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CONFERENCE

SEPTEMBER 25, 2025



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Managing Senior Vice President
Ryder Scott Company, L.P.

Based at Ryder Scott Co., L.P.'s Houston office, Sandeep has three and one-half decades of global asset and project management experience in the upstream and midstream energy industry with a proven track record of success in leading developments from evaluations, discovery through design, execution and operations resulting in maximized production.

Previously, he worked for KerrMcGee (now Oxy), Devon Energy, and Noble Energy (now Chevron), and more recently with service providers such as Halliburton and KBR. He is a Fellow of the Marine Technology Society (MTS) and a board member of the Offshore Technology Conference (OTC).

Sandeep earned a master's degree in 1990 from Rice University. He is a registered Project Management Professional (PMP) since 2008 and a Professional Engineer (PE) in Texas since 1995.



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Numbers to Count On. Experts to Trust.

Bridging the Gap: U.S.A. Midstream's Evolving Role in Energy Security and Growth

U.S.A. Energy Changing
Landscape

Oil and gas value chain with focus on natural gas supply and demand and policies

Impact on
Infrastructure

Growth in midstream sector- gas transmission lines, gas storage and carbon infrastructure

Midstream
Challenges

Opportunities and implications for the Midstream Companies

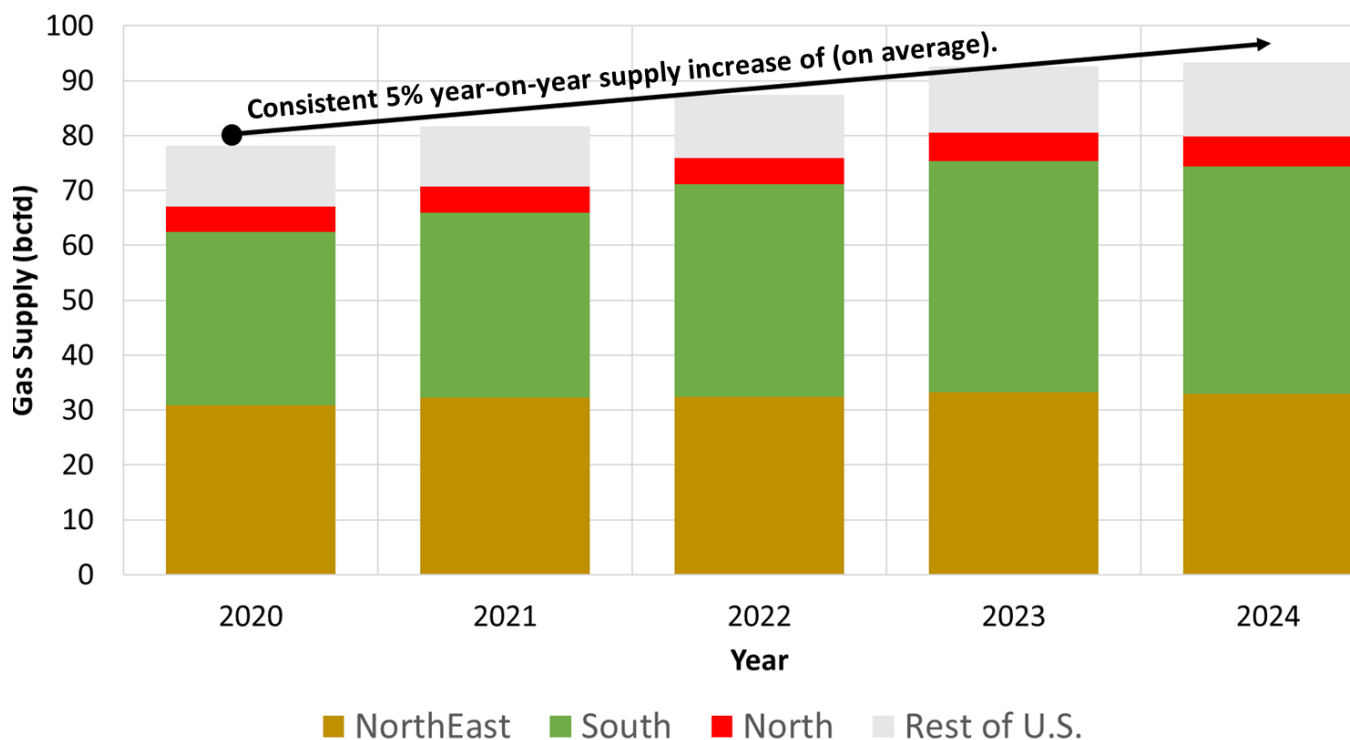
Evaluation
Methodology

Our process to evaluate midstream opportunities

Oil And Gas Supply Leading Up to 2024

Gas from 2020 to 2024 shows 5% year-on-year increase

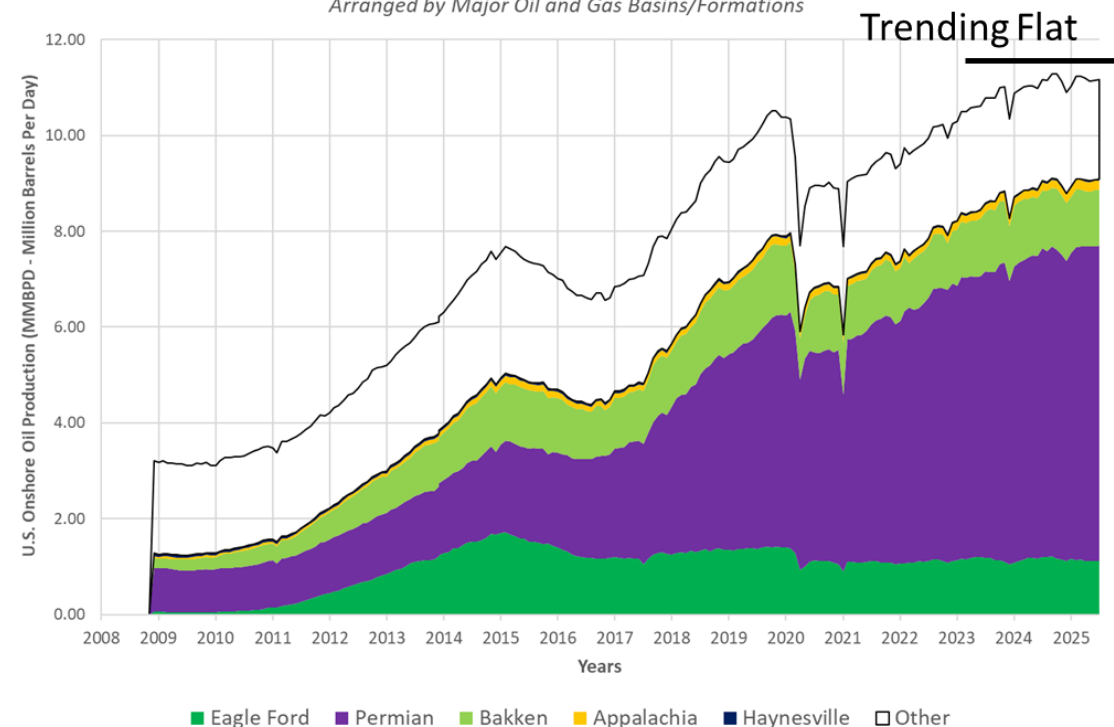
U.S. Natural Gas Supply from 2020 to 2024



Oil increased from 2020 to 2022 but flattening out to 2024 & beyond

U.S. Onshore Oil Production

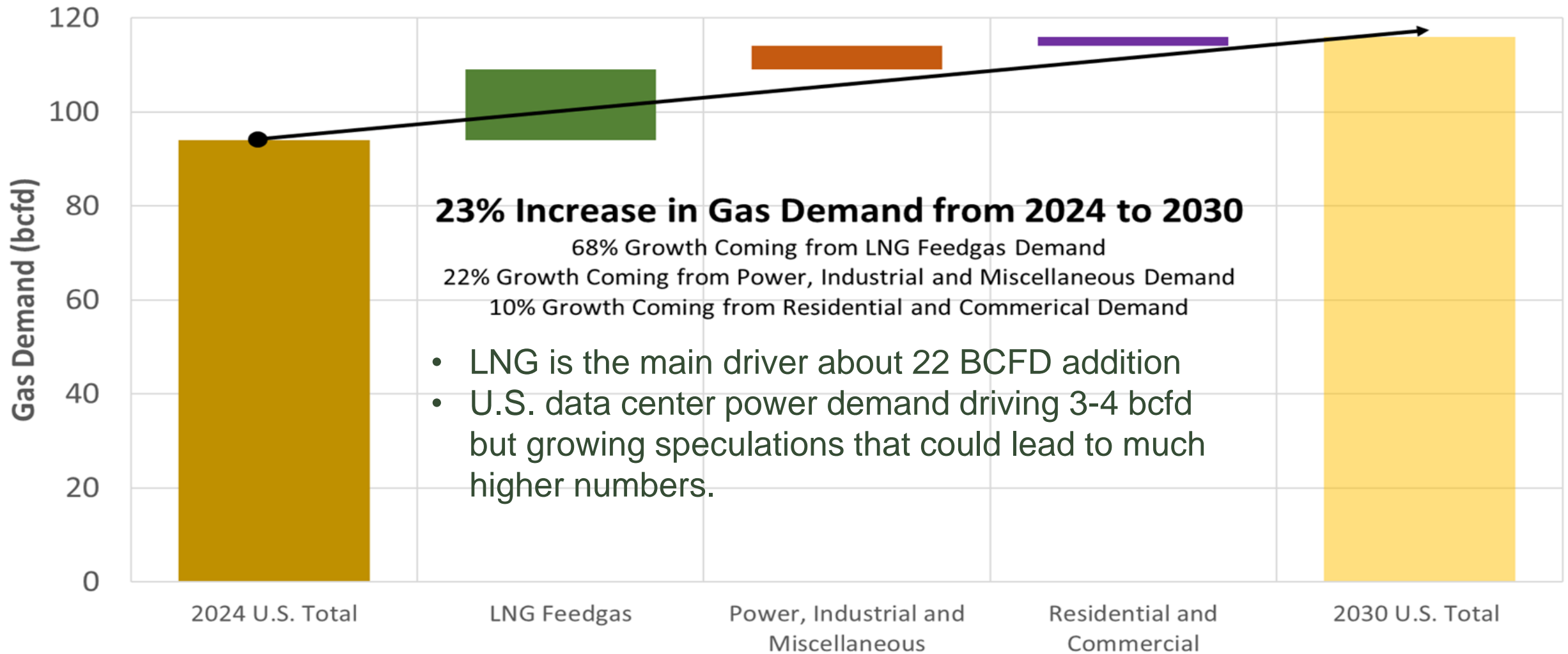
Arranged by Major Oil and Gas Basins/Formations



Source: EIA Annual Energy Outlook 2025

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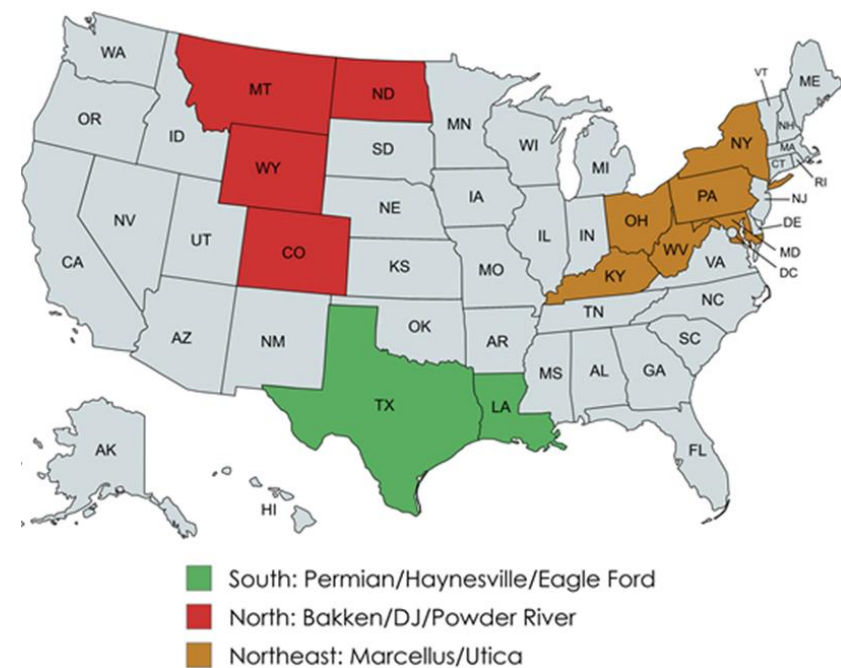
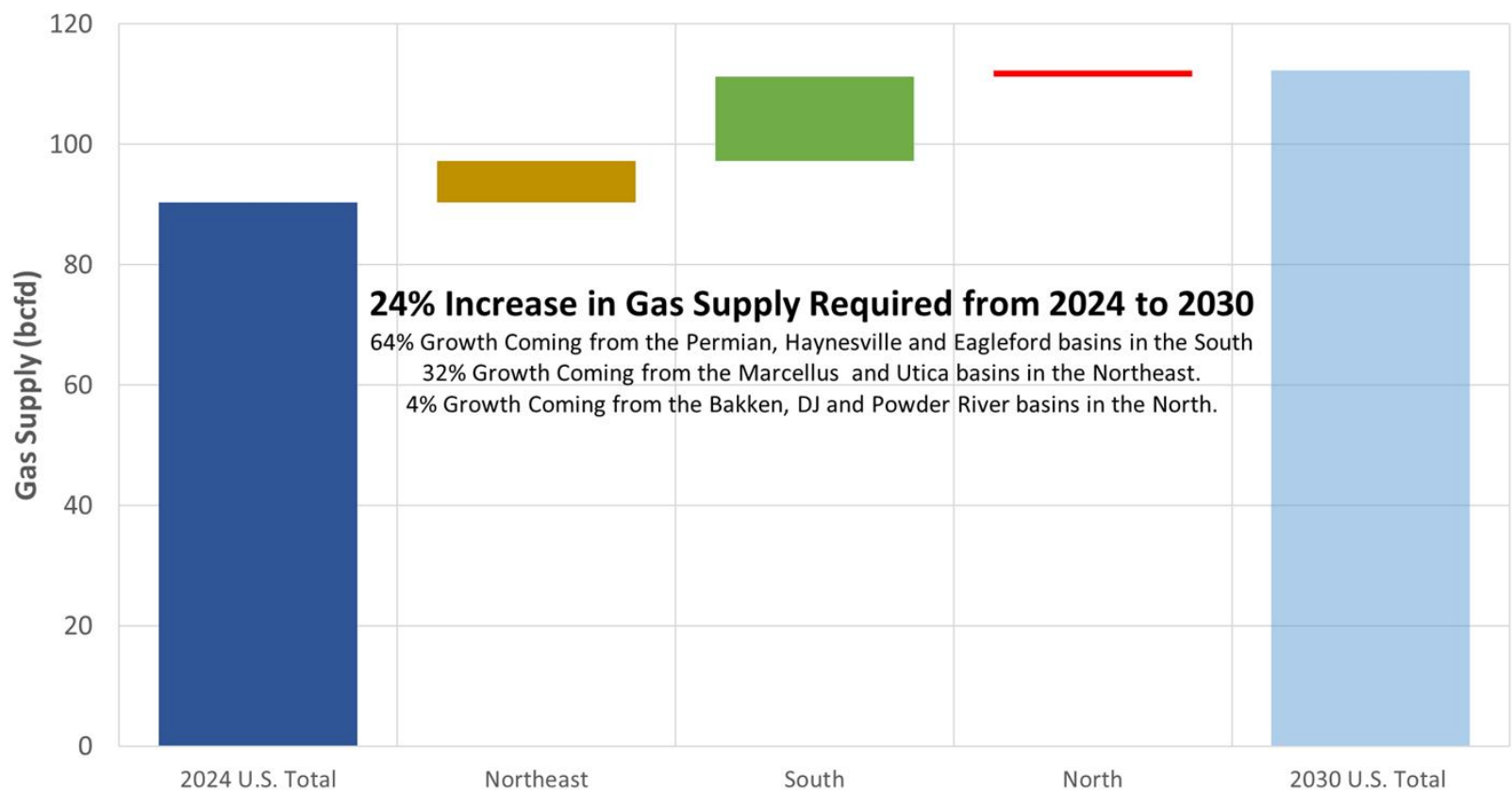
Gas Demand grows tremendously from 2024 to 2030 Driven by LNG followed by Power and Industrial



Sources: (1) IEA – for the 2024 Total U.S. Gas Demand figure; (2) Wood Mackenzie – for the Gas Demand Growth figures

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Gas Supply 2024 to 2030 coming from Permian & Haynesville followed by Marcellus & Utica



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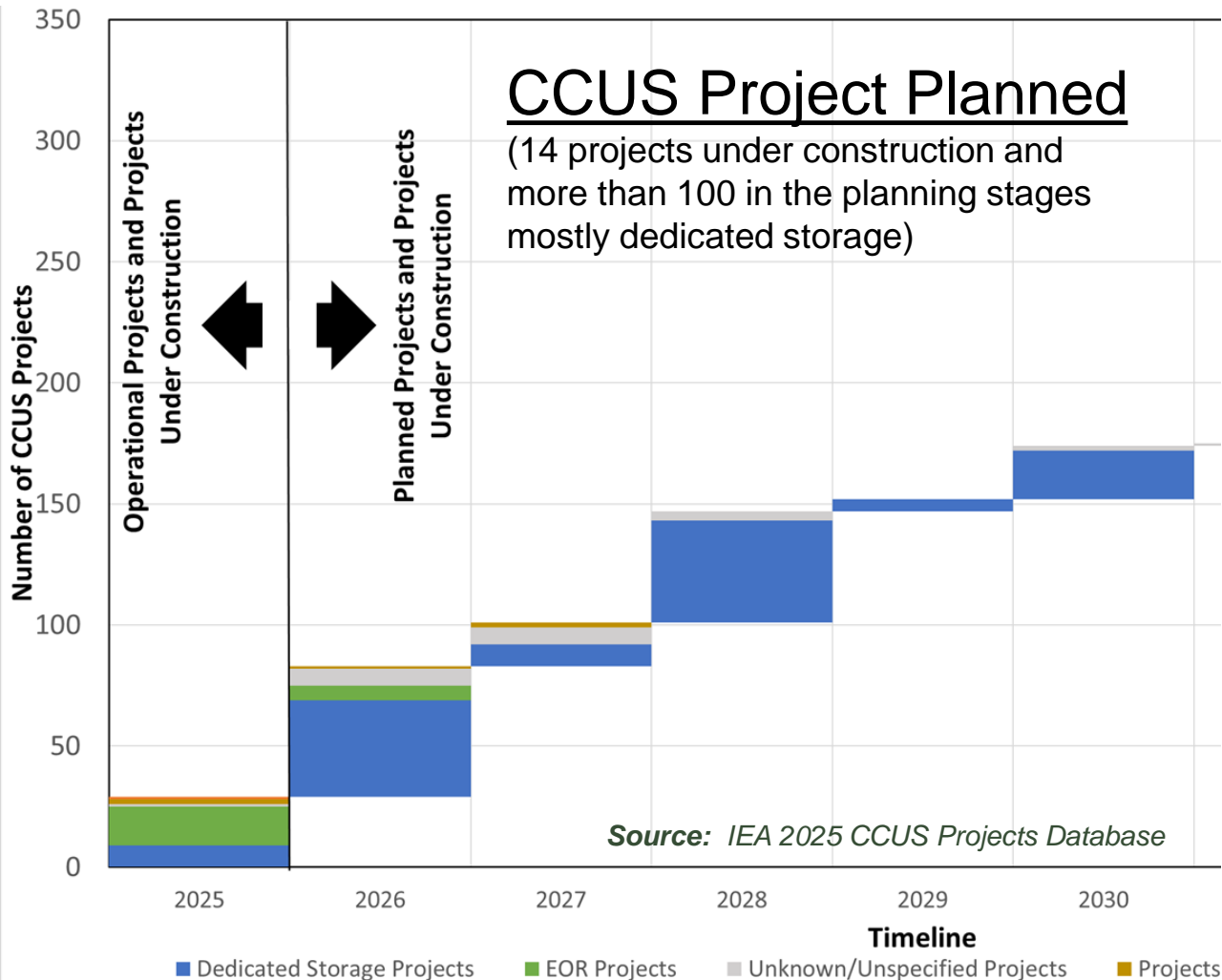
Gas Storage Revival- More is needed

- Since 2013 Gas demand grew by 49% , interstate pipeline delivery by 26% while storage increased only by 2% .
- Today Gas storage capacity relative to demand is near all time low.
- More volatility expected as LNG demand increases; Storage is crucial for balancing export swings and remains central to price stability.

U.S. GAS STORAGE: DAYS OF LONG-TERM DEMAND COVER⁽¹⁾
Storage / Daily Demand



Policy Support on CCUS: 45Q credits and Big Beautiful Bill (BBB) solidifying the credits further



- **Policy shift to parity:** BBB aligned CO₂-EOR with the permanent storage rate (\$85/t). The 45Q begin-construction window remains open.
- **Incentives:** 45Q can be monetized via transferability or direct pay
- **Dual value stream:** Credit revenue + incremental oil improve project economics
- **Clear compliance path:** ISO 27916 and EPA regulation provide a transparent, auditable method to quantify associated storage in CO₂ – EOR; Form 8933 filed annually

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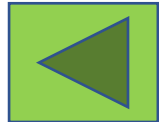
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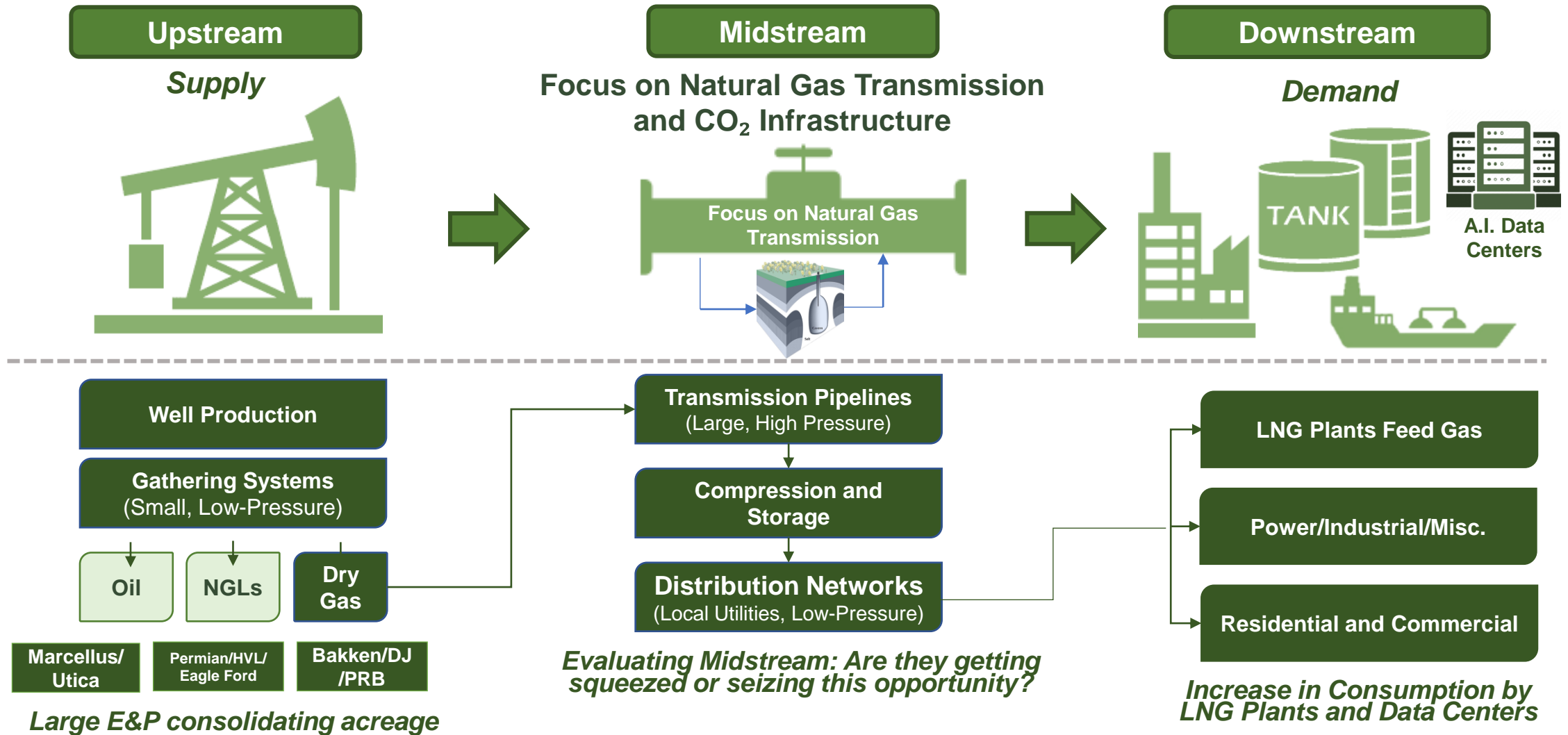
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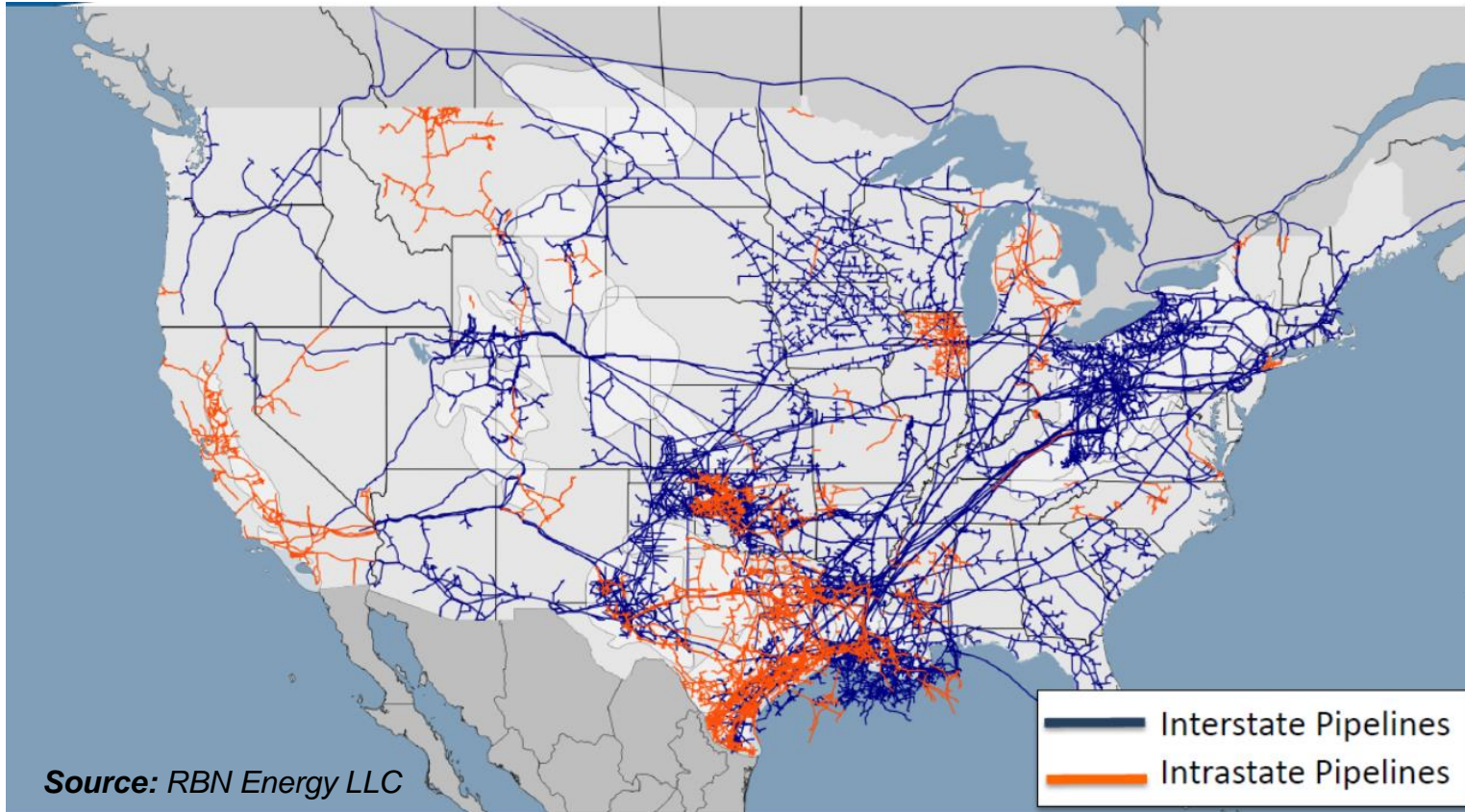
Natural Gas Value Chain and Midstream's Role



Numbers to Count On. Experts to Trust.

Changing Landscape of Gas Transmission

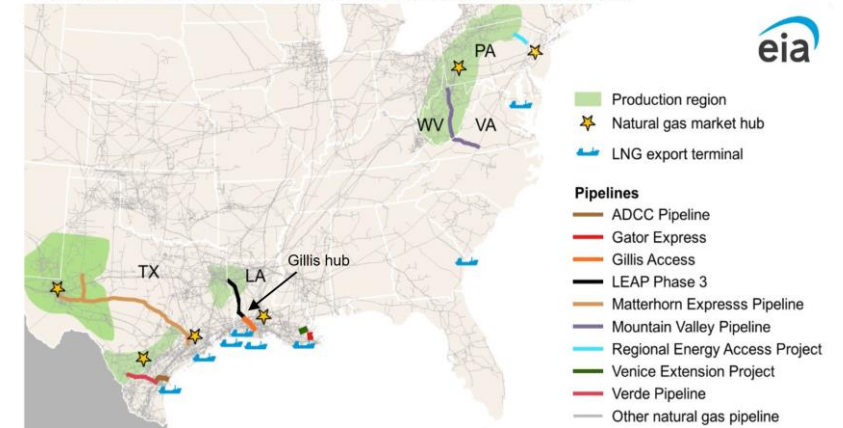
Gas Transmission as of 2024



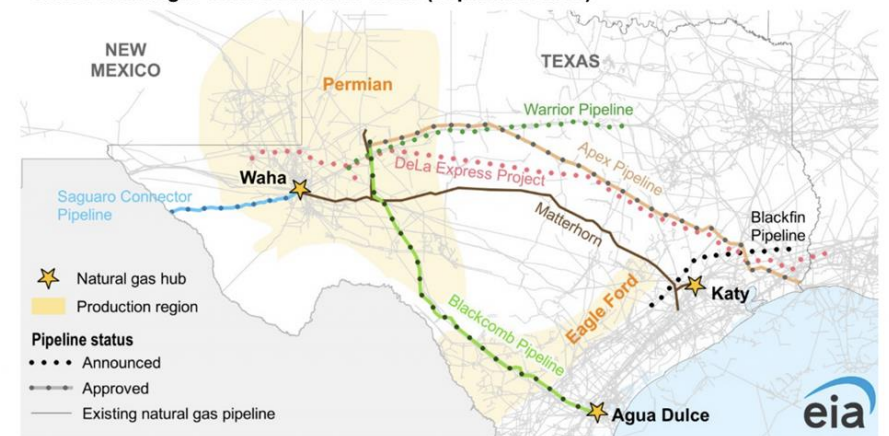
Most states regulate “Intrastate Pipelines” differently than FERC “Interstate Pipelines”. Texas being the most notable here.

Pipeline Projects Approved

Select natural gas pipeline projects and infrastructure (March 2024)



Select natural gas infrastructure in Texas (September 2024)



Data source: U.S. Energy Information Administration, Natural Gas Pipeline Project Tracker

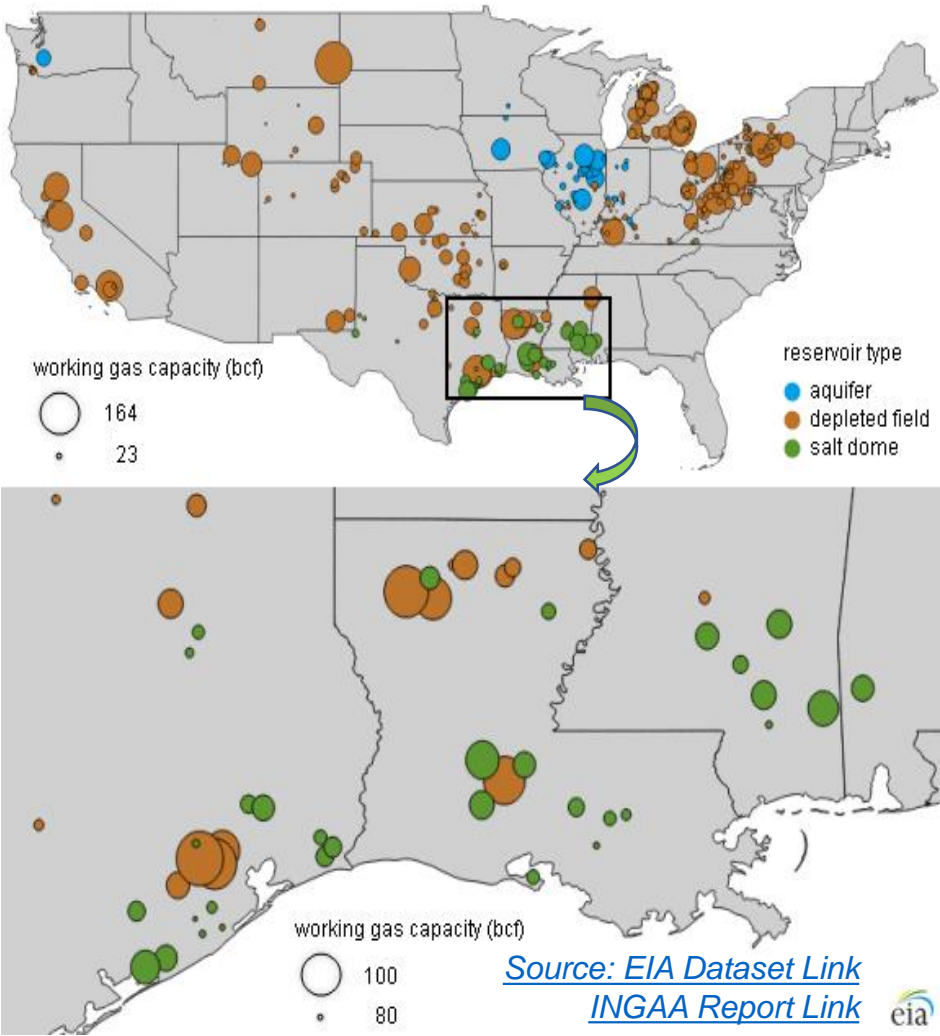
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Gas Storage- Mostly Being Developed in Salt Domes in the Gulf Coast

- New projects mark a revival after a decade-long pause.
- Salt domes dominate due to its flexibility for Gulf Coast

New Storage Projects	Capacity and Status
Black Bayou Energy Hub (LA)	Expanding to 4 salt domes (~70 Bcf demand) by 2028
Freeport Energy Hub (FRESH)	Initial 20 Bcf, expandable by 2028
Enstor Mississippi Hub	+33.5 Bcf capacity expansion by 2028
NeuVentus TRU Hub (TX)	Up to 96 Bcf Approved phase buildout
Spire (WY & OK), NGPL (TX)	Regional expansions, reliability (operational)

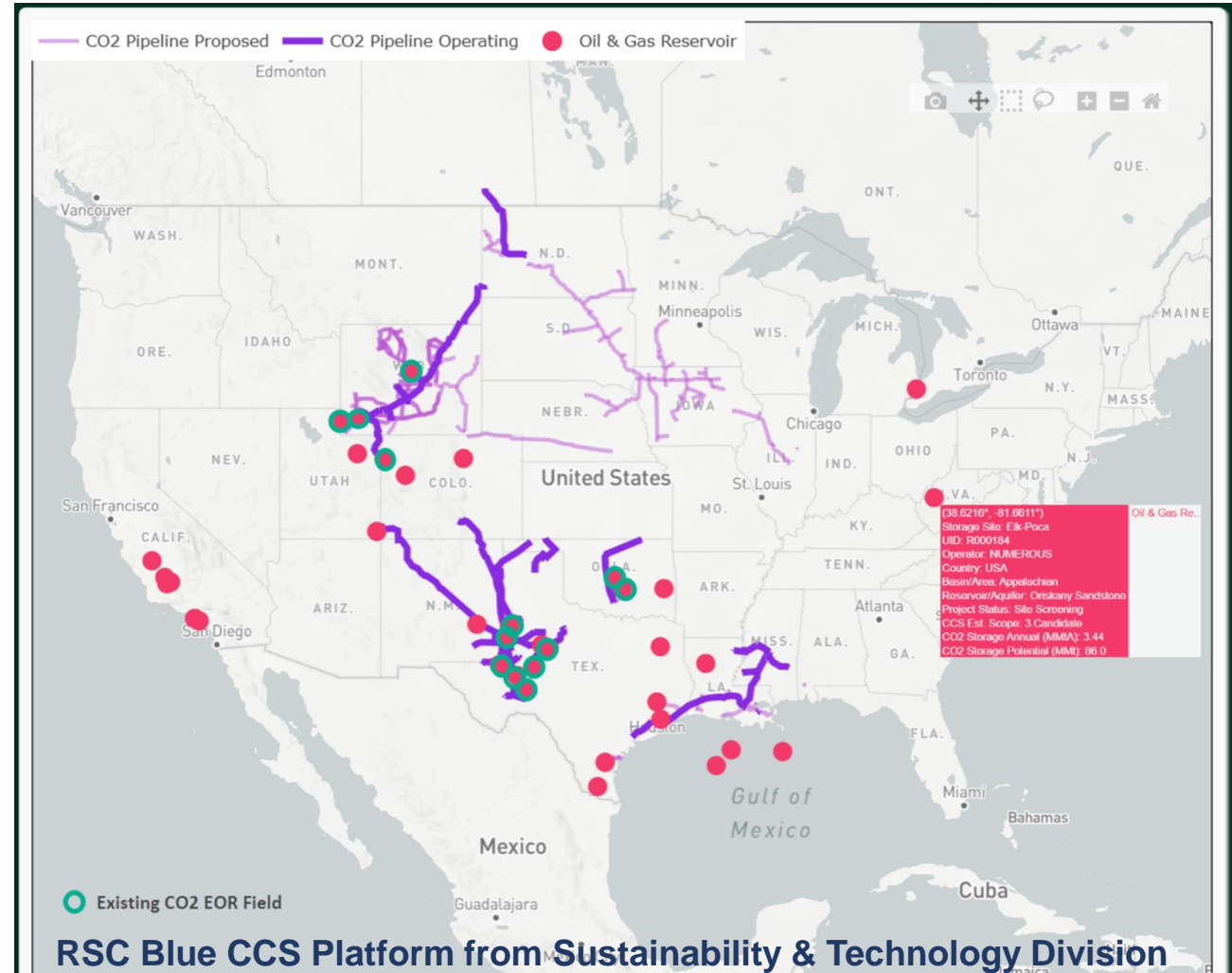
U.S. underground natural gas storage facilities by type



Impact of Big Beautiful Bill (BBB) on CCUS Infrastructure

EOR is field specific driven by Oil Price; BBB will provide an uplift further driving CO₂ Pipelines

- Increase in the CO₂ pipelines for the near-term CCUS projects, and many more storage sites available.
- BBB will drive capital allocation shift to EOR that will require its own pipelines and facilities while providing a bridge for permanent storage.
- A side note: New build gas powered cogeneration plants with CCS are competitive after factoring in the \$85/ton tax incentive through the 45Q.



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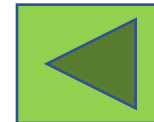
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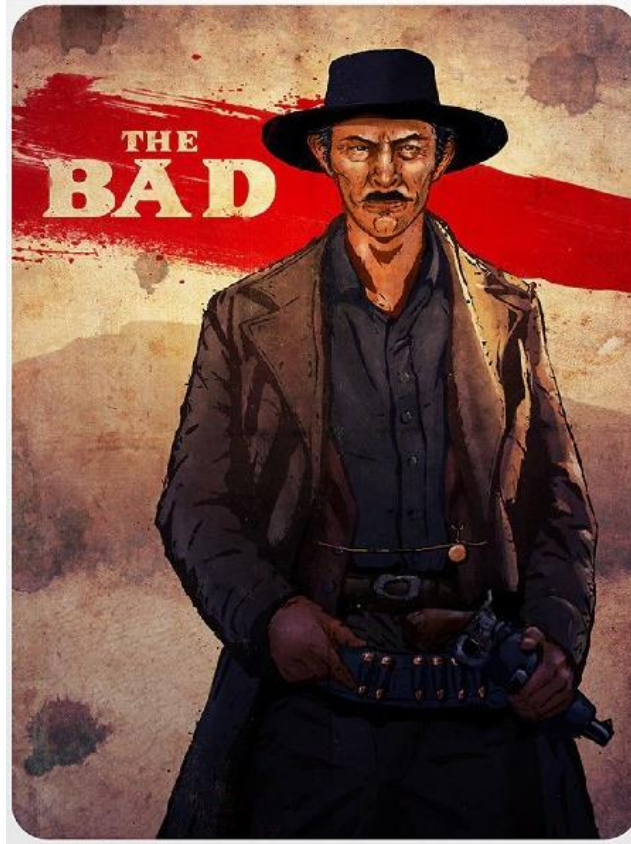
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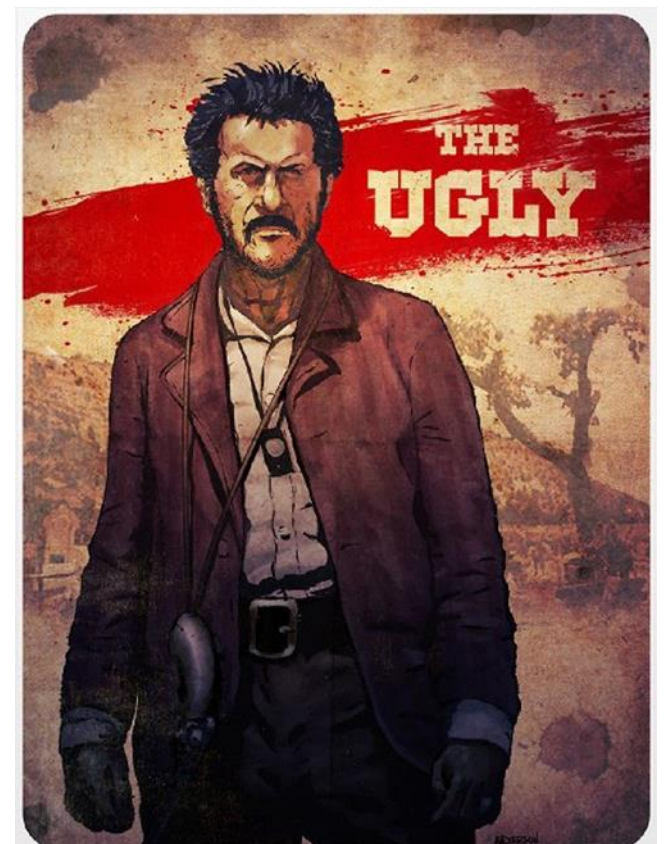
Opportunities and Implications



Demand Growth
Favorable Policy



Increasing Cost
Accelerated Development
Aging Infrastructure



Long-term contracts
Gas Prices Volatility

Numbers to Count On. Experts to Trust.



Midstream Trends

The focus is on reliability, affordability, and security with a disciplined investment approach.

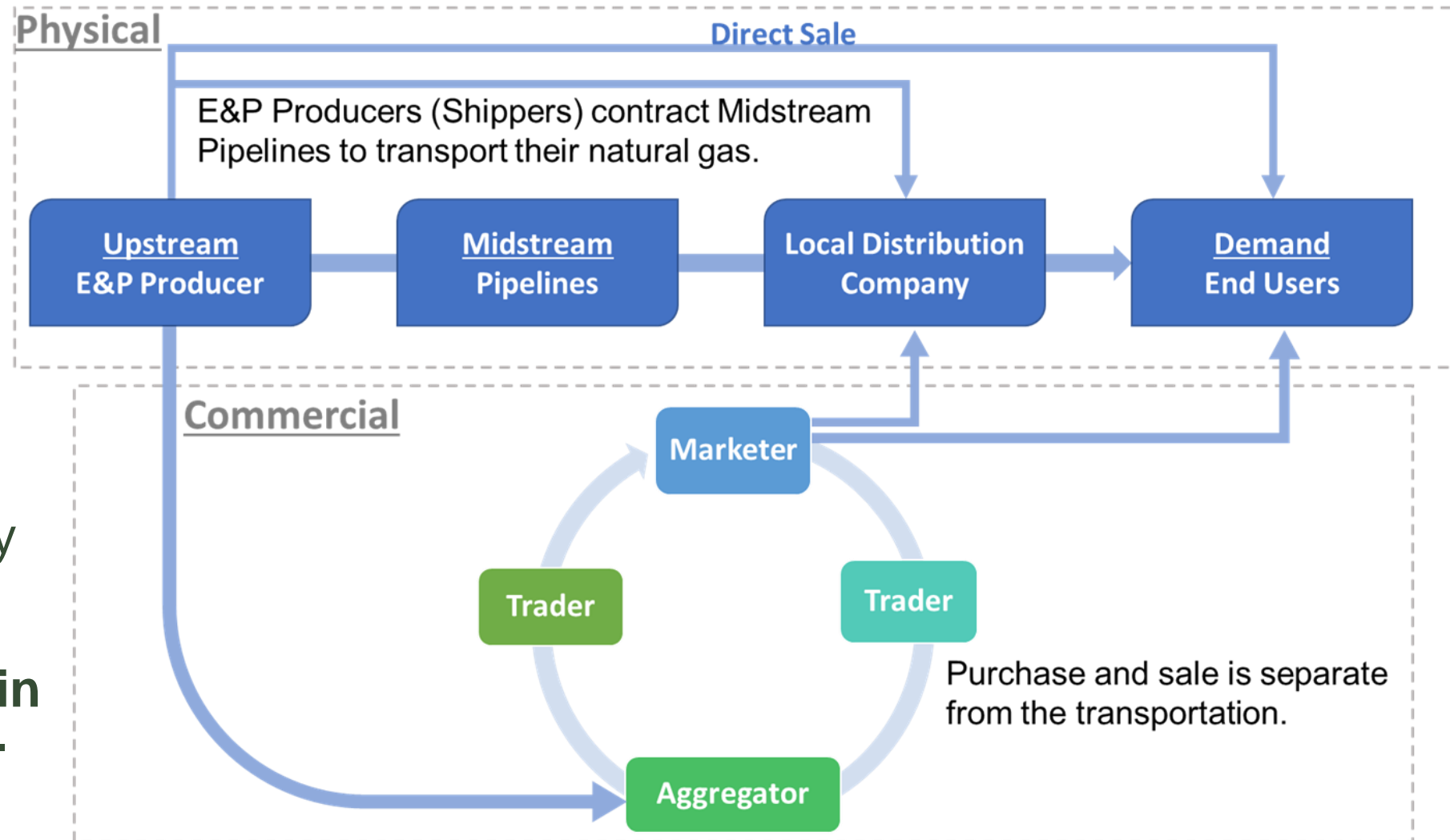
Trends	Outcomes
Consolidation and M&A	Large integrated players (e.g., ONEOK, Energy Transfer, etc.) acquiring midstream assets – often at the expense of private equity holders.
Vertical Integration	Large E&P are integrating gathering, processing and extending to midstream for operational control and efficiency.
LNG & Data Center underpinning pipelines	Focus on securing upstream natural gas supply in regions such as Permian and Haynesville
Joint Ventures on Projects	Strategic collaborations and pipeline expansions are being launched to enhance network reach as capital investments are high
Decarbonization and Technology	CCS continues with large E&P participating and extends to Blue Ammonia, while CO ₂ emissions has taken a back seat due to deferred incentives.

Midstream Challenges

Setting up the Right Commercial Terms

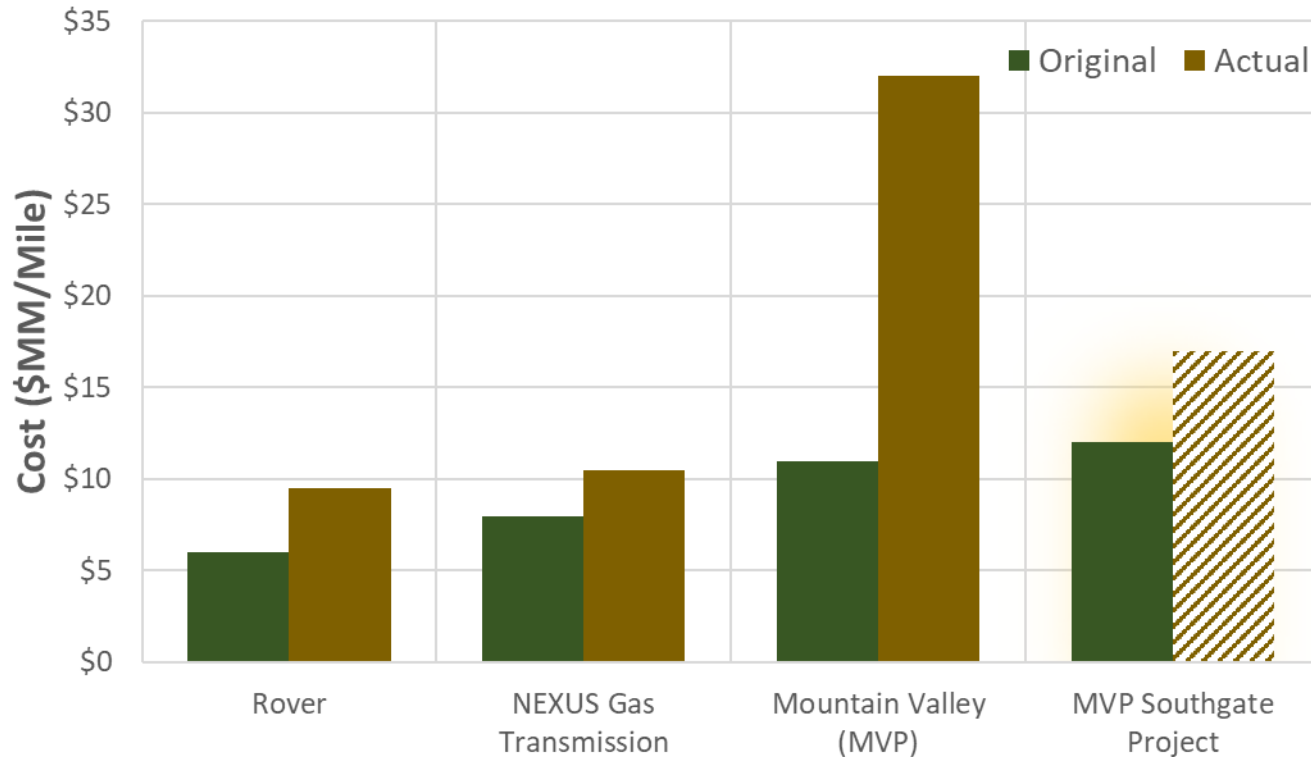
- Balancing flexibility versus stability in contracts for capacity utilization and flow assurance.
- LNG dependency and storage risks
- Capital intensity
- Expansion vs reliability
- Timely delivery

Success relies on basin optimization and long-term contracts



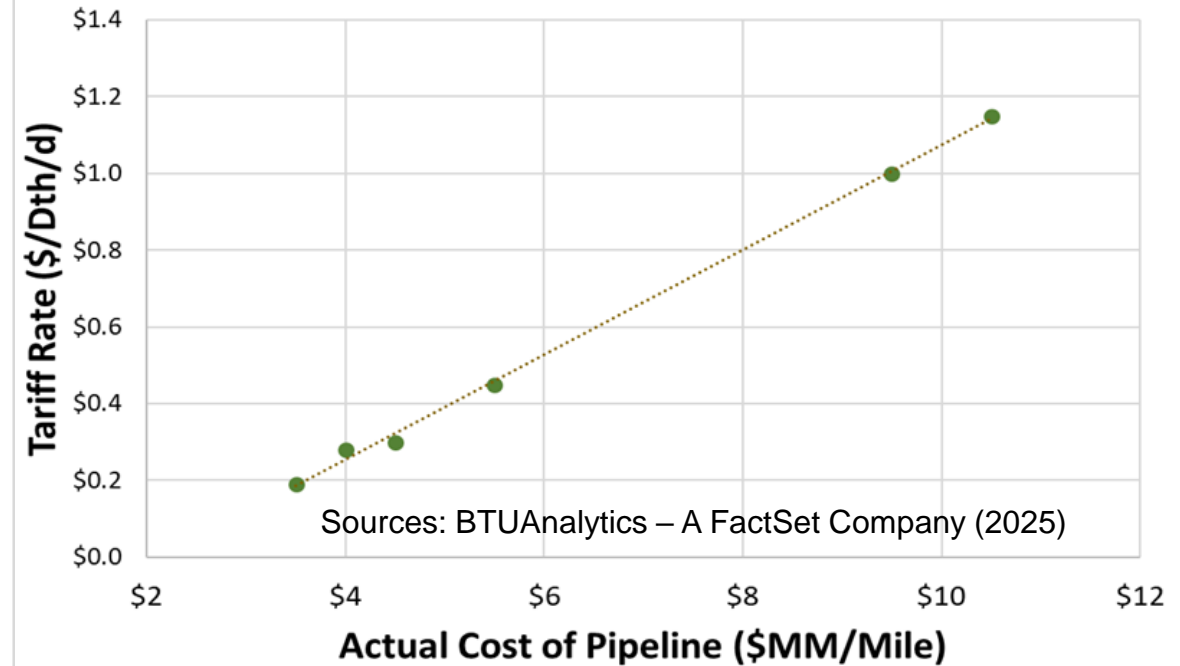
Capital Expenditure (CAPEX) Increase Directly Relates to Netbacks

U.S. Northeast Pipeline Costs



- Pre-2024 capital costs of \$5.75MM/mile
- Post-2024 capital costs of \$6.3MM/mile

Tariff Rate vs. Cost of Pipeline Plot



- Higher CAPEX equals higher tariffs
- Reduce producer netbacks
- Increase delivered gas prices to consumers
- Can widen regional basis spreads

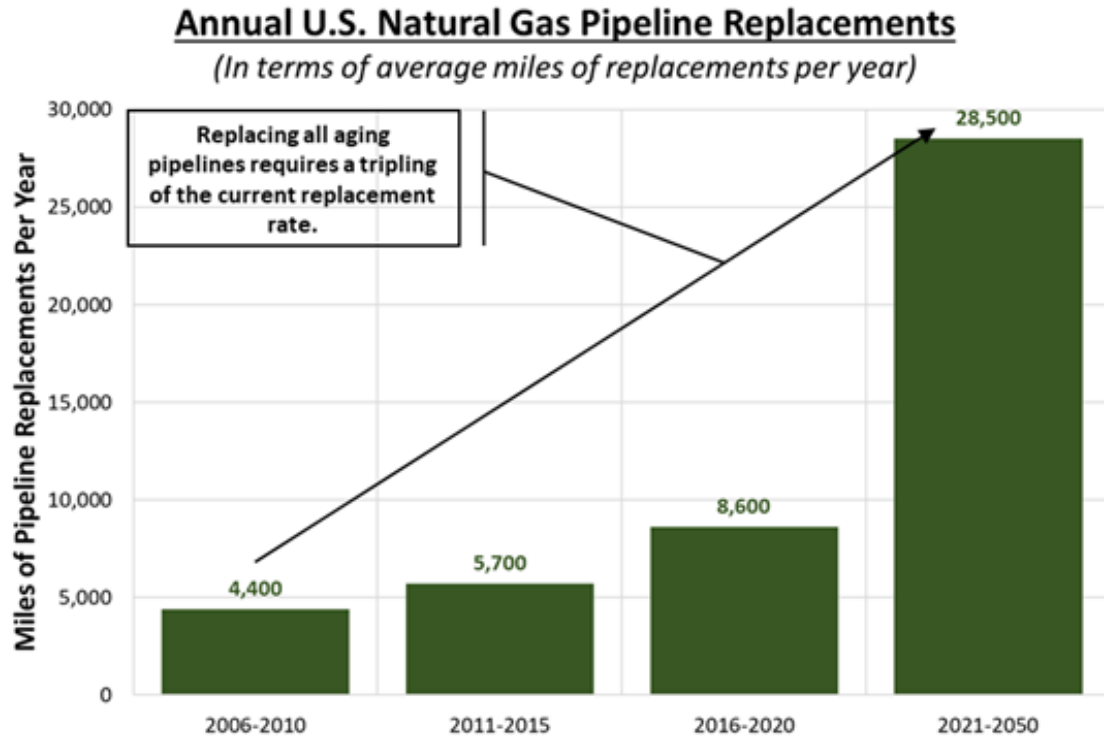
Numbers to Count On. Experts to Trust.

Asset Integrity Consideration is Getting a Boost Due to Capacity Expansion Needs

Scale & Age	Over 60% of pipeline are more than two decades old.
Safety Risks	Aging materials – pose corrosion and leak risks.
Federal Grant	Funding is available to modernize high-risk pipelines.

Replacement Gap
Required rate is three times current pace; cost exceeds \$200 Billion.

Safety vs Age
Age alone isn't the sole risk factor; maintenance is the key.



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Operating Expenditure (OPEX) impacts delivered gas cost but mostly fixed

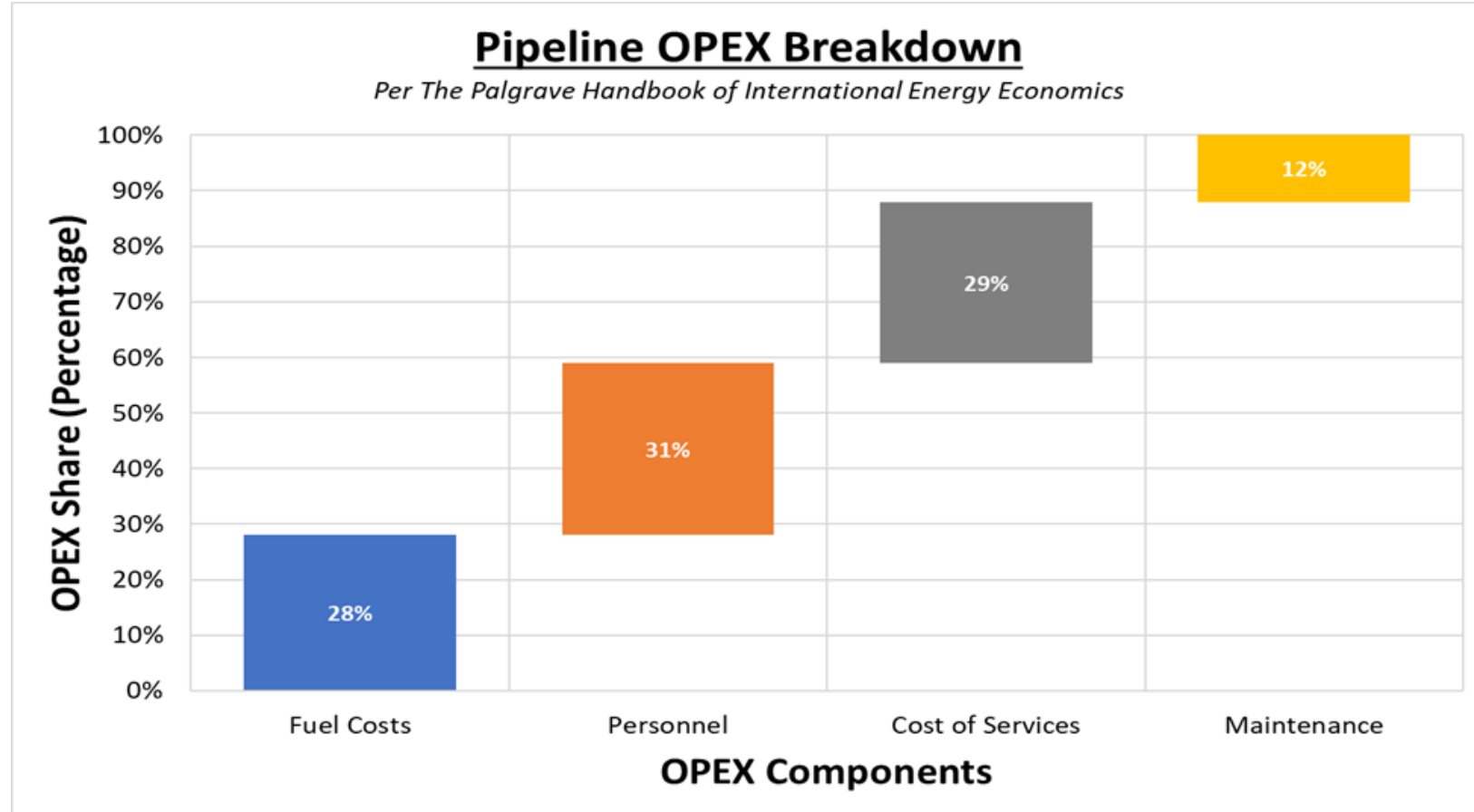
Cost Drivers

- Design Impacts: Fuel and Maintenance Costs
- Age, Condition and Environmental Impacts: Service and Maintenance Costs
- Regulations Impacts: Personnel and Maintenance Costs

Maintenance costs contribution increases for aging pipelines

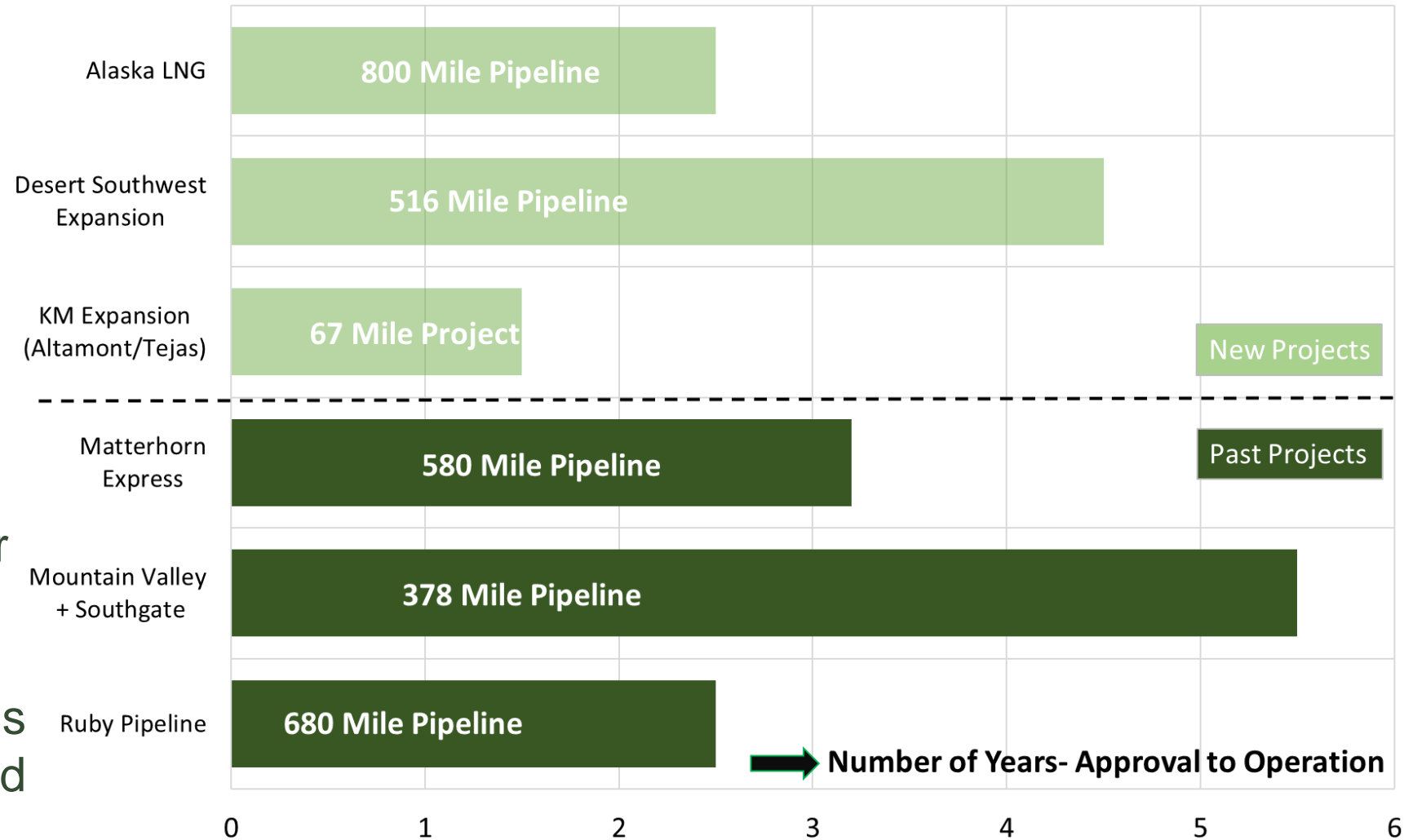
Trends in reducing OPEX:

- Efficiency gains in compressors
- Digital and AI
- Robotics and Automation



Approval to First Gas Timeline is Improving but Challenged to Keep Up with Gas Demand Pace

- Interstate pipelines typically take 3–5 years to complete
- Regional expansions can finish in 1–2 years
- Legal and regulatory challenges can push timelines to 5+ years (e.g., MVP).
- Historical projects like Ruby were completed much faster (~2 year) but with increased Capex.
- Proposed fast-tracked builds (e.g., Alaska LNG) could make an exception



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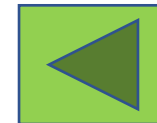
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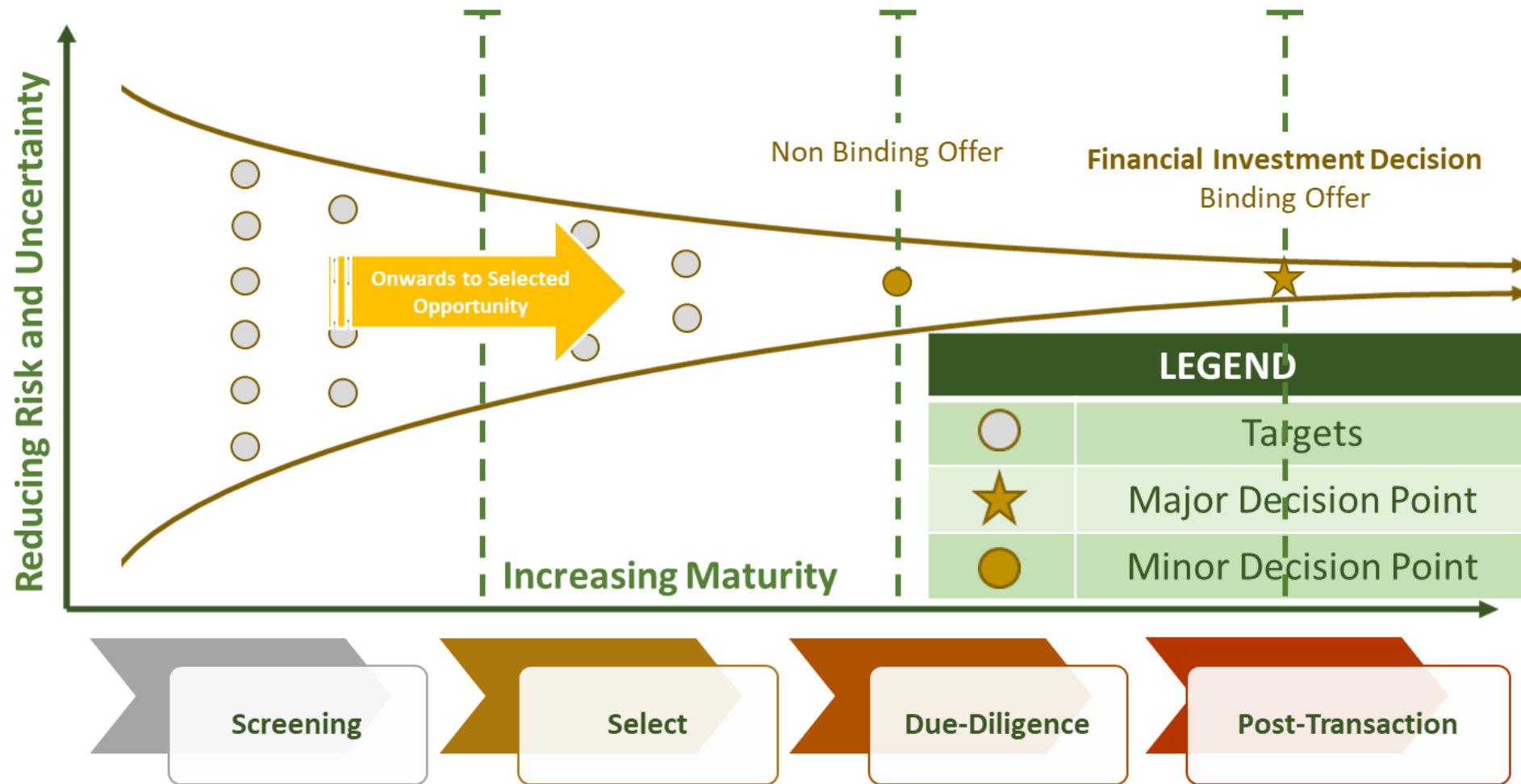
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Typical Evaluation Process



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Basin and Asset Level Reviews

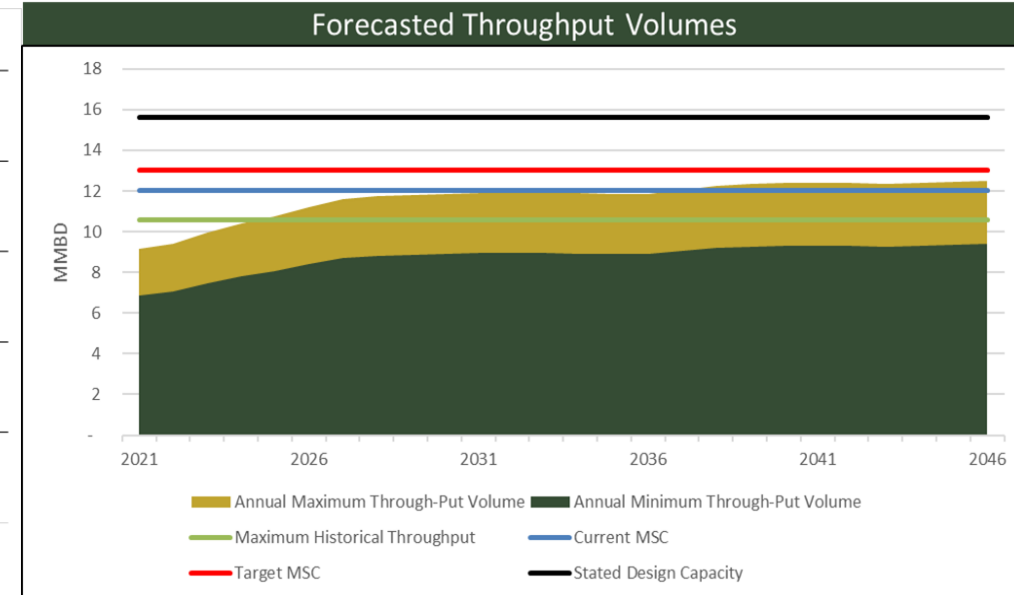
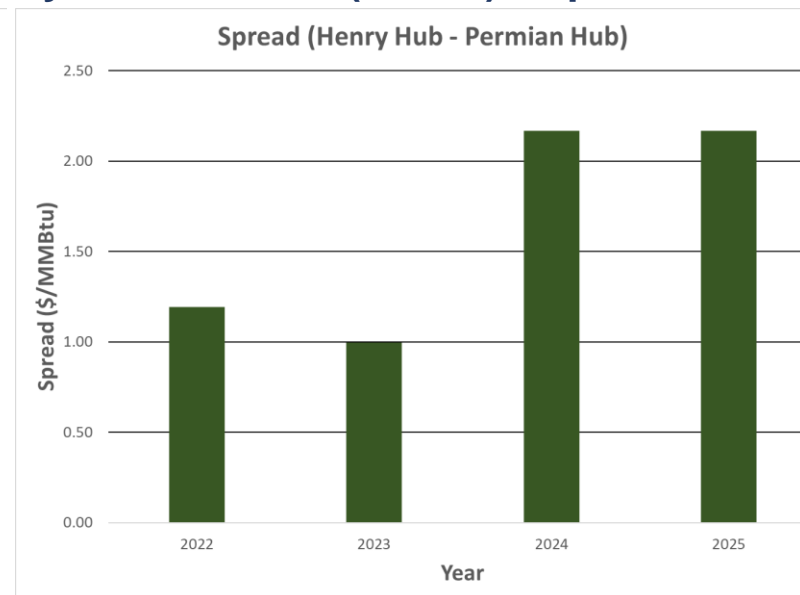
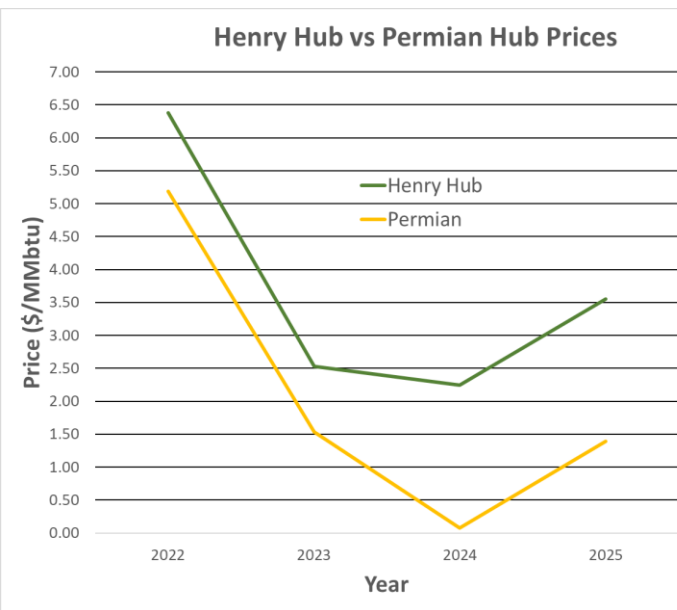
Screen and Select at the Basin Level

- Basin-level supply based on resource evaluations
- Production forecasts leading to throughput, storage, and processing requirements
- Scenario modeling across price, demand cases

Due Diligence at the Asset Level

- Capacity Analysis and Flow Assurance
- Asset Integrity and Maintenance
- Operating and Capital Expenditure
- Health, Safety and Environment (HSE)

Price differential from RSC First Day of the Month (FDOM) Report



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An Integrated Case Study- our pace of Midstream Gas Business Evaluations is on the rise



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Gas resources, Pipelines,
Processing plants, NGL,
Gas Storage and LNG

KEY FEATURES

- Confirm resource
- Production profile
- Review capacity
- Environmental compliance
- Integrity management
- IM for debt offering

THE SCOPE

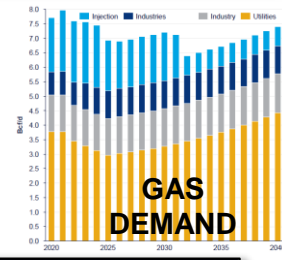
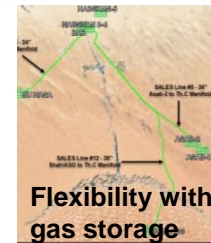
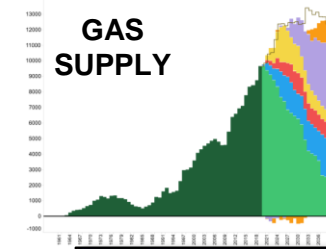
- Client (Seller) was seeking an independent report for gas supply, facilities, pipelines and infrastructure for gas demand to solicit equity and/or debt position in the natural gas midstream business.
- We performed resource assessment and technical HSE review of gas processing, pipelines, and LNG facilities, and commercial terms.

METHODOLOGY

- Generated reserves and contingent resources using 2018 SPE-PRMS guidelines. Generated gas production forecasts based on various resource categories.
- Analyzed infrastructure capacity e.g. plant flexibility, pipelines, LNG facilities, etc. to handle planned flow.
- Analyzed historical performance, reliability, and availability parameters for both plants and pipelines.
- Evaluated the environmental and operational risks and residual (post-mitigation) impacts.
- Review of commercial terms.

VALUE ADDED

- Independent report to the Investors with technical and commercial clarifications.
- Post transaction role updates for debt offering memorandum preparation.
- **Transaction Value of \$ 22 billion.**



Behind Every Successful Business Deal Is An Independent.....

US midstream sector is rapidly evolving.

By grounding infrastructure decisions in credible analysis and independent evaluation, Ryder Scott navigates uncertainty with greater confidence.

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