



North Carolina Public Staff Energy Division

Energy Assurance Committee Meeting

March 11, 2022



Agenda

- Welcome and introductions by EA Chair Mr. Paul Worley
- Presentation to EA Committee on Natural Gas in North Carolina by the Public Staff, Energy Division, Natural Gas Section
- EA Committee: Q&A on Presentation
- Chair Mr. Paul Worley asks for any new discussion items from the Committee
- Adjourn



Public Staff

- Established in 1977 by N.C. Gen. Stat. § 62–15
- Represents **the using and consuming public** in North Carolina Utilities Commission proceedings
 - Not the public at-large
 - Economic regulator and advocate
- Eighty-three staff members organized into nine divisions

Accounting	Consumer Services	Economic Research
Energy	Executive	IT
Legal	Transportation	Water/Sewer/ Telephone



Key Functions

- Investigate petitions and other filings before NCUC
 - Present testimony and recommendations to NCUC on behalf of utility customers
- Investigate customer complaints
- Assist legislature regarding proposed legislation and constituent service
- Work with state agencies, counties, and municipalities on regulated utility matters
- Undertake studies, investigations, and stakeholder processes as requested by NCUC



Differences between NCUC and the Public Staff

- Independent agencies
 - Separate staffs, leadership and budgets
- NCUC does not direct or oversee the Public Staff's operations
- The Public Staff appears as a party before the NCUC
 - Subject to ex parte rules and cannot independently communicate with NCUC on pending matters
 - Does not participate in NCUC decision-making
- Staff roles
 - NCUC staff is an advisory staff
 - Public Staff is an audit/advocacy staff



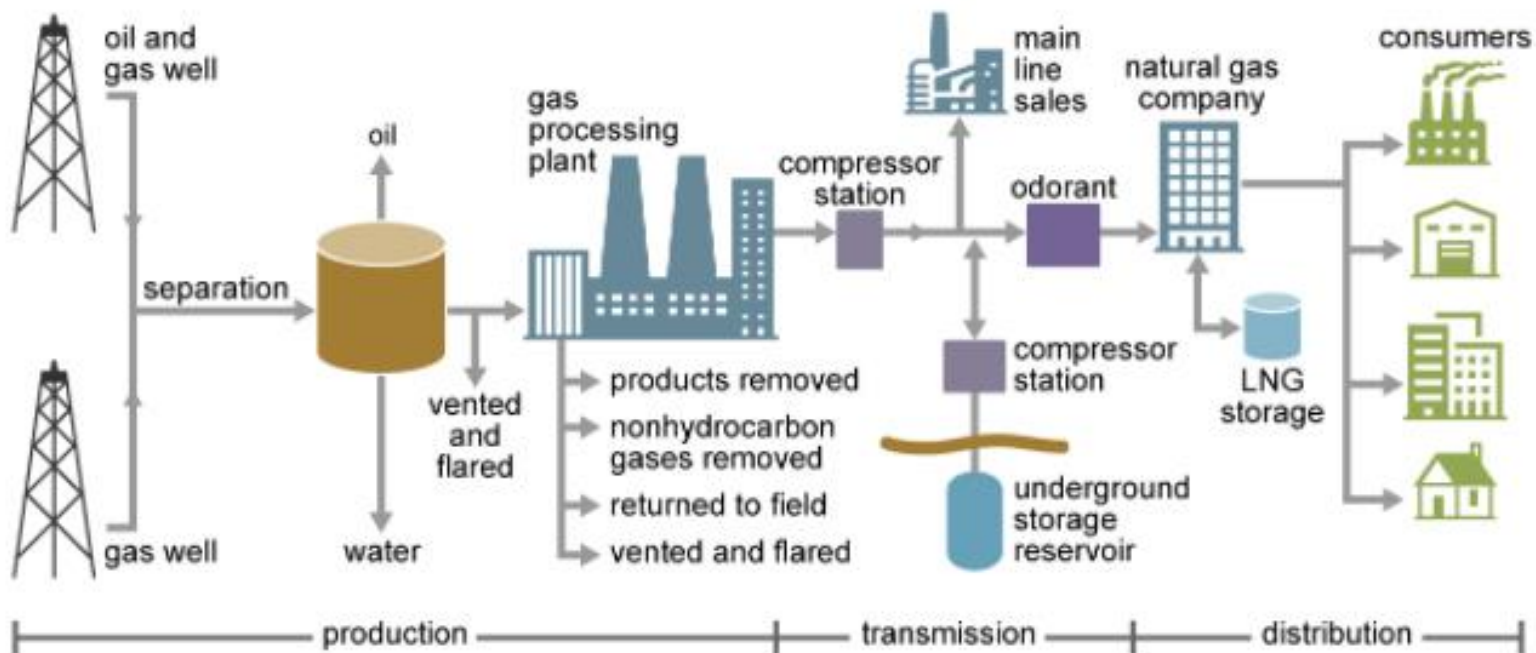
What is Natural Gas?

- Largest component is Methane (CH_4) in addition to smaller amounts of other compounds (Ethane, Propane, Butane, etc.)
- Extracted through wells from geologic formations created millions of years ago
- Can be stored in a liquefied form given the proper conditions (-160° Celsius/ -256° Fahrenheit). In liquid form, the volume of LNG is approximately 600x less than the volume natural gas in its gaseous state



Natural Gas Production and Delivery

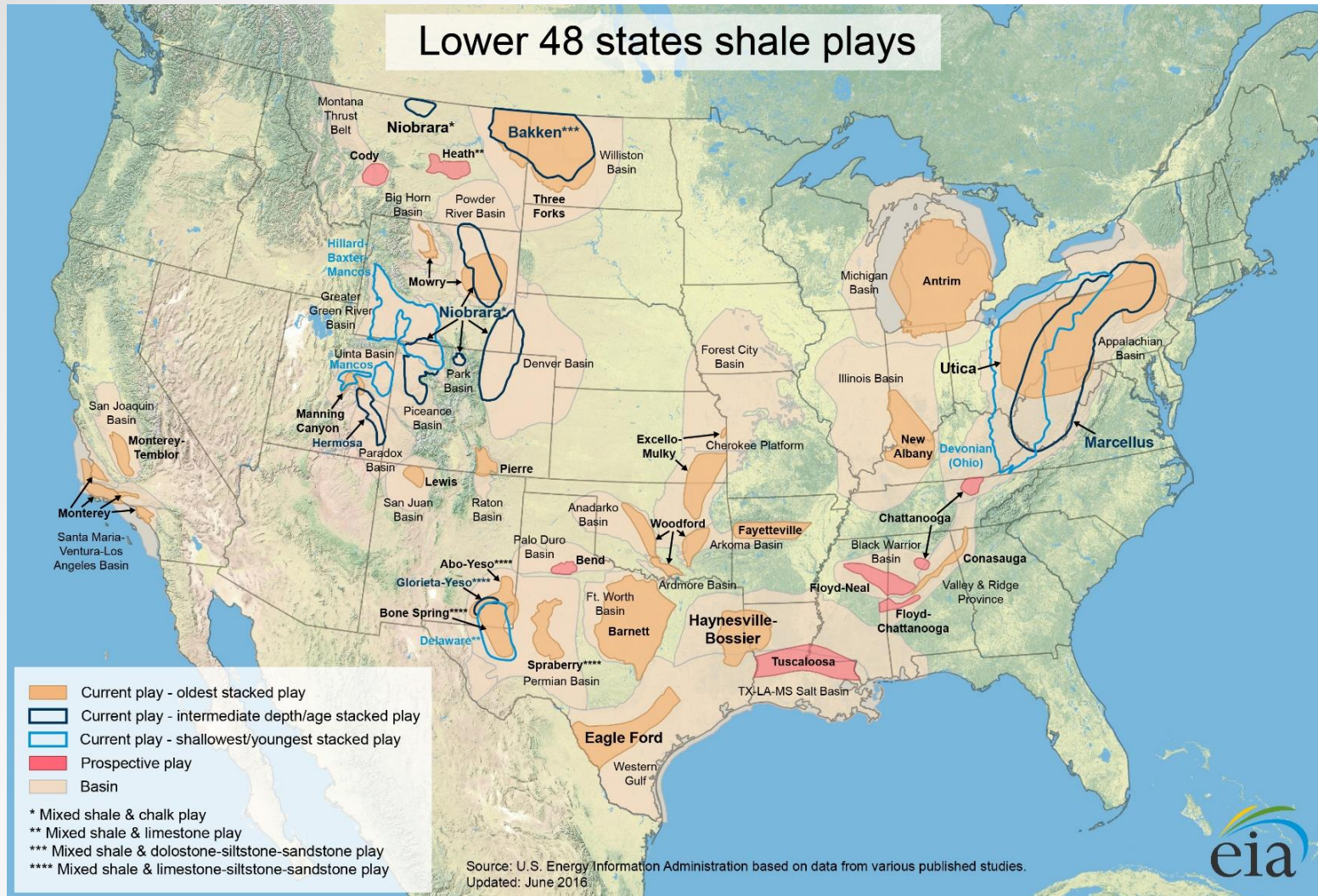
Natural gas production and delivery



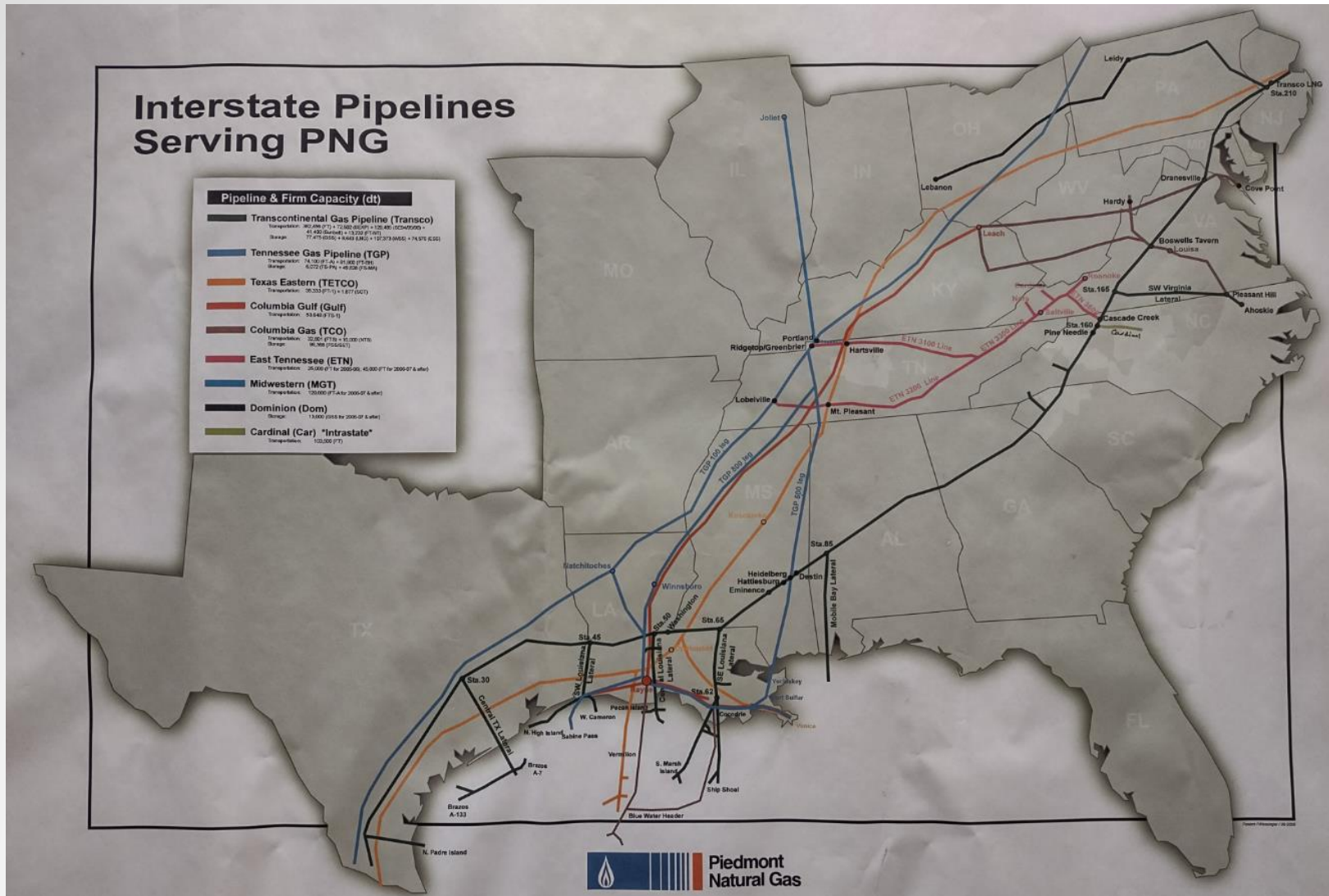
Source: U.S. Energy Information Administration



EIA Shale Map



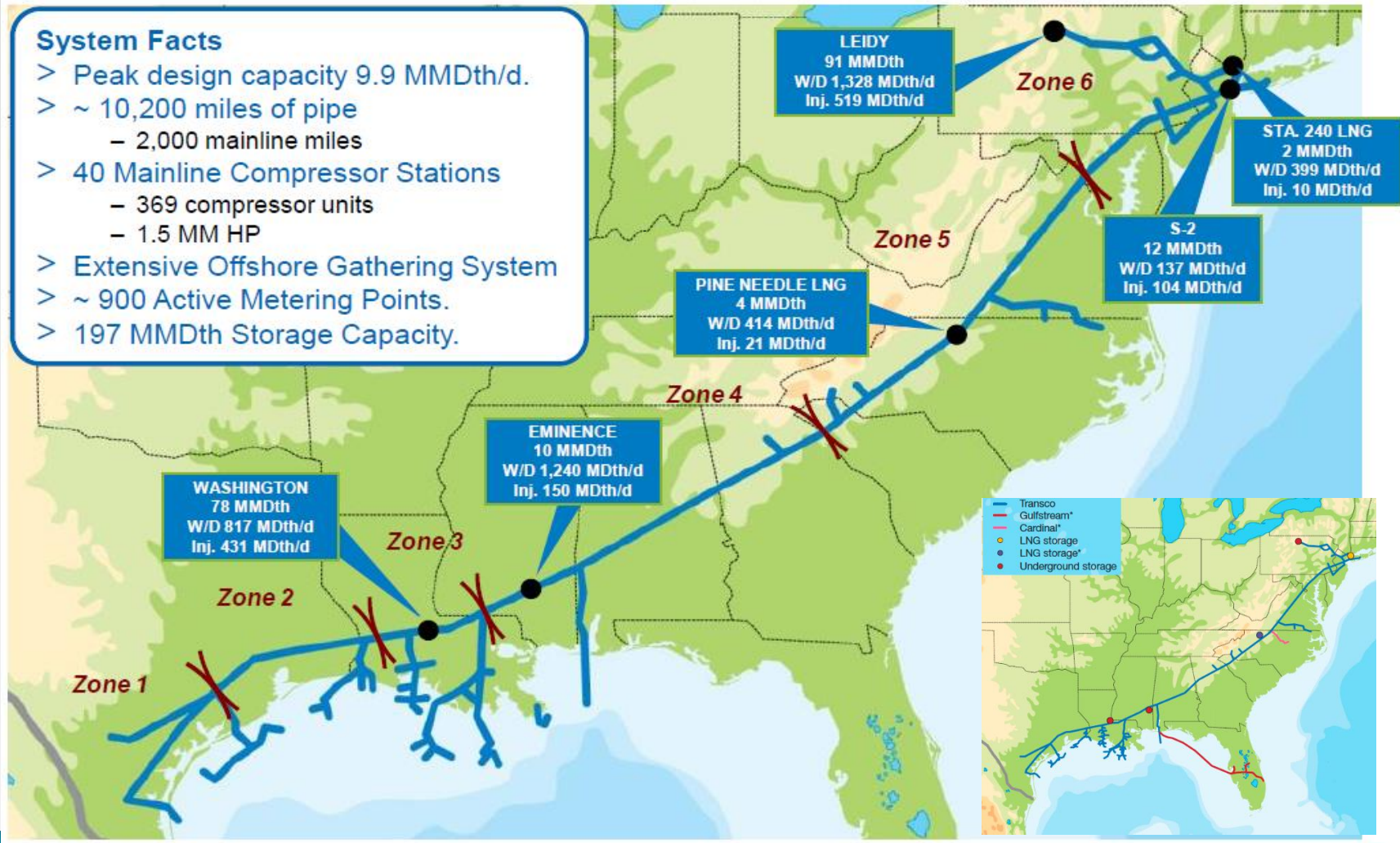
Interstate Natural Gas Pipelines



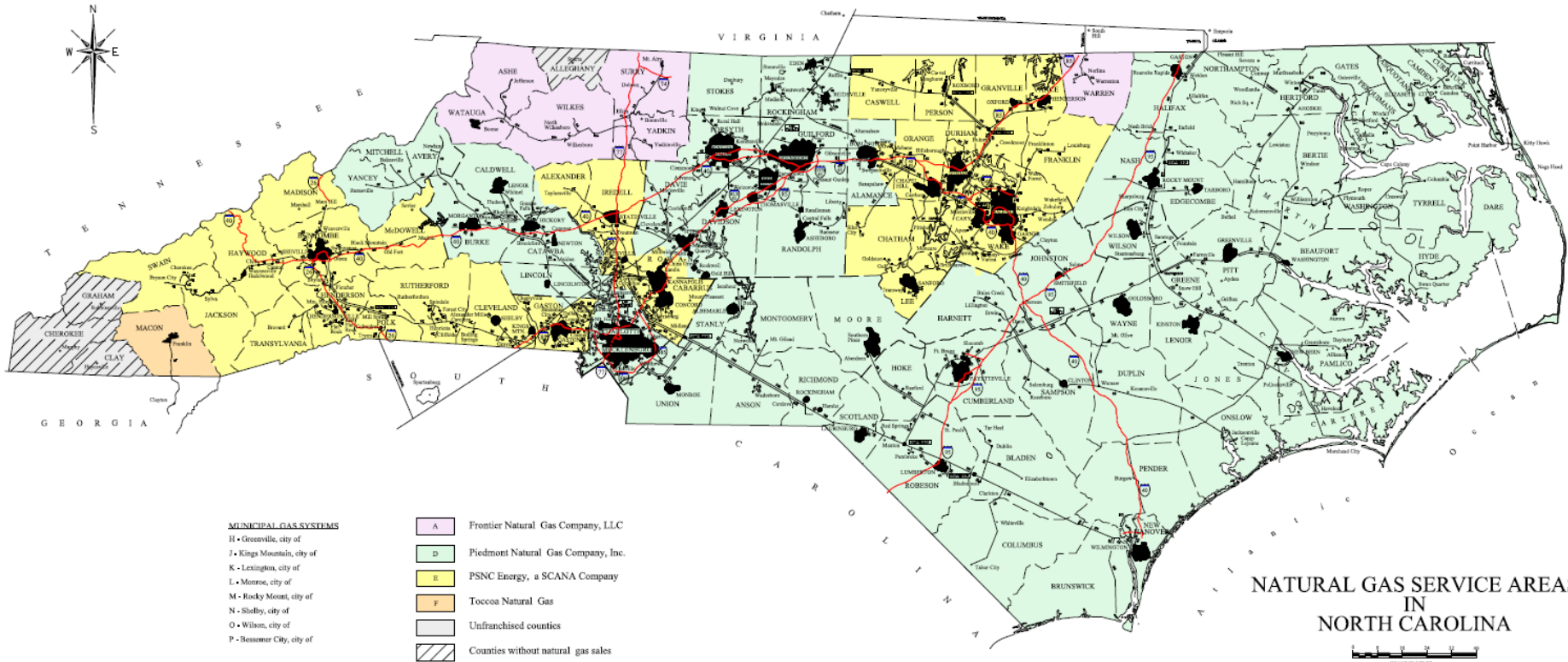
Transco System Overview

System Facts

- > Peak design capacity 9.9 MMDth/d.
- > ~ 10,200 miles of pipe
 - 2,000 mainline miles
- > 40 Mainline Compressor Stations
 - 369 compressor units
 - 1.5 MM HP
- > Extensive Offshore Gathering System
- > ~ 900 Active Metering Points.
- > 197 MMDth Storage Capacity.



Natural Gas LDC Territories within North Carolina



NOTE:
 THIS MAP HAS BEEN PREPARED USING THE BEST
 INFORMATION AVAILABLE. PSNC ENERGY WILL NOT
 BE RESPONSIBLE FOR ERRORS OR OMISSIONS.



Natural Gas Utilities Regulated by the North Carolina Utilities Commission

- Four Local Distribution Companies (LDCs)
 - Frontier Natural Gas Company ([Frontier](#))
 - Piedmont Natural Gas Company, Inc. ([Piedmont](#))
 - Public Service Company of North Carolina, Inc. ([PSNC](#))
 - Toccoa Natural Gas ([Toccoa](#))
- One Intrastate Natural Gas Pipeline
 - Cardinal Pipeline Company, LLC (Cardinal)
- One very Small Propane Distribution System
 - [Summerlyn Farms](#), LLC



Natural Gas Infrastructure

- Currently, there are four counties that do not have natural gas service
 - Alleghany County
 - Cherokee County
 - Clay County
 - Graham County
- Transcontinental Gas Pipeline Company, LLC ([Transco](#)) is the primary interstate provider
- Columbia Gas Transmission, LLC ([Columbia](#)) provides a small amount of gas in the northeastern part of the state
- Cardinal provides intrastate service to Piedmont and PSNC
- [Pine Needle](#) LNG Company, LLC is an interstate liquefied natural gas (LNG) storage facility that provides peaking service
- Piedmont owns and operates three small LNG facilities in Bentonville, NC, Huntersville, NC, and Lumberton, NC
- PSNC owns and operates its LNG facility in Cary, NC



Natural Gas Customers

- Sales and Transportation
 - Residential
 - Commercial
 - Industrial
 - Firm, Interruptible Customers
 - Special Contracts
 - Agricultural Use



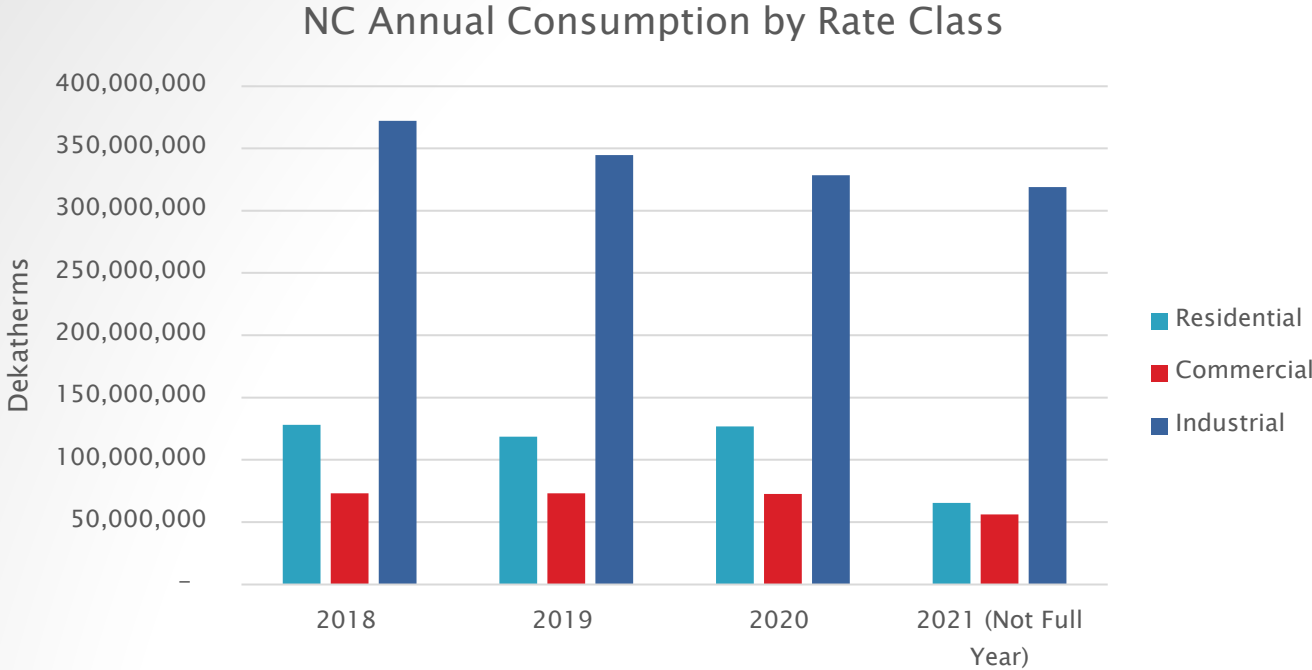
Natural Gas Rates

- Natural Gas Rates are composed of three basic components:
 - Facility Charge: A flat monthly charge to cover the fixed costs incurred to provide service to the customer (e.g., cost of the service line from the distribution system to the home, fixed overhead costs such as billing and customer service)
 - Commodity Cost of Gas: Pass through of what the LDC actually pays, including Lost and Unaccounted For Gas (LUAF) and Company Use (CU)
 - Demand/ Capacity Charge: The portion of a rate for gas service which is billed to the customer regardless of using the service or not

<u>LDC</u>	<u>Seasonal Period</u>
Piedmont (Winter)	Oct → Mar (6 months)
Piedmont (Summer)	Apr → Sep (6 months)
PSNC (Winter)	Nov → Mar (7 months)
PSNC (Summer)	Apr → Oct (5 months)
Frontier (Winter)	Nov → Mar (7 months)
Frontier (Summer)	Apr → Oct (5 months)



North Carolina Customer Usage



Renewable Natural Gas

Pursuant to [Session Law 2007-397 \(Senate Bill 3\)](#), the economic and environmental incentives created by state and federal legislation, LDCs had been approached by a number of developers regarding the possibility of sourcing supplies of methane from alternative, non-traditional sources such as swine or chicken waste or landfills and injecting that gas into the LDC's local distribution system in North Carolina for use by its customers.

Pursuant to N.C. Gen. Stat. § 62-138 and Rule R1-5 of the Rules and Regulations of the North Carolina Utilities Commission, LDC's requested approval by the NCUC to accept and receive "Alternative Gas" onto its system and pursuant to their riders and trackers to continue to accept and redeliver such gas to customers receiving service from the LDCs.

➤ PNG

Pilot programs under Docket No. [G-9, Sub 698](#)

- a. June 19, 2018, the Commission issued an order approving the three-year Pilot program.
- b. September 8, 2021, the Commission issued an order extending the pilot program for an additional three years.

➤ PSNC

Pilot programs under Docket No. [G-5, Sub 606](#)

- a. September 24, 2019, the Commission issued an order approving the two-year Pilot program.
- b. September 8, 2021, the Commission issued an order extending the pilot program for an additional three years.



Riders and Trackers

➤ Margin Decoupling/ Customer Utilization Trackers:

- N.C. Gen. Stat. § 62-133.7 authorizes the Commission to adopt a rate adjustment mechanism for one or more of an LDC's rate schedules, to track and true up variations in average customer usage from levels approved in a general rate case proceeding.
- Applicable to Firm heat sensitive customers
 - PSNC: Rider C
 - Piedmont: Appendix C



Riders and Trackers

➤ Integrity Management Riders/Trackers:

- N.C. Gen. Stat. § 62-133.7A authorizes the Commission to approve a rate adjustment mechanism to enable a natural gas LDC to recover its prudently incurred capital investment and associated costs of complying with Federal gas pipeline safety requirements.
- These capital investment and associated costs are required in order to comply with federal laws and regulations, will generate no additional revenue for the LDC, and vary significantly in nature, scope, and scale from prior system reinforcement/maintenance projects and also from the LDC's more usual system expansion projects.
- Cost recovery for maintaining a safe, reliable system
 - Distribution Integrity Management Program (DIMP)
 - Corrosion Control
 - Casing Remediation
 - Transmission Integrity Management Program (TIMP)
- Includes:
 - Inspections, largely In-Line Inspections (ILI) using smart pipeline inspection gauges (pigs)
 - Maximum Allowable Operating Pressure (MAOP) Reconfirmation
 - Material Verification and Testing



Riders and Trackers

- Integrity Management Riders/Trackers:
 - Programmatic Approach
 - Compliance Driven
 - Risk = Likelihood x Consequence
 - High Consequence Area (HCA)
 - Leak History
 - Corrosion History



Efficiency Programs

➤ Piedmont

[G-9, Sub 786 link to Company Filing](#)

1. School Conservation Education Program
2. Low-Income Program
3. Residential HVAC and Water Heating Program
4. Commercial HVAC & Water Heating Rebate Program
5. Commercial Food Services Program
6. Residential New Construction Program

➤ PSNC

[G-5, Sub 632 link to Company Filing](#)

1. Conservation Education Program
2. Residential Low-Income Program
3. Energy Efficiency Rebate Program
4. Residential New Construction Program
5. Home Energy Report Program



Hydrogen Blending R&D

- In [Docket No. G-5, Sub 632](#), PSNC's 2021 general rate case, the NCUC approved PSNC's proposal to study the effects of blending hydrogen with natural gas to determine its safety and viability:
 - Engage a consultant advising PSNC in the further development of hydrogen research
 - Determine the impact of using blended hydrogen on leak detection and other safety considerations
 - Determine the level of hydrogen that can be blended without negatively affecting PSNC's system and end-users' appliances
 - Conduct testing at its training facilities concentrating on gas measurement, regulation equipment, distribution piping, and end-user residential appliances



Resiliency Study

- Docket No. M-100 Sub 163
 - Initiated in response to the February 2021 cold weather outages and the subsequent FERC Report
 - Docket was originally only for electric utilities; NCUC expanded scope to include water and natural gas utilities
 - Technical Conference scheduled for 9:30 AM on April 19, 2022



Resiliency Study (cont'd)

➤ Docket No. M-100 Sub 163

- Focuses on topics that are not already being addressed by the Northern American Electric Reliability Cooperation (NERC):
 - Identify and protect cold-weather-critical components and systems for each generating unit
 - Design new, or retrofit existing, generating units to operate to specified ambient temperature and weather conditions
 - Conduct annual unit-specific cold weather preparedness training
 - Generator owners that experience outages or de-rates due to cold weather will be required to develop and implement corrective action plans.
 - The electric utility industry will be required to consider fuel contract risk in determining what generating capacity can be relied upon during cold weather events.
 - The electric utility industry will be required to protect critical natural gas infrastructure loads from firm load shed and prohibit the use of such load for demand response.
 - In addition to the new standards that are under development, on August 24, 2021, FERC approved a new standard requiring that electric utilities develop cold weather preparedness plans.
 - This new mandatory standard takes effect April 1, 2023.



Resiliency Study (cont'd)

- Docket No. M-100 Sub 163
 - Topics for discussion during the technical conference:
 - Lessons learned
 - Weather and load forecasting
 - Load shedding/curtailment planning
 - Plant performance



FERC Policy Changes

- *Updated Policy Statement on the Certification of New Interstate Natural Gas Facilities* (Docket No. PL18-1-000)
 - An update to FERC's 1999 policy statement which provides "a more comprehensive framework" for FERC's decision-making process and clarifies how FERC will execute its public interest obligations under the Natural Gas Act.
 - States that FERC intends to consider all impacts of a proposed project, including economic and environmental impacts, and calls for consideration of impacts to landowners and environmental justice communities. FERC intends to consider a proposed project's impacts on existing pipelines, including if captive customers of existing pipelines will end up paying for unsubscribed capacity on existing pipelines that results from the overbuilding of new pipelines
 - FERC has traditionally relied on precedent agreements between project applicants and shippers to establish the need for a project; however, this update states that applicants should provide more than just precedent agreements and should include information about the intended end use of gas to explain why a project is necessary. FERC may consider other evidence, such as demand projections, estimated capacity utilization rates, potential cost savings to customers, and statements from state regulators or LDCs



FERC Policy Changes

➤ *Consideration of Greenhouse Gas Emissions in Natural Gas Infrastructure Project Reviews* (Docket No. PL21-3-000)

- FERC is seeking to assess the impacts of natural gas infrastructure projects (including proposed pipelines or LNG facilities) on climate change. They are seeking comment on the interim policy statement, including the approach to assessing the significance of a proposed project's contribution to climate change
- The guidance is subject to revision based on future developments. Regardless, FERC will begin applying the framework established in this policy statement in the meantime, which allows FERC to evaluate and act on pending applications without undue delay and with a goal of greater certainty for stakeholders
- FERC has set a rebuttable presumption that projects with 100,000 metric tons per year of GHG emissions are deemed to have a significant impact on climate change. Projects under consideration with emissions above that level will require the preparation of Environmental Impact Statements. FERC will only quantify a project's GHG emissions that are "reasonably foreseeable and have a reasonably close causal relationship to the proposed action". This includes GHG emissions from construction and operation of the project and may include emissions from upstream production and downstream combustion of said gas



Miscellaneous

1. Growth
2. Compressor Stations
3. Curtailment
4. OFO

