



Opportunities and Challenges in the Energy Infrastructure Industry

Louisiana State University Energy Summit



Kinder Morgan Overview

- Kinder Morgan is the largest midstream and the third largest energy company (based on enterprise value) in North America.
 - Over 84,000 miles of pipelines and 180 terminals.
 - **Over 12,000 employees** in U.S. and Canada.
- Kinder Morgan is the largest natural gas transporter and storage operator in the United States
 - **Approximately 68,000 miles** of pipelines.
 - We move approximately **38%** of the natural gas consumed in the United States.
- Kinder Morgan is the largest independent transporter of petroleum products in the United States, transporting **approximately 2.4 million barrels** of product per day.
- Kinder Morgan is the largest transporter of carbon dioxide (CO2), transporting approximately 1.3 billion cubic feet per day.
- Kinder Morgan is the largest independent Terminal operator in the U.S.
 - Our liquids terminals store refined petroleum products, chemicals, ethanol and more, and have the capacity of **125 million barrels**.
 - Our bulk terminals store and handle such materials as coal, petroleum coke and steel and we handle **over 100 million tons** per year.



Kinder Morgan Asset Map



Kinder Morgan in Louisiana

Assets in Louisiana:

- Kinder Morgan has existing assets in
 59 parishes in Louisiana.
- Kinder Morgan operates more than
 6,600 miles of refined petroleum products and natural gas pipelines in Louisiana
- Kinder Morgan operates five terminals in Louisiana-- three bulk terminals and two liquids terminals.

Economic Impact:

- Kinder Morgan employed over 640 people and maintained a payroll of over \$45.9 million in 2015.
- Kinder Morgan paid over \$49.9 million to state and local taxing bodies in 2015.



National Natural Gas Regulatory Focuses

- **Natural gas storage-** Congress has directed PHMSA to make rules and establish a federal minimum standard, but states can also make their own standards.
- Ongoing federal/state regulatory conflicts
- **EPA Regulations-** recent focus and rule making processes on methane emissions.
- **FERC Delays-** Due to increased interest in FERC commenting periods and increased number of project applications, FERC is taking longer to issue rulings and assessments.







Shale Plays in the United States



Source: Energy Information Administration based on data from various published studies Updated: May 9, 2011

Natural Gas Sector

OPPORTUNITIES:

- Increased natural gas demand in the U.S. and Louisiana for power-generation and industrial use.
 - Natural Gas generated 36% of all electricity in Louisiana in 2004-increased to 43% by 2014 and still increasing. (US EIA)
- Reverse of flow- Marcellus and Utica shale gas now flowing south to be processed in or transported through Louisiana.
 - Example: SW LA Supply Project
- Industrial demand growth for natural gas as fuel for power and feedstock for chemicals and plastics







Natural Gas Sector

LNG OPPORTUNITIES:

- Demand for LNG increasingly globally.
 - Other countries pursuing lower power emissions and switching to NG
 - Desire of European countries to cease reliance on Russian gas
- In Louisiana, KM's "Southwest Louisiana Supply Project" will provide additional capacity to the existing Sabine Pass LNG Terminal.

LNG CHALLENGES:

- Other countries are building export terminals at lower cost and stronger geographic position
- Low oil prices= Low gas prices (for now)
- U.S. DOE approval process to export outside eia of FTA countries.



LNG export terminals along the U.S. Gulf of Mexico



Products Sector

- Increased production and demand for transport in petrochemical industry.
 - Abundant, affordable domestic natural gas supply is driving U.S. petrochemical renaissance.
 - 261 announced petrochemical projects in the U.S. with total investment of \$158 billion from 2010 to 2023. (Source: U.S. Chemistry Council, 2015)
- Large KM presence in Louisiana with over 4.1 million barrels of terminal storage capacity.







Terminals & Marine Transport

Opportunities

- Improved commodity climate:
 - Upturn in crude, coal and grains.
 Generally the highest levels since 2015.
 - Louisiana refines over 50 Million tons of crude oil annually. (Greater New Orleans Regional Economic Development, 2015)
- Stable shipments of chemicals, ethanol, refined products through KM terminals.
- Effective and responsive federal, state and Parish-level regulators In Louisiana.
- Increased demand for Ethanol and biodiesel

Challenges

• Nationwide decline in coal shipments











Infrastructure Opportunities and Challenges



National Challenges: Pipelines "Post- Keystone XL"

Existing and proposed pipeline projects are being increasingly targeted by elected officials, landowners, and non-governmental organizations as a "proxy war" against development and usage of fossil fuels as well as the use of eminent domain.









Challenge 1: Regulatory Ambiguity/Uncertainty

Case Study: Palmetto Pipeline

- Uncertainty regarding state guidelines and regulatory processes for siting products pipelines
- Resulted in legislative action against eminent domain use by pipelines in GA and SC legislatures and creation of commissions to explore creation of new rules.





Status of pipeline 'hearings' questioned Updated: March 13, 2015 - 7:08am

savannahnow

S.C. lawmakers may bar Kinder Morgan from using eminent domain



Pipeline study group forming in Georgia to look at eminent domain

The Augusta Chronicle

Kinder Morgan says DOT changed process midway in pipeline review

By <u>Walter C. Jones</u>, Morris News Service Friday, Nov. 13, 2015



Challenge 2: Municipal Zoning Challenges

Case Study: Broad Run Project

 Attempts by municipality and county to pass zoning and health restrictions which would target and prevent the construction of a natural gas compressor station.



Nashville lawmakers fight Joelton gas compressor station

Joey Garrison, jgarrison@tennessean.com4:41 p.m. CST February 2, 2016





Council Blocks Joelton Pipeline Compressor, But What Will The Feds Do?

By TONY GONZALEZ · AUG 4, 2015



KINDER MORGAN

Challenge 3: Targeting by Ballot Measures

Case Study: California Tax Ballot Measures

- City of Rialto Gas Tax, Measure U (2014) ("Tank Farm Tax"): added a gas tax of up to \$1 per cubic foot of liquid storage capacity for fuel storage facilities.
 - Targeted two facilities (KM and Chevron) for additional estimated \$9 million/year in tax revenue
 - Passed 51.2% to 48.7%
- **City of Brisbane, Measure T (2013):** Added tax of \$115.25 per thousand cubic feet of liquid storage capacity.
 - Target one tank farm in Brisbane (Kinder Morgan's), which serves the San Francisco International Airport.
 - Passed 77.1% to 22.9%







Challenge 4: Federal/State Precedent

Case Study: NED Project and Connecticut Expansion Project in Massachusetts

- Article 97 of the Massachusetts Constitution required a 2/3 vote of the legislature before allowing a private company to utilize Article 97 conservation lands.
- In May, 2016, Superior Court granted KM eminent domain authority granted to it under federal law, saying Article 97 is in conflict to the U.S. Constitution.

THE RECORDER

Pipeline fight: Mass. Article 97 vs. fed approval





Three Strikes and the Commonwealth Is Out: The Natural Gas Act Preempts Article 97

Posted on May 17th, 2016 by Seth Jaffe

MASS LIVE

Kinder Morgan's 'Connecticut Expansion' pipeline project wins federal approval

By Mary Serreze | Special to The Republican March 13, 2016



Conclusion

The upcoming election will determine more than the Presidency. Elections at all levels of government will likely have major implications for the oil and gas industry and energy infrastructure moving forward.



Kinder Morgan Asset Map

