



Iroquois Pipeline Operating Company

National Perspective on Key Challenges Facing Government & Industry

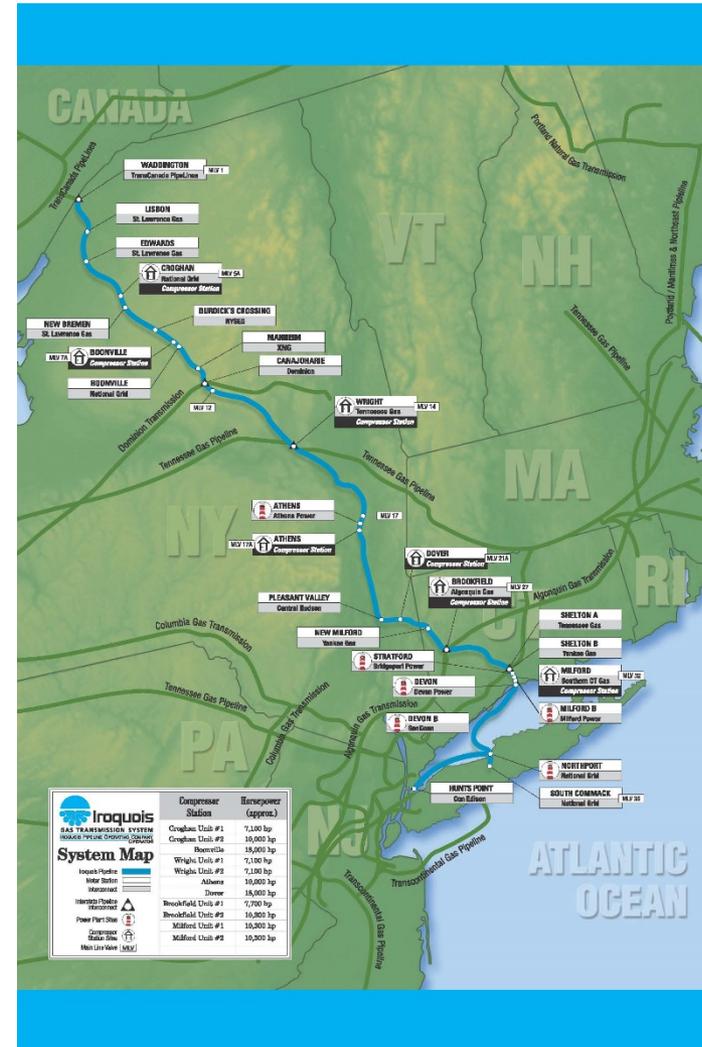
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Iroquois Gas Transmission System

- Commenced Operations in 1991
- Primary Markets
 - New York City
 - Long Island
 - Connecticut
- 1.6 Bcf/d Physical Receipt Capability
 - TransCanada
 - Algonquin
 - Dominion
- Piping
 - 416-miles of 36", 30" & 24" pipeline
 - MAOP = 1440 psig
- Pipeline Interconnects
 - TransCanada
 - Dominion
 - Tennessee (200 and 300 lines)
 - Algonquin
- 7 Compressor Stations @ 110,000 HP

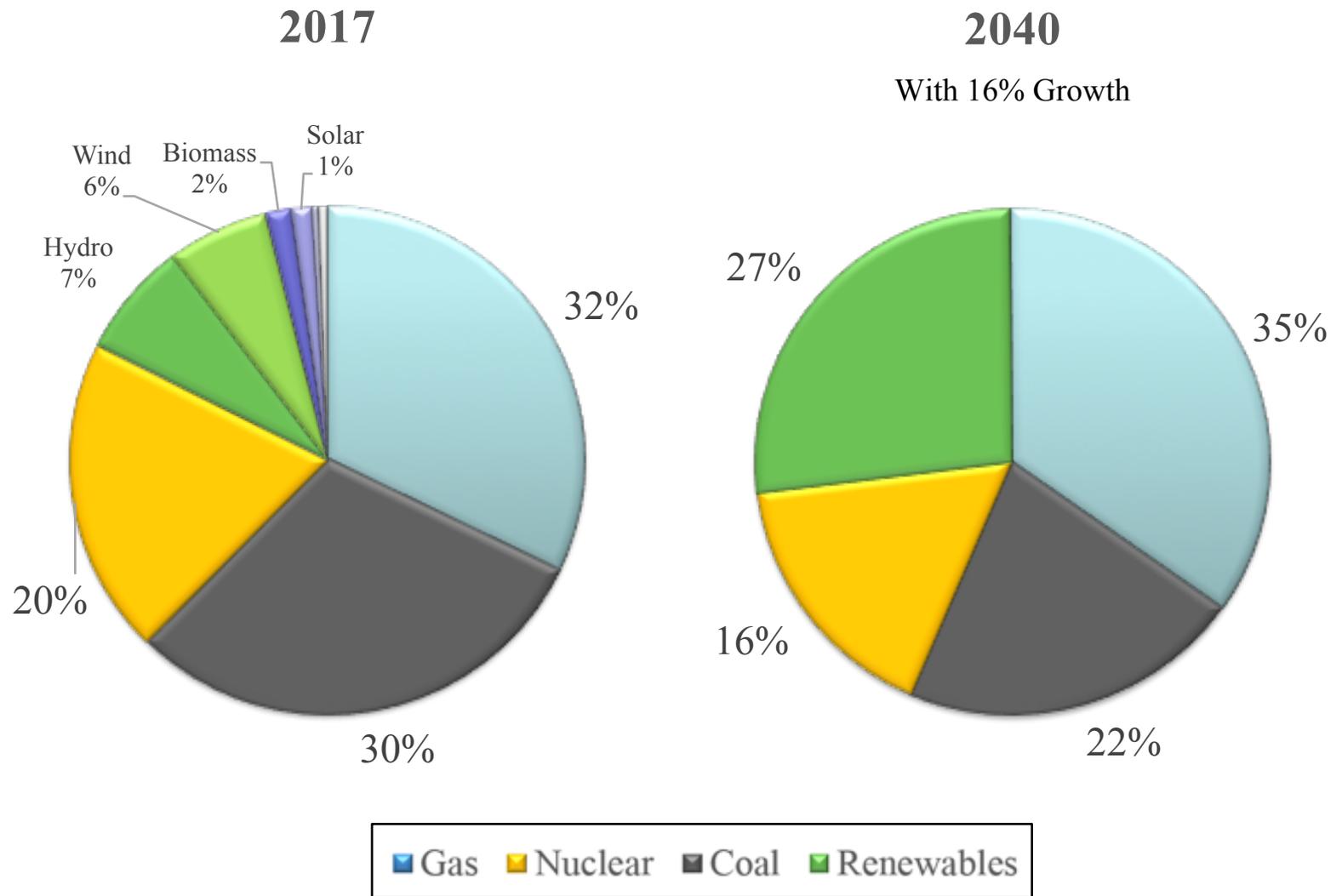


Three Broad Challenges

- Natural Gas-Electric Coordination – pipeline reliability is critical
- Challenges building new infrastructure – existing pipelines must continue to perform
- Environmental – avoid/reduce natural gas releases

Gas Fired Electricity to Grow 27%

Generation Usage by Fuel Type (kwh)



Source: U.S. Energy Information Administration, 2017 AEO

Natural Gas-Electric Coordination

Pipeline Reliability is Critical

- Growth in natural gas fired generation
- Greater impact of service disruptions – even with non-firm commitments
- Electric load peaks in summer coincide with pipeline maintenance
- Cyber and physical security is a critical component of reliability

Challenges Building Infrastructure

Existing pipelines must continue to perform

- Permitting
 - Natural Gas Act Section 7 / FERC Certification Process
 - Clean Water Act & Other State Permits

- Steel Tariffs
 - Anti Dumping and Countervailing Duty (LDWP)
 - Section 232 National Security Investigation

- MLP / Tax Issues
 - Impacts companies ability to attract capital

Environmental Concerns

Avoid/minimize natural gas releases, reduce carbon footprint

- Alternatives to pipe replacements
- Prevent and detect leaks

R&D Solutions

We must implement low-impact, highly-reliable integrity management solutions to leverage existing assets

- Increased tool/sensor capabilities
- Enhanced engineering processes
- Data management, analysis and integration
- Pending regulations
 - 2016 gas transmission integrity rules
 - Class location change ANPRM

Solutions Summary

- Regardless of pipe vintage, it must function safely and reliably 100% of the time
- Increasing difficulty building new facilities results in continued, long-term demands on existing assets
- Focus on avoiding/reducing emissions and other impacts of maintenance activities

Thank You

