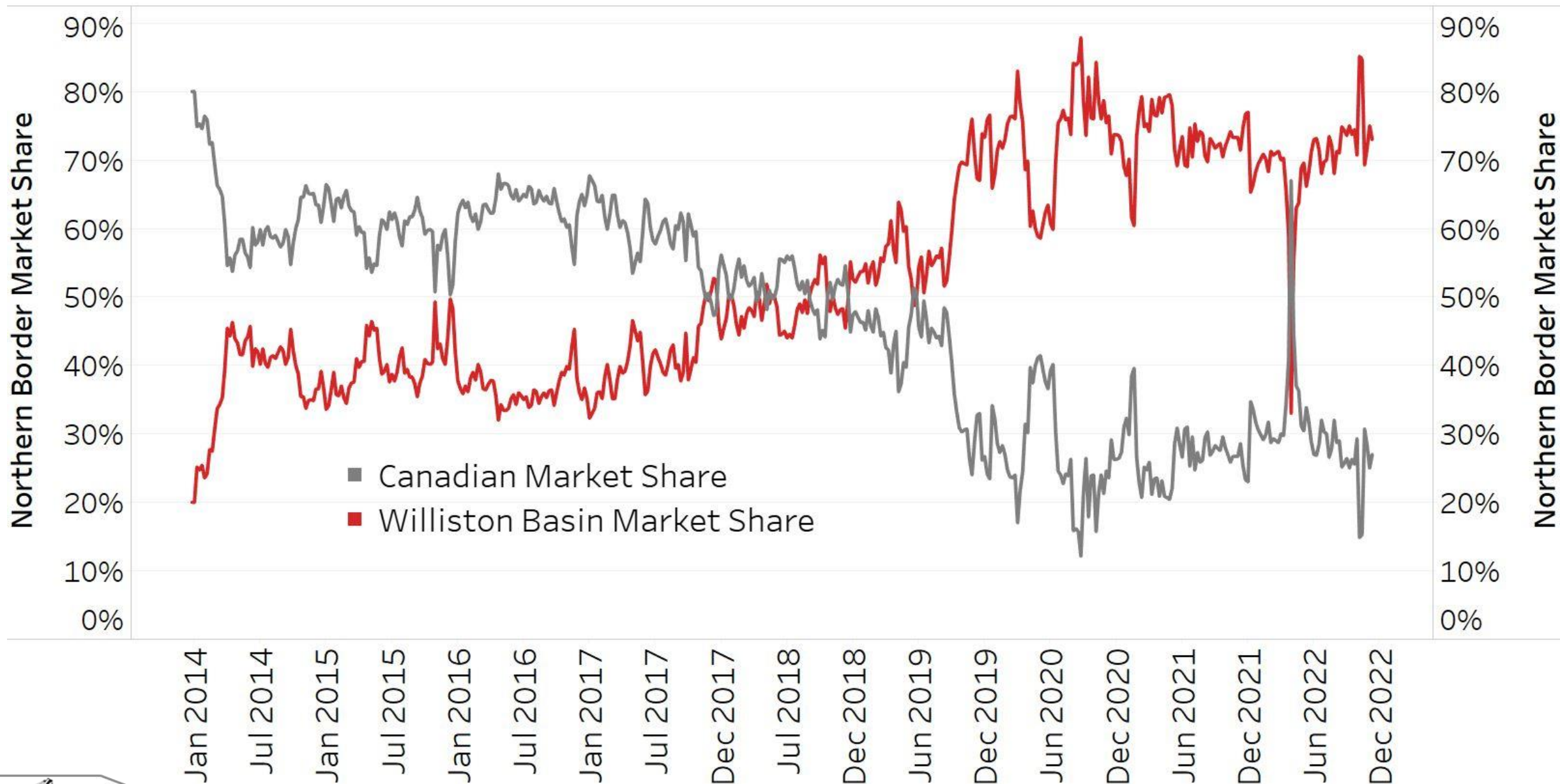
Bakken Natural Gas Infrastructure



Northern Border Pipeline



Northern Border Pipeline Market Share



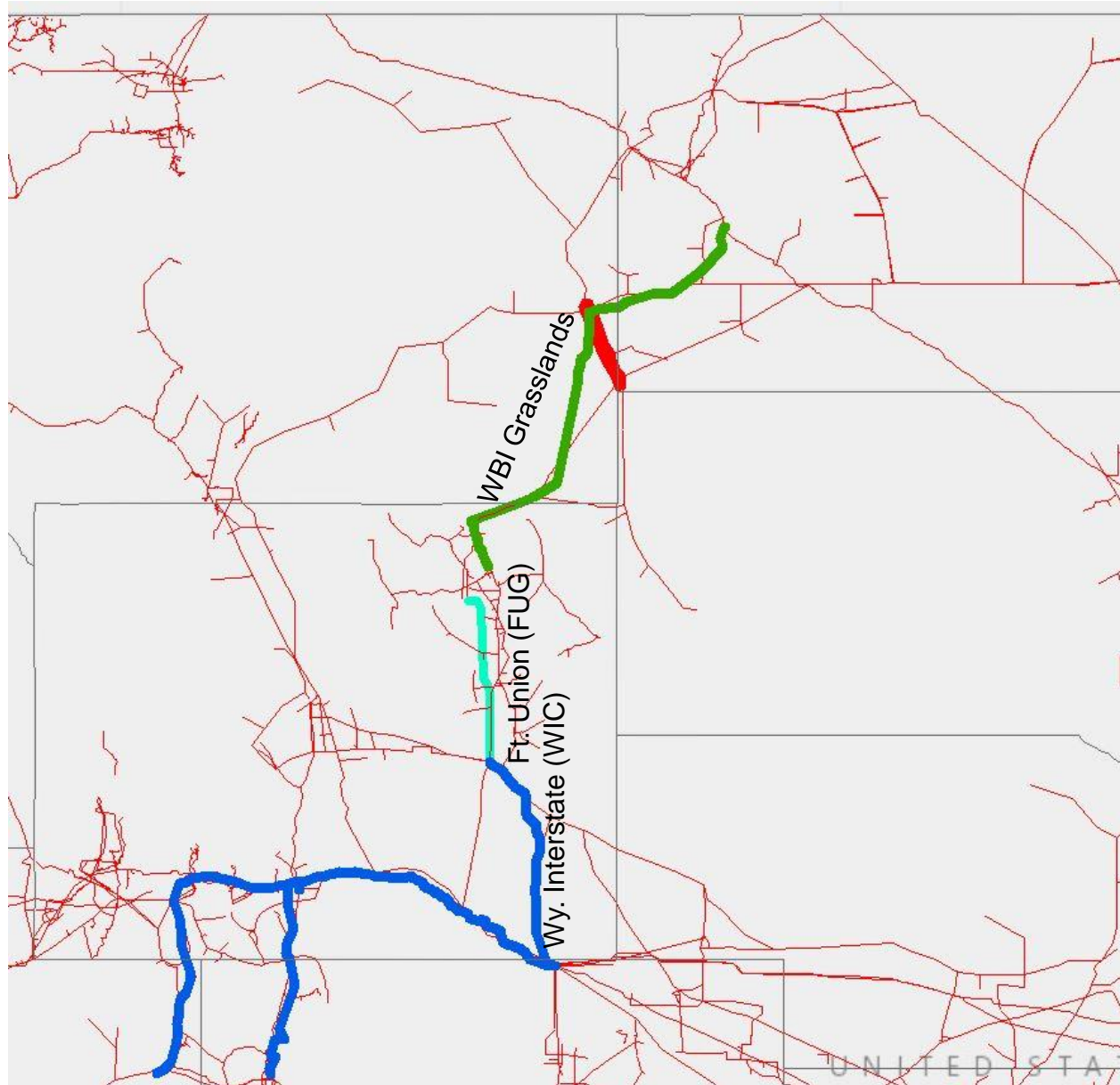
WBI Energy – Grasslands South Project

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



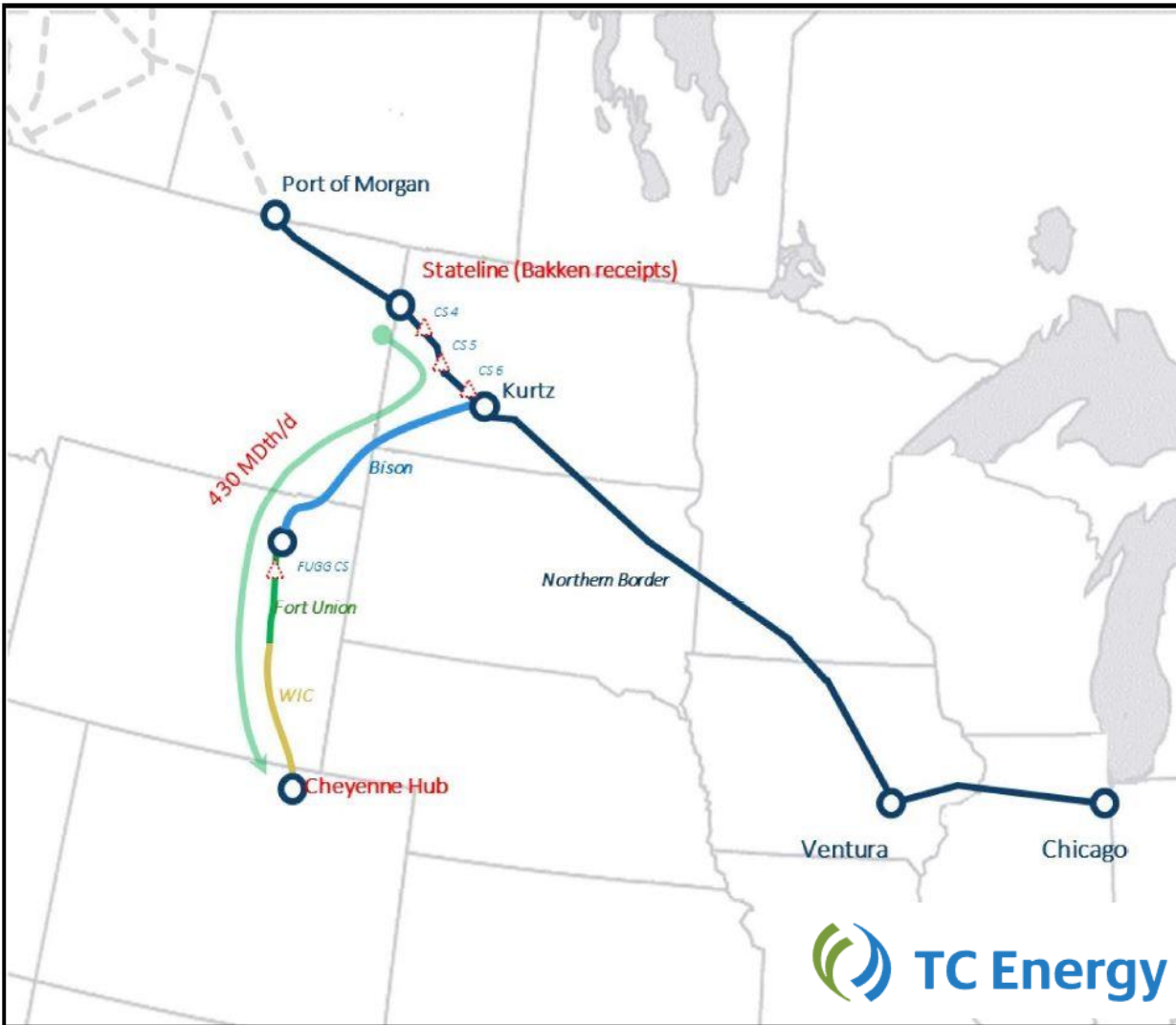
TC Energy – Proposed Bison XPress Project

Project Highlights

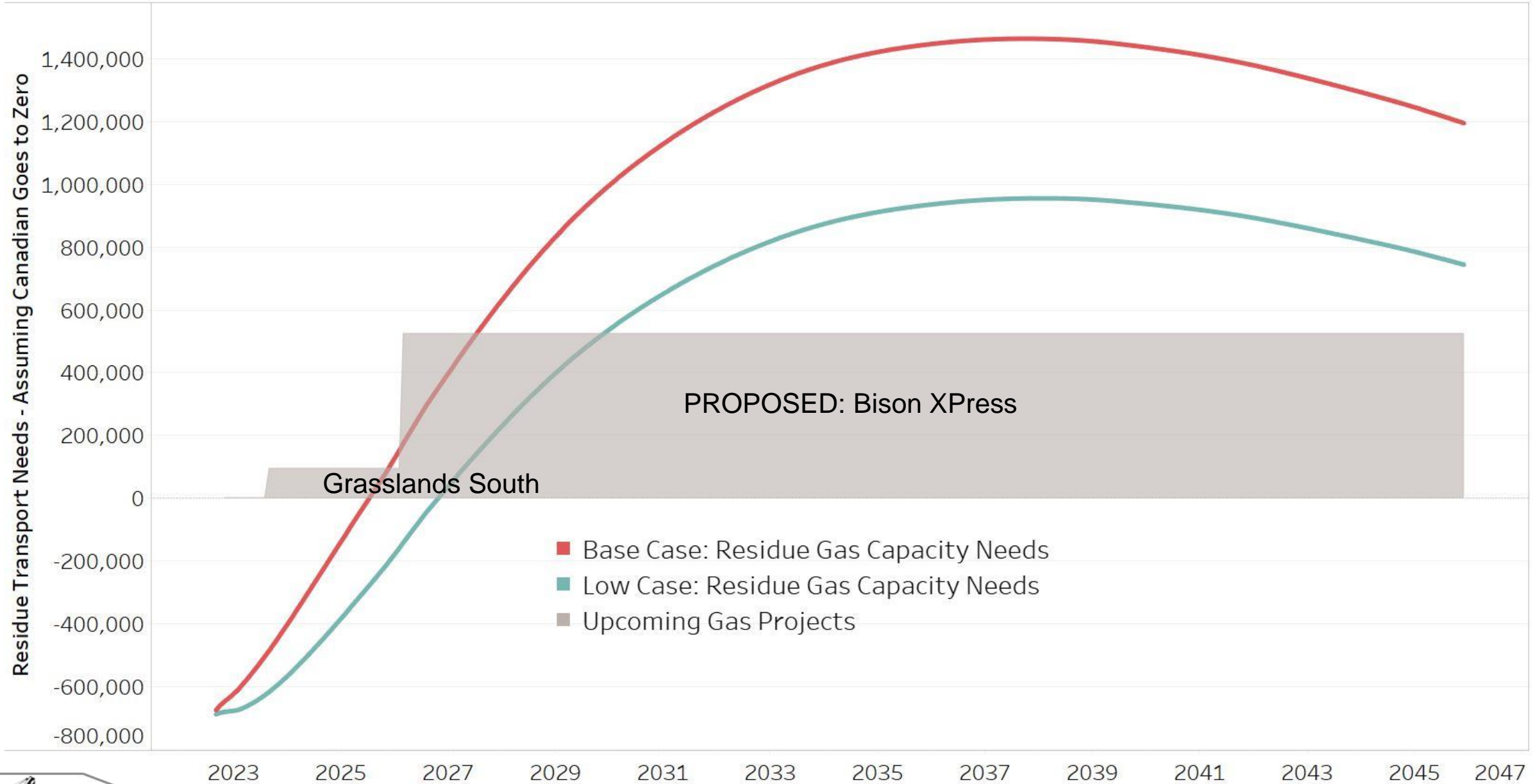
- Non-binding open season April 4 - May 6, 2022
- Three compressor upgrades in North Dakota
- Reverse the idle Bison Pipeline (30" – 302 Mile)
- Proposed capacity 430,000 Dth/Day
- Q1 2026 targeted in-service date
- Fort Union Gas Gathering and Wyoming Interstate Company provide further transport to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

Proposed Tariff Rates

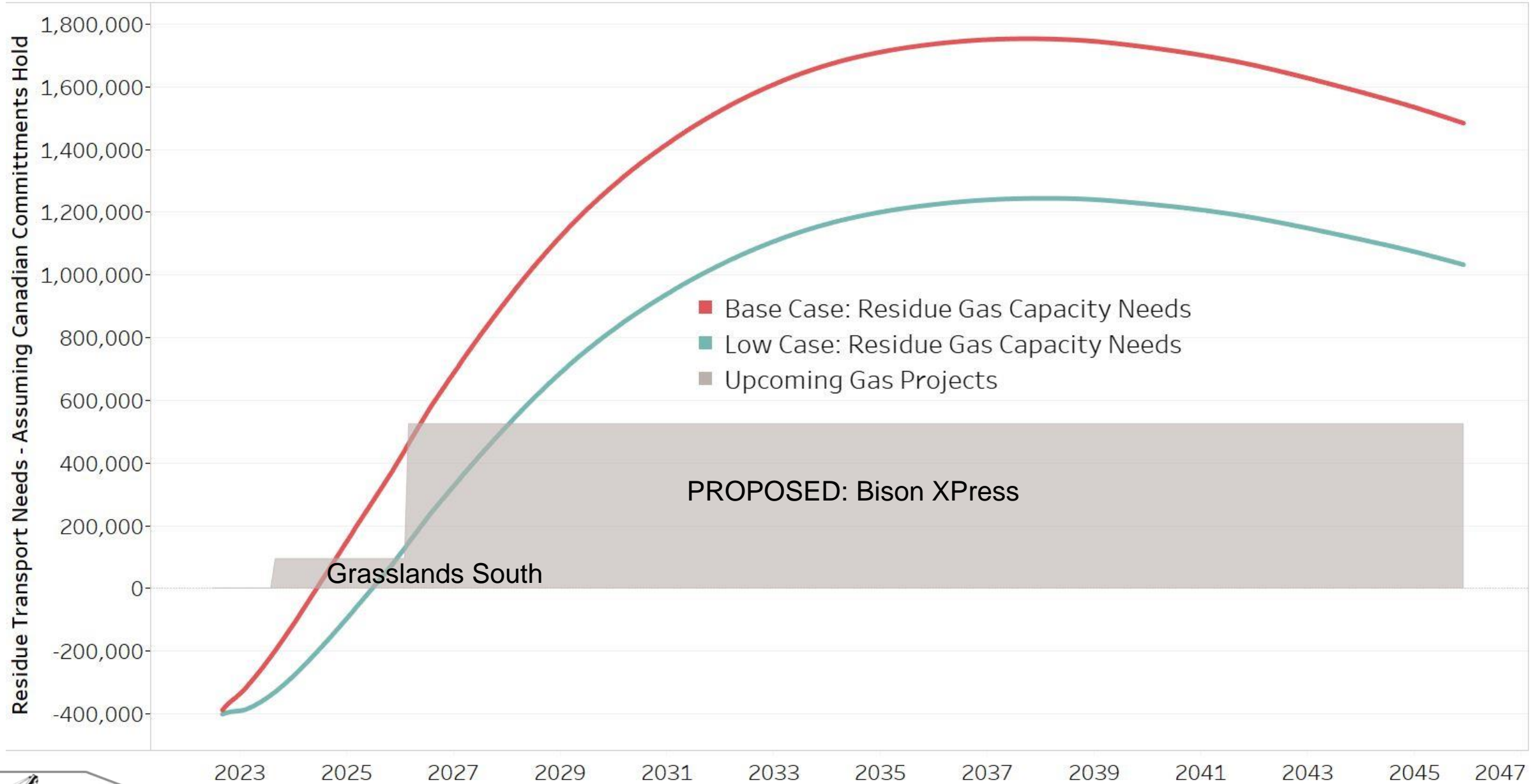
- NBPL/Bison \$0.45/Dth + Fuel/Elec to WIC/FUG Interconnect
- WIC/FUG to Cheyenne \$0.30/Dth + Fuel/Elec
- Anchor Shipper Minimum: 50,000 Dth/Day



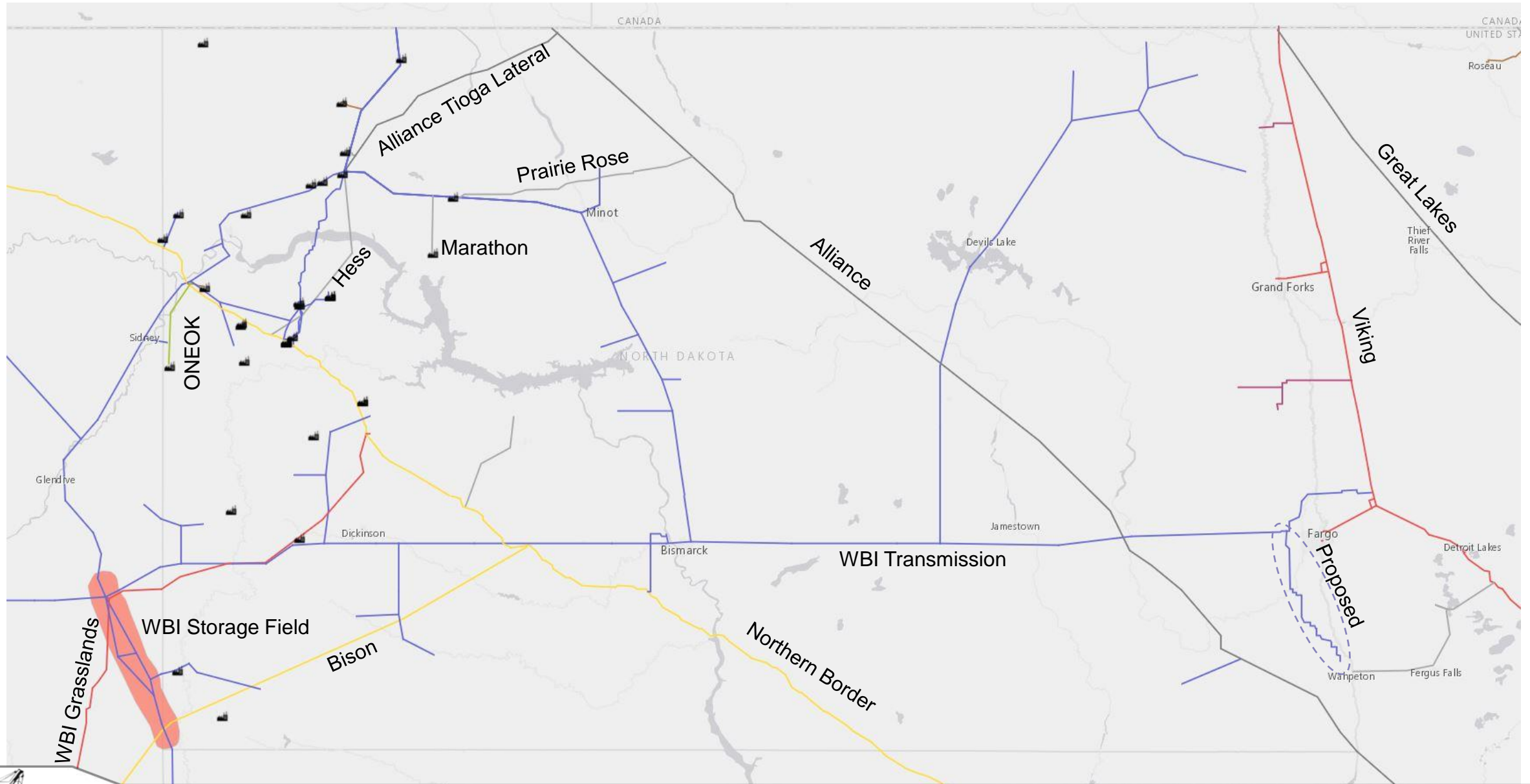
Residue Capacity Needs : ZERO CANADIAN



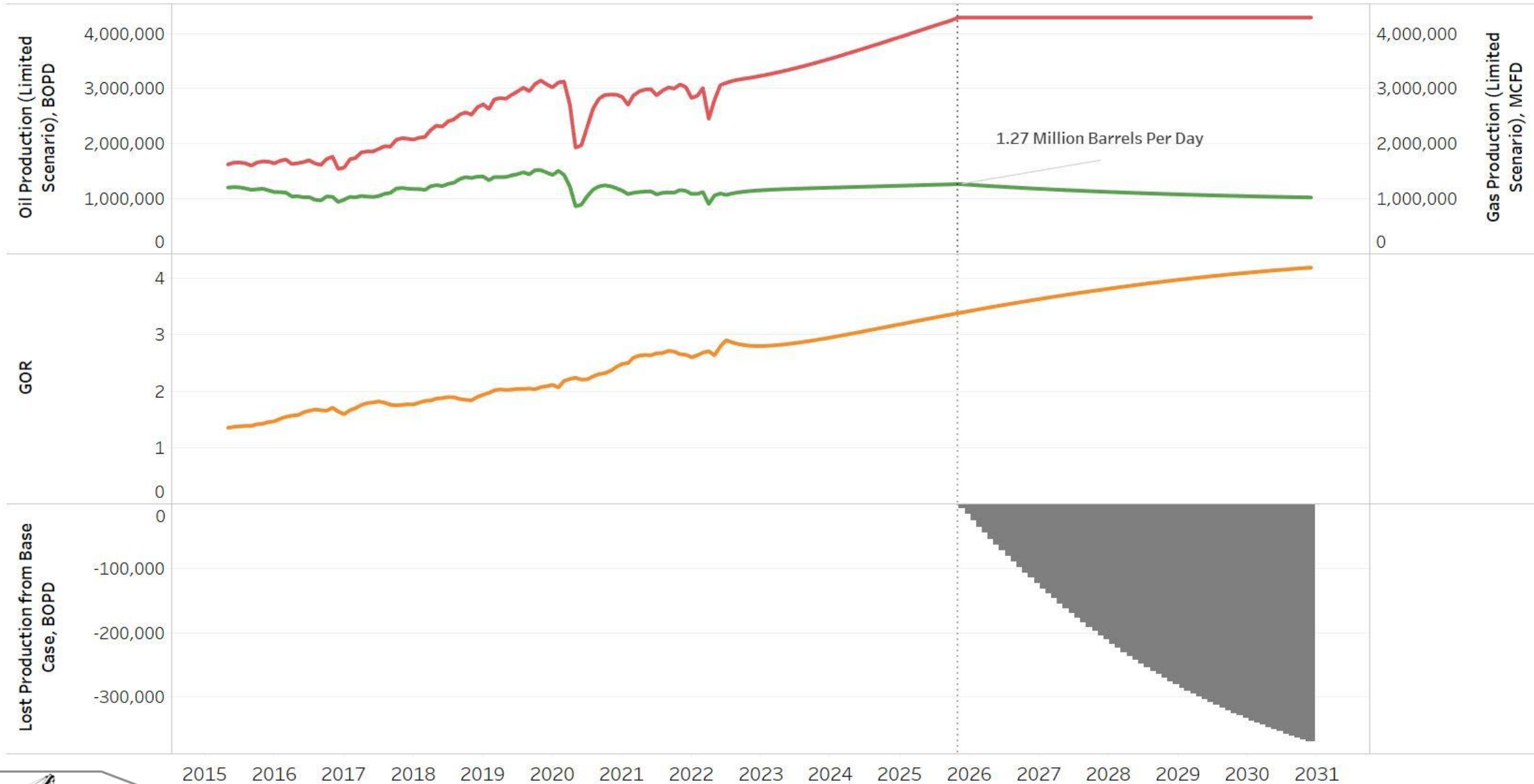
Residue Capacity Needs: ~288,000 MMBTU CDN



Major Residue Gas Pipeline Infrastructure

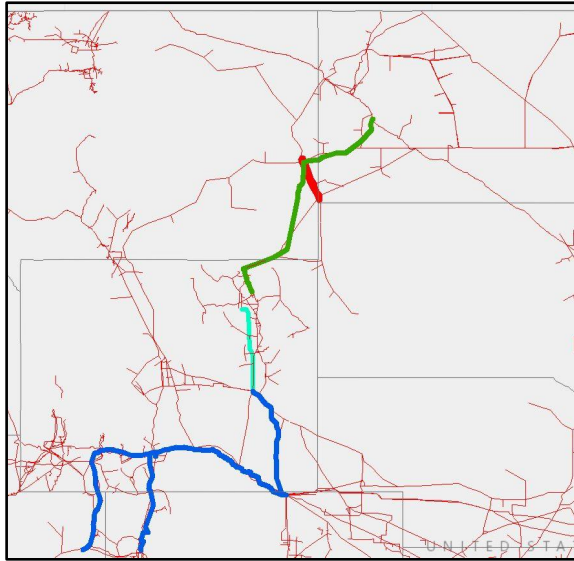


Gas Limitations Would Force Oil Production Down As GOR Rises

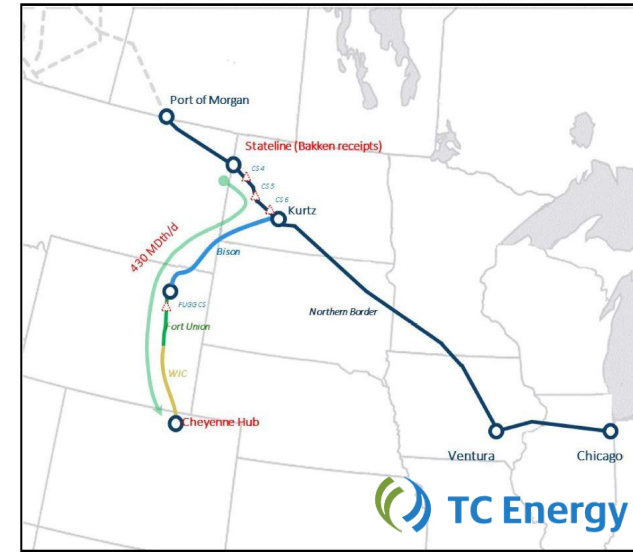


Value of a Dekatherm (MMBTU)

WBI Grasslands
94,000 Dekatherms
Per Day



Bison XPress
430,000 Dekatherms
Per Day

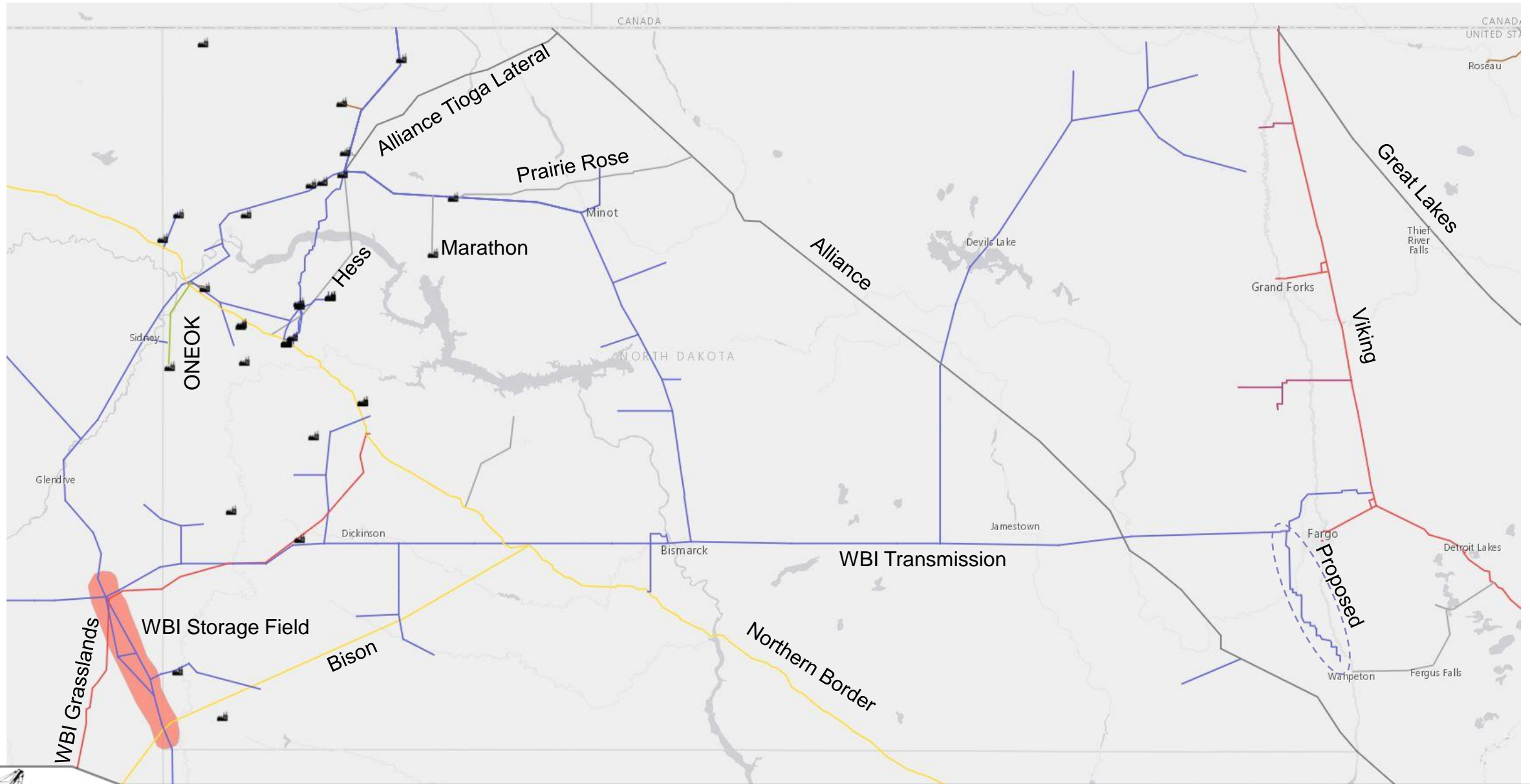


Combined Oil and Natural Gas Tax Value

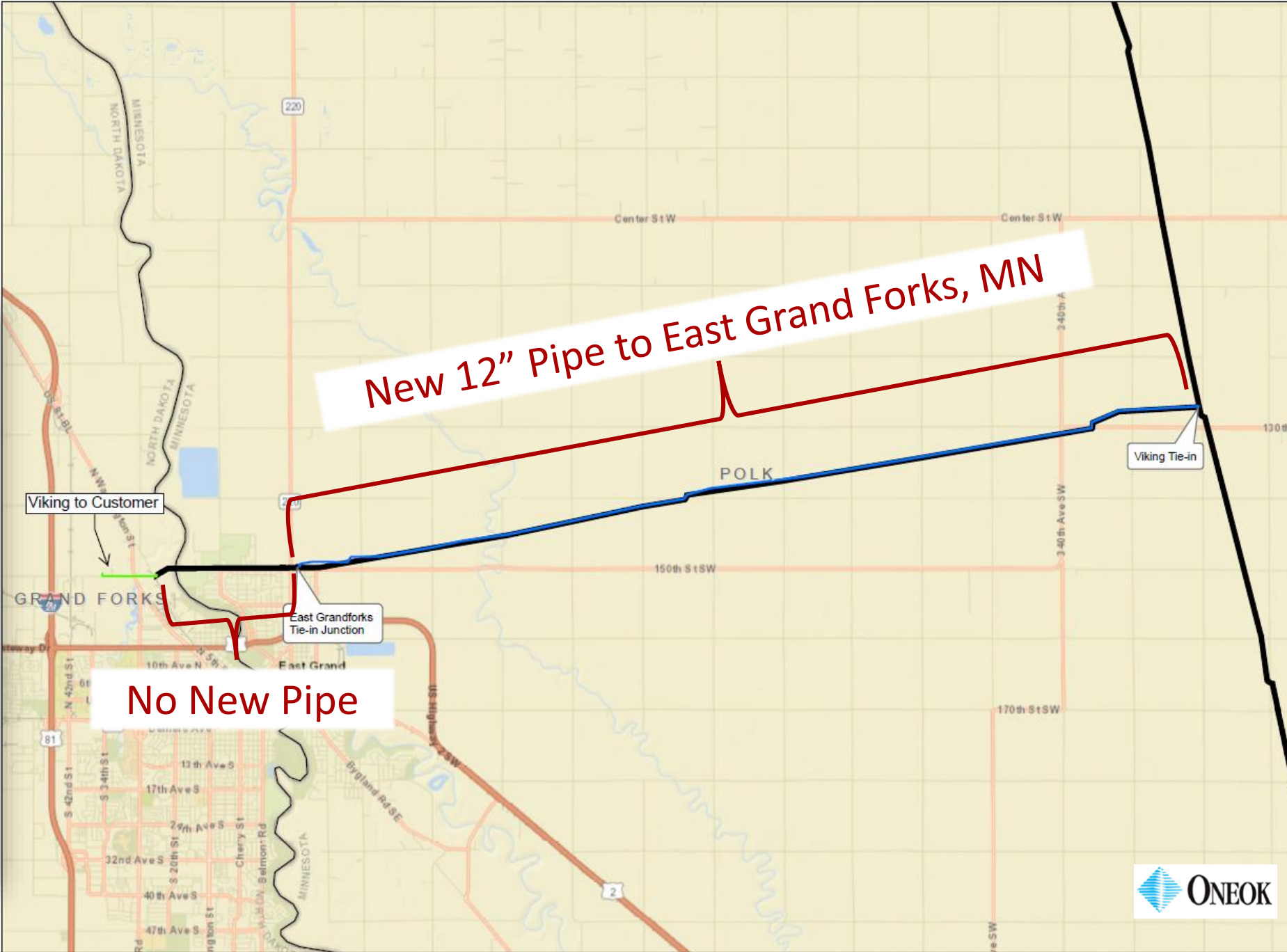
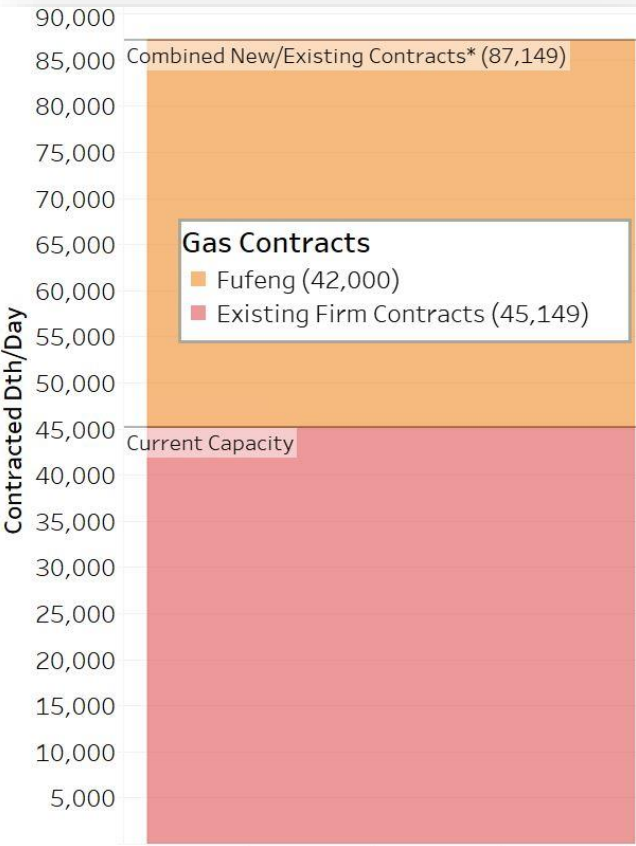
- Combined 524,000 Dekatherms per day of needed gas takeaway capacity
- \$3.74* in oil/gas tax value per Dekatherm x 524,000 Dekatherms = \$1,959,760 per day
- **\$715+ Million per year in oil and natural gas taxes to the State of North Dakota**
- *At 570,000 BOPD, DAPL's impact to reduce oil discount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



Natural Gas Pipeline Program

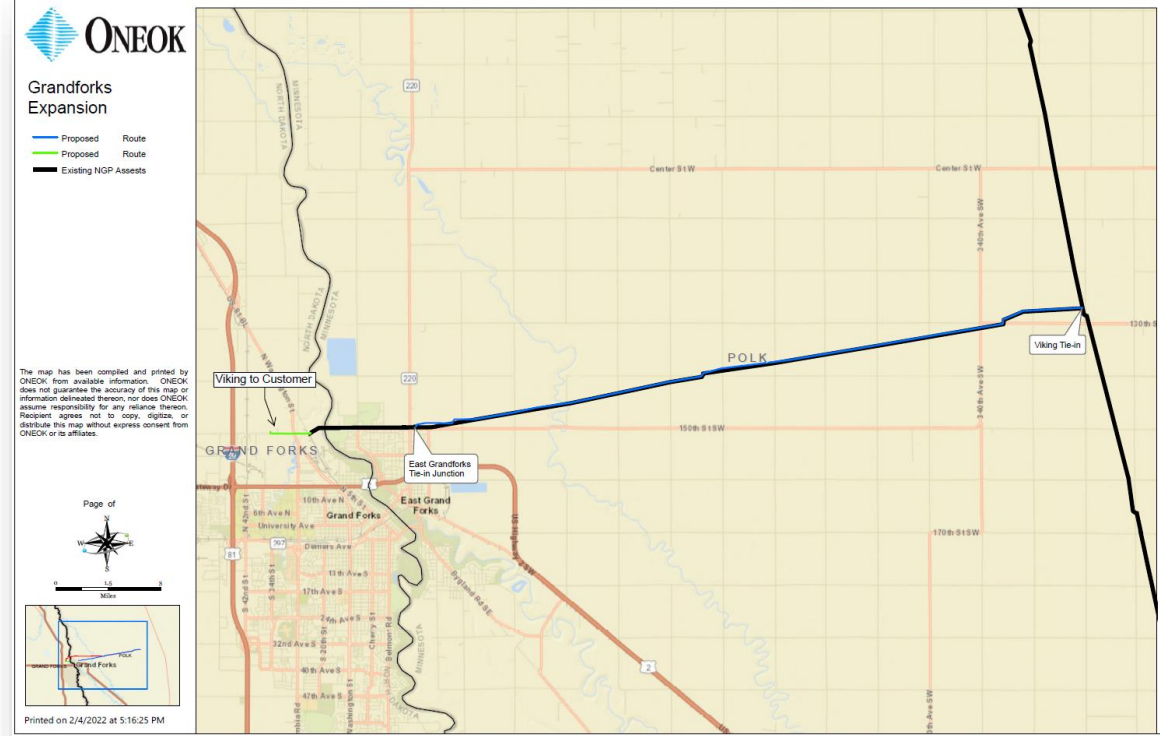


North Dakota Gas Outlook



Current Red River Valley Projects

Project	FERC 7C Application	Est. Cost, Millions	In-Service	Miles	Pipe Size	\$/Mile	Transport Rate Per Dekatherm From Emerson, MN	Anchor Project
WBI Wahpeton	Yes	\$75	Q4-2024	60.5	12 In	\$1,239,669	\$1.6747 WBI+VGT	Corn Wet-Milling
VGT Grand Forks	No	\$26.1	Q1-2024	14	12 In	\$1,864,286	\$0.3975 VGT (Without \$10M Grant)	Corn Wet-Milling



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:

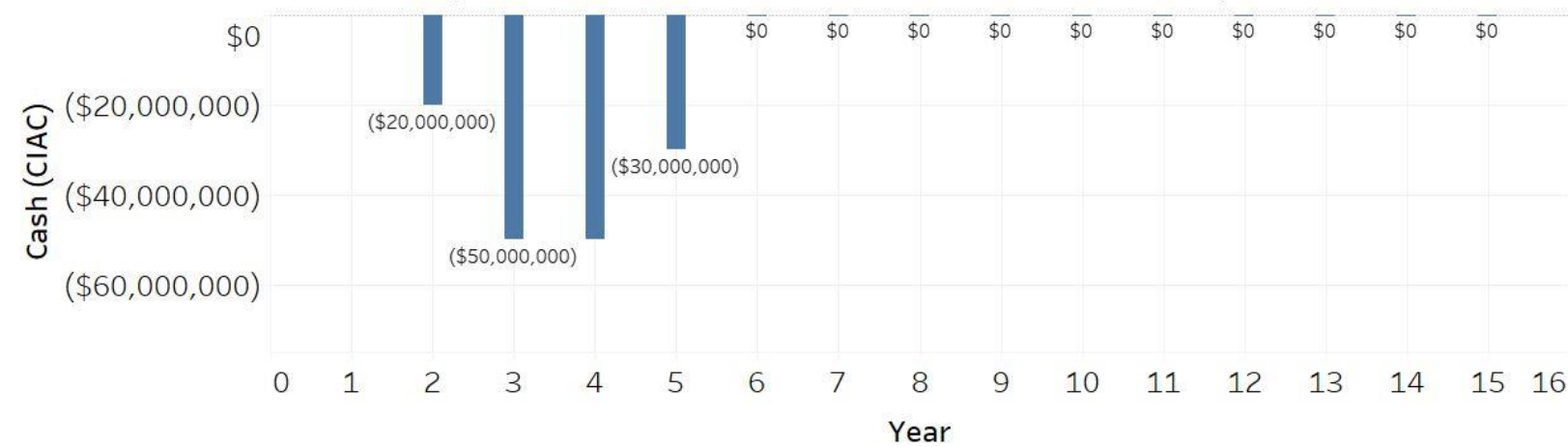
1. Make grants or loans and to provide other forms of financial assistance as necessary or appropriate for the purposes of this chapter.
2. Make and execute contracts and all other instruments necessary or convenient for the performance of the authority's powers and functions.
3. Acquire, purchase, hold, 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



\$150M Examples (CIAC vs Capacity)

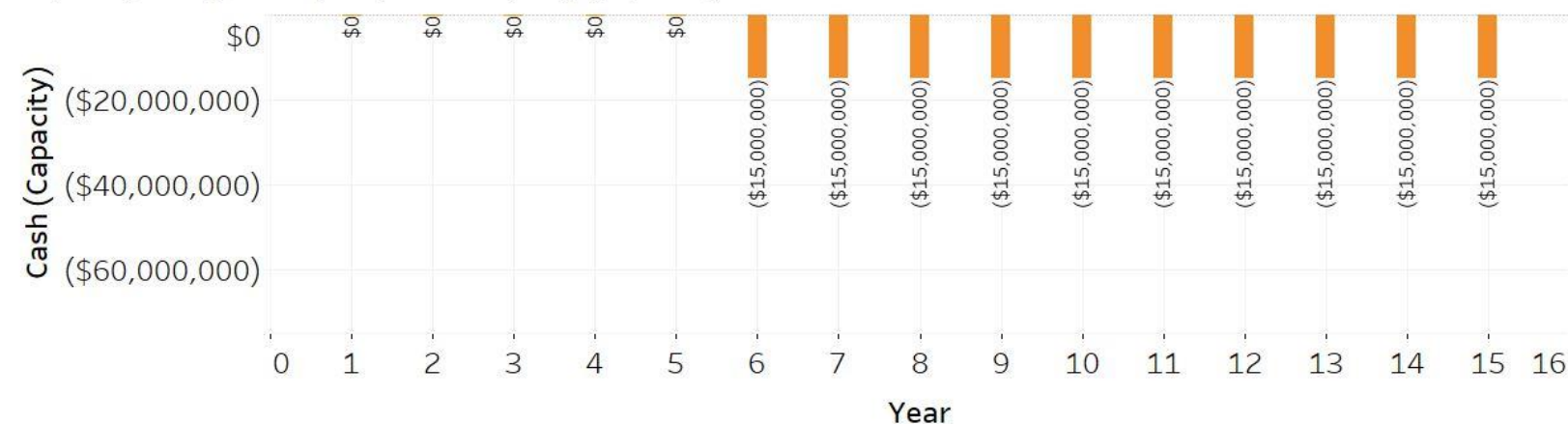
Upfront Capital Contribution (\$150M Contribution in Aid of Construction - "CIAC")



Considerations (+/-)

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

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

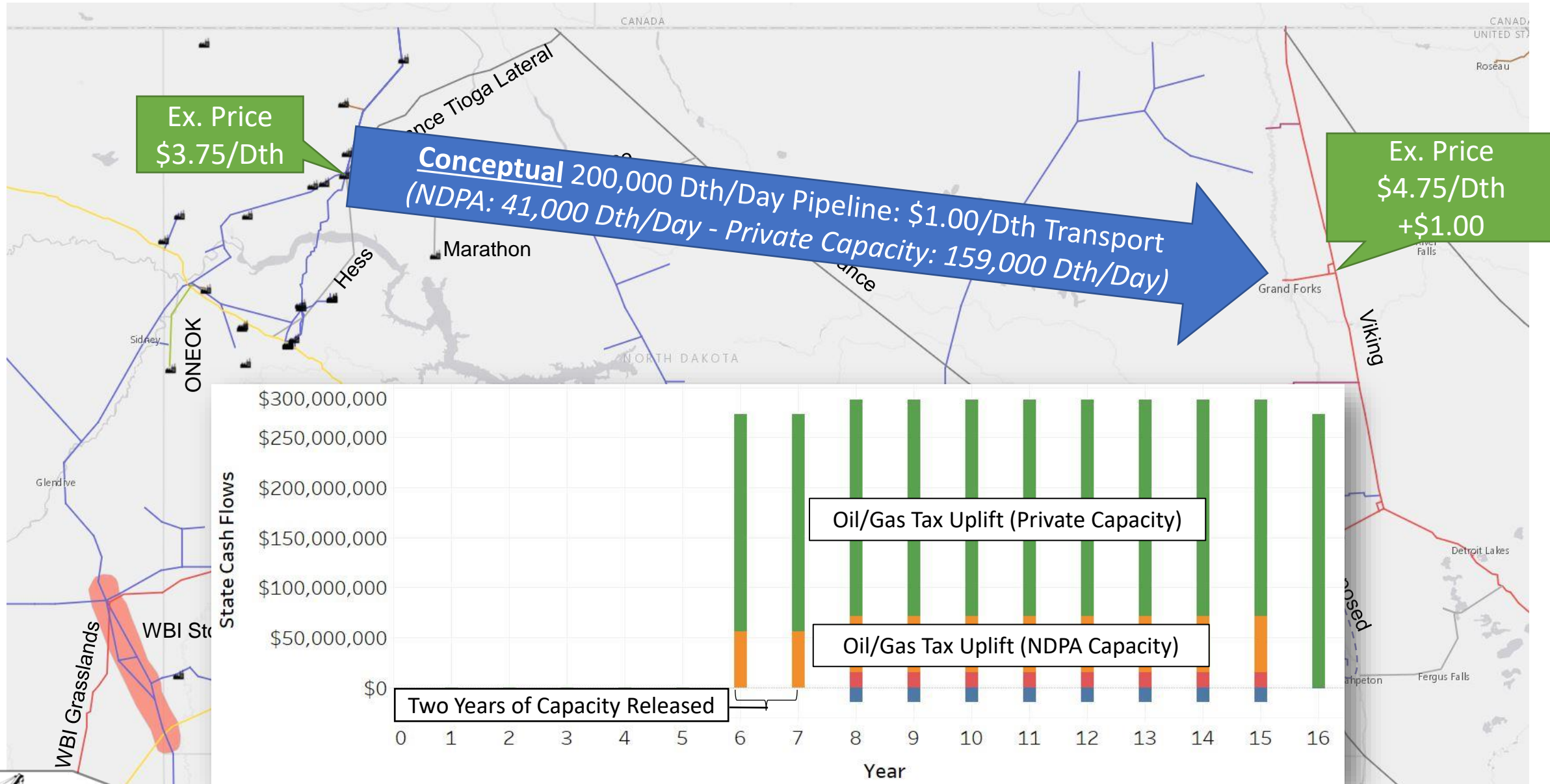


Considerations (+/-)

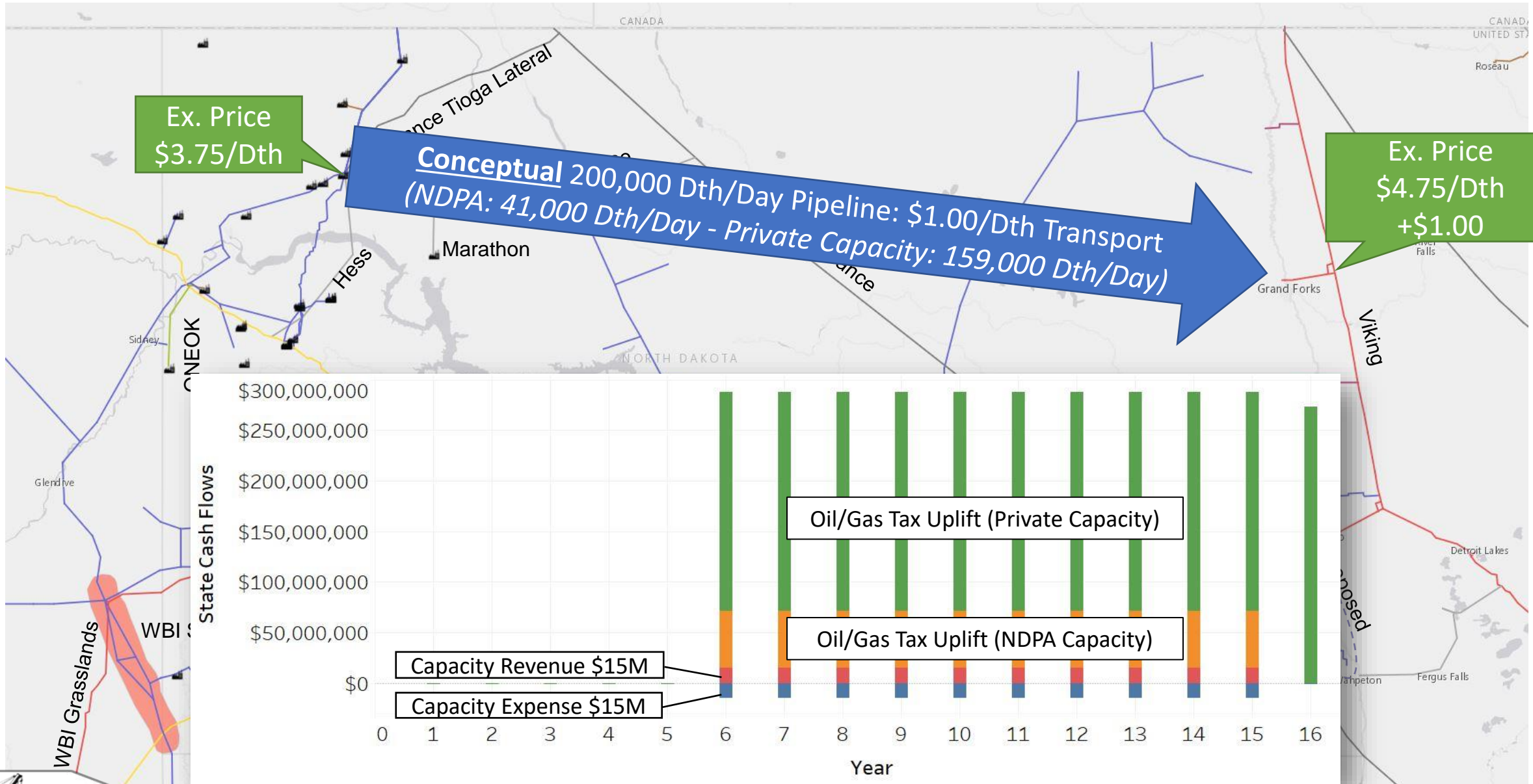
- Opportunity to release obligations (+)
- Obligation recovery possible through asset management agreement (+)
- If obligation is not released or recovered with AMA, max risk is the total transport obligation (\$150M in this example) (+/-)
- No direct transport rate buydown, but rate influenced by total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



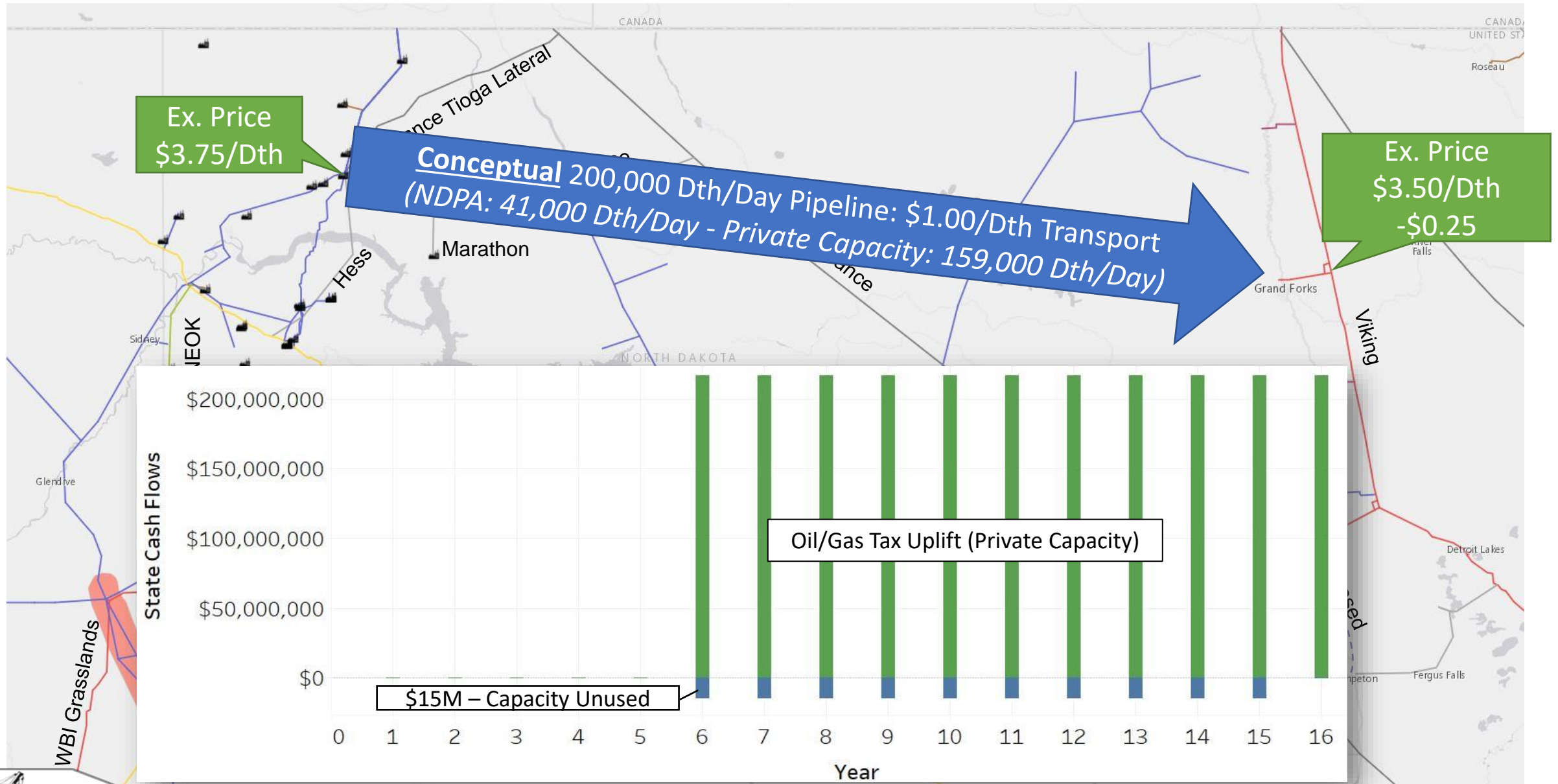
Simplified Capacity Release Example



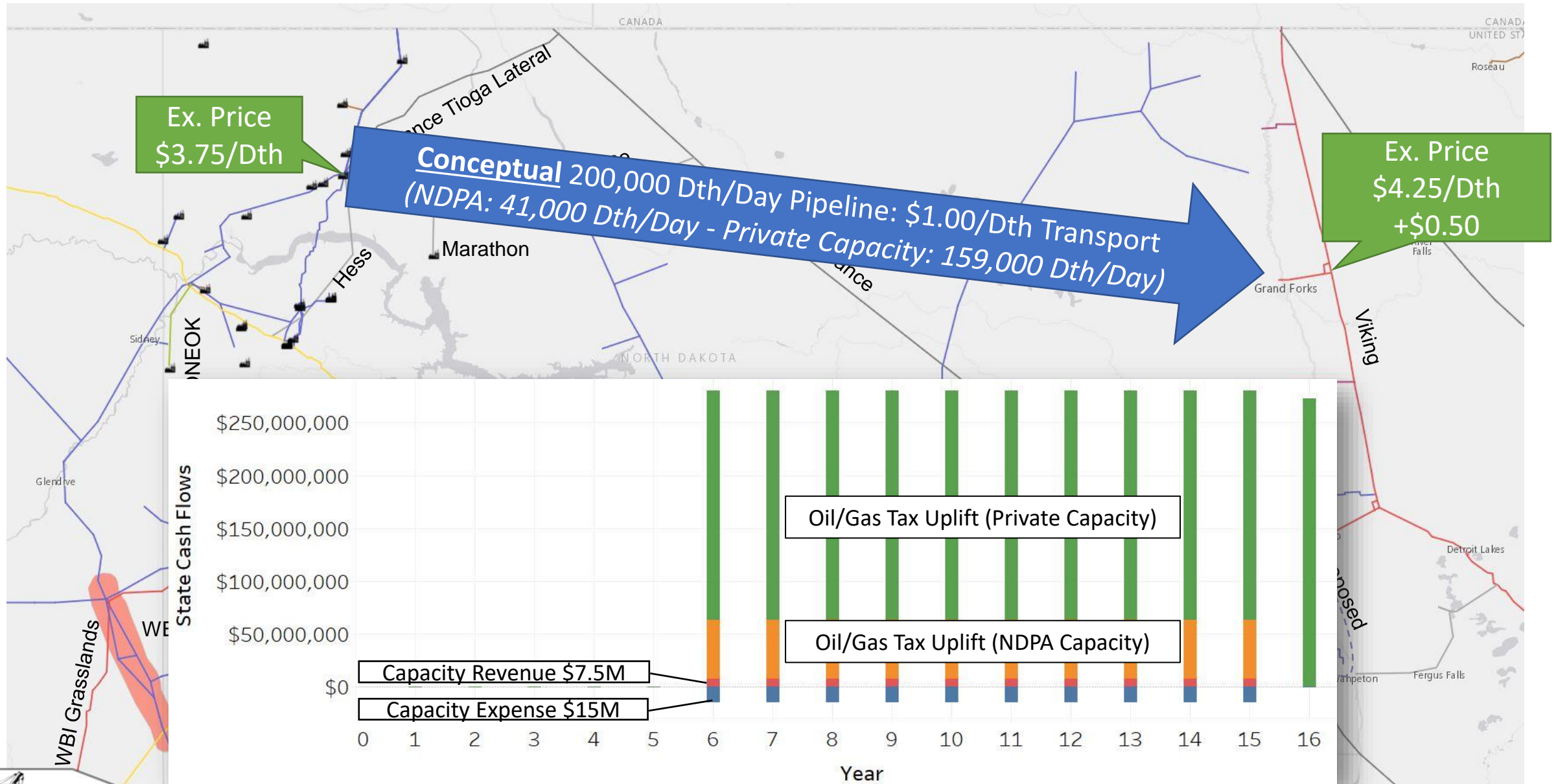
Simplified "Breakeven" Example



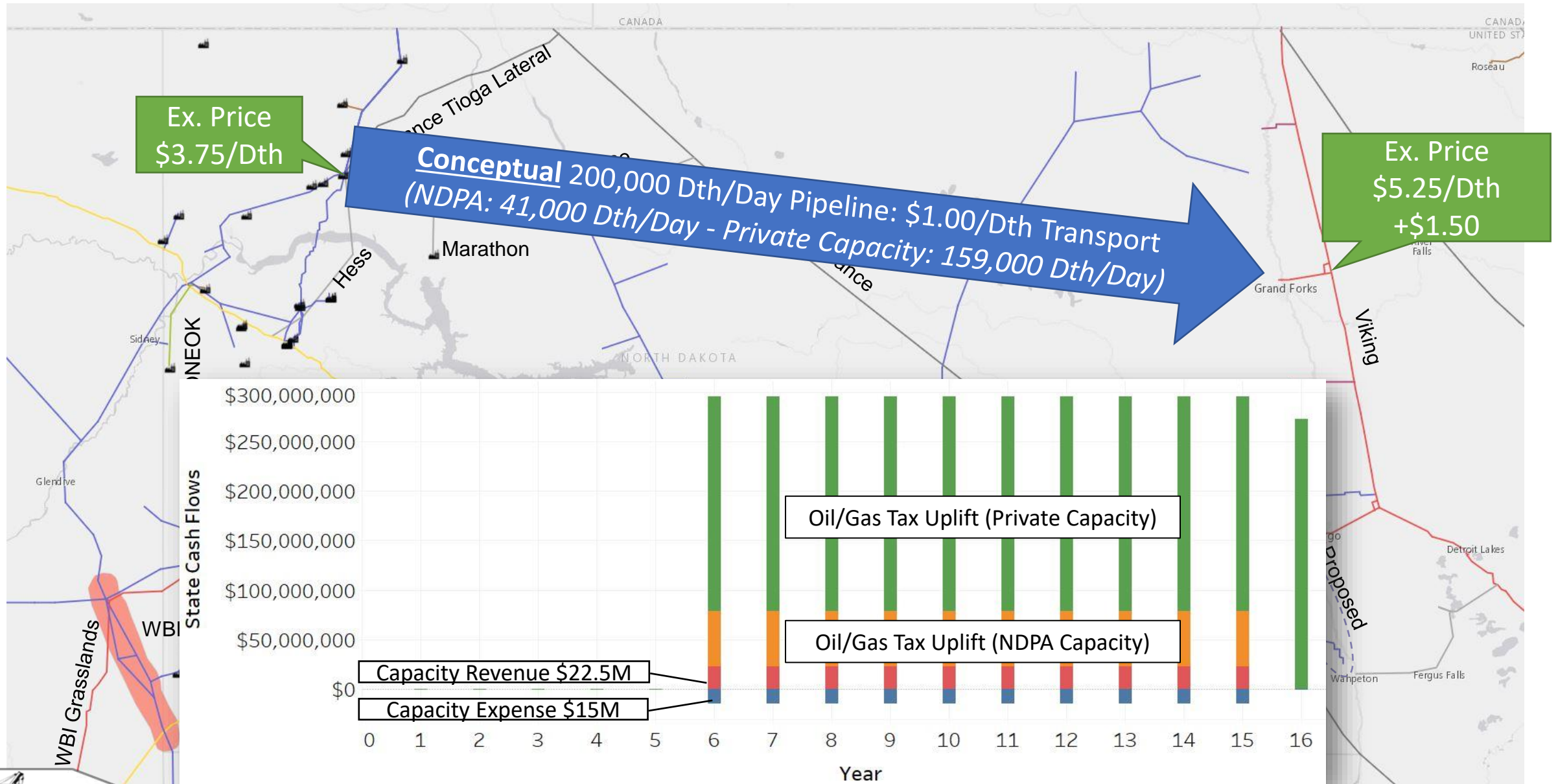
Simplified Uneconomic Scenario



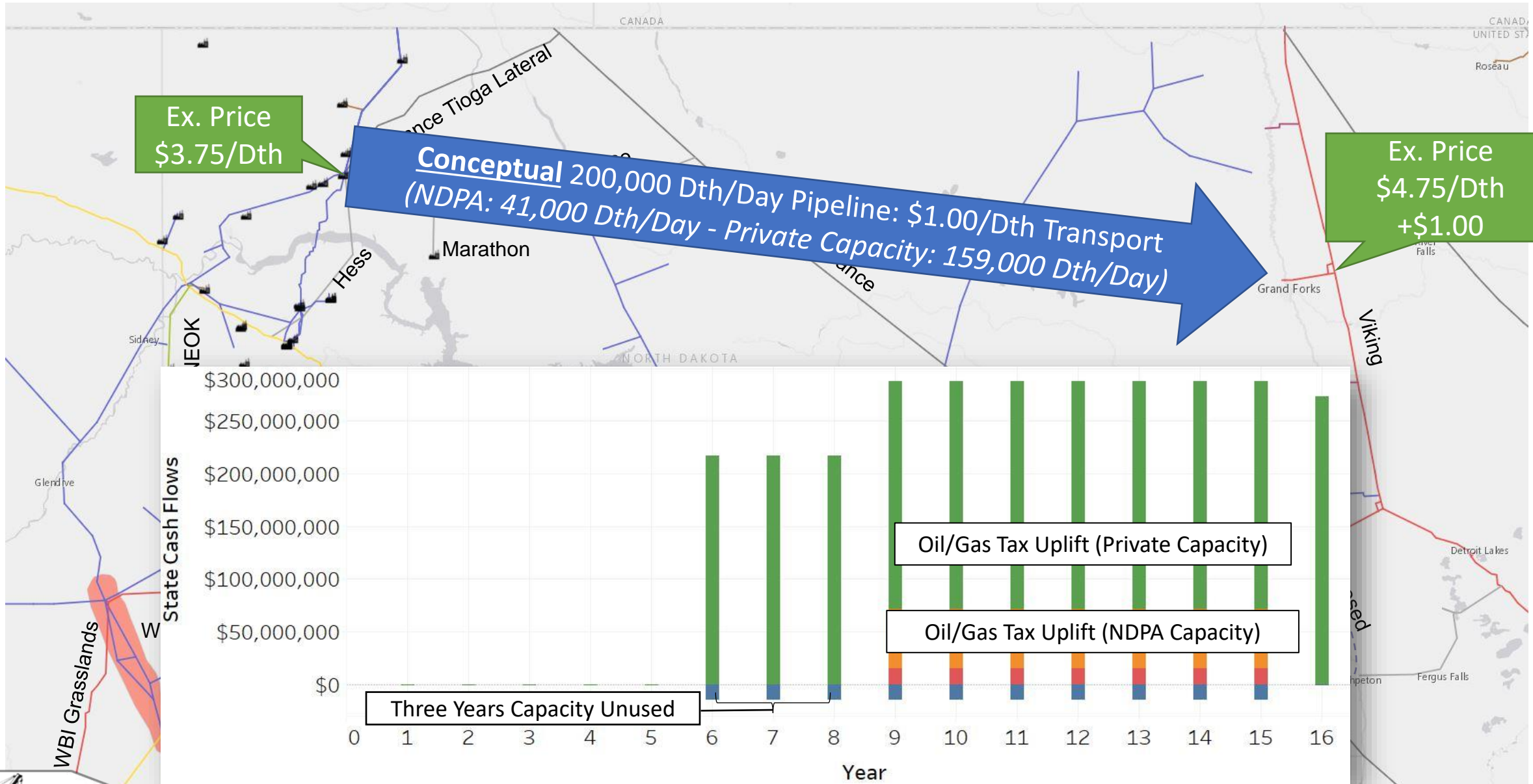
Simplified Partial Rate Recovery



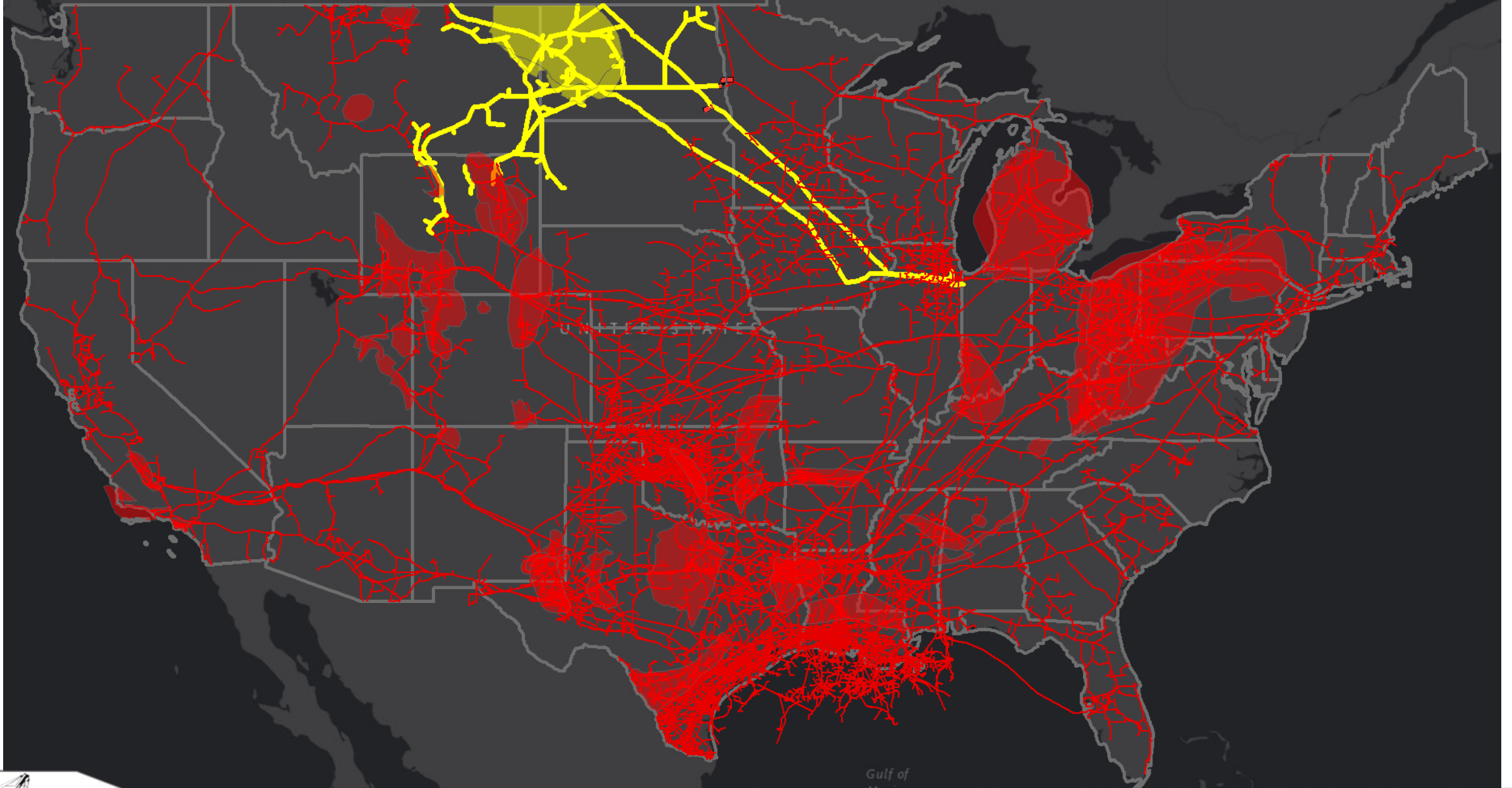
Simplified Profitable Example



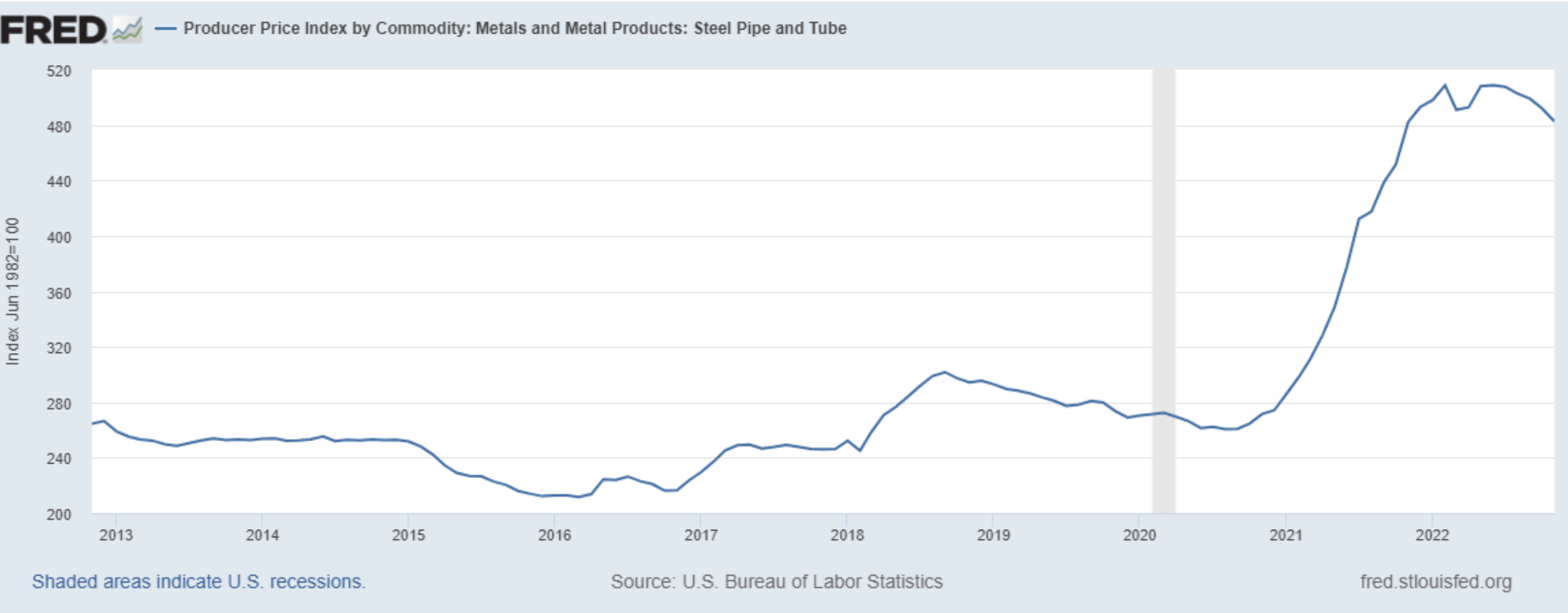
PA Capacity Unused for 3 Years



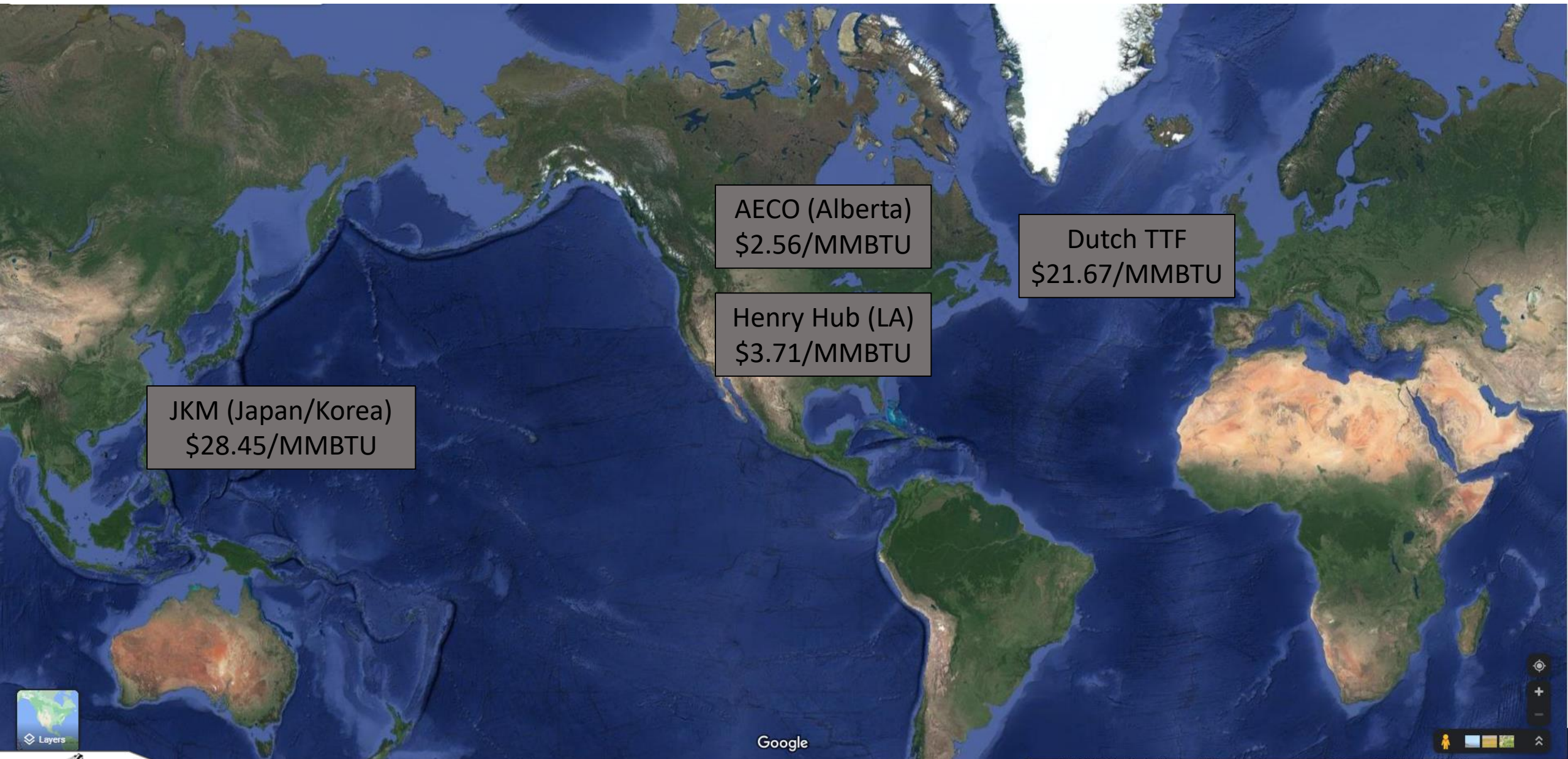
Bakken Natural Gas Infrastructure



Steel Pipe Price Index: ~85% Increase From 2020



Global Natural Gas Prices



Google

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