EPA’s Final Greenhouse Gas and Related Rules: An Overview

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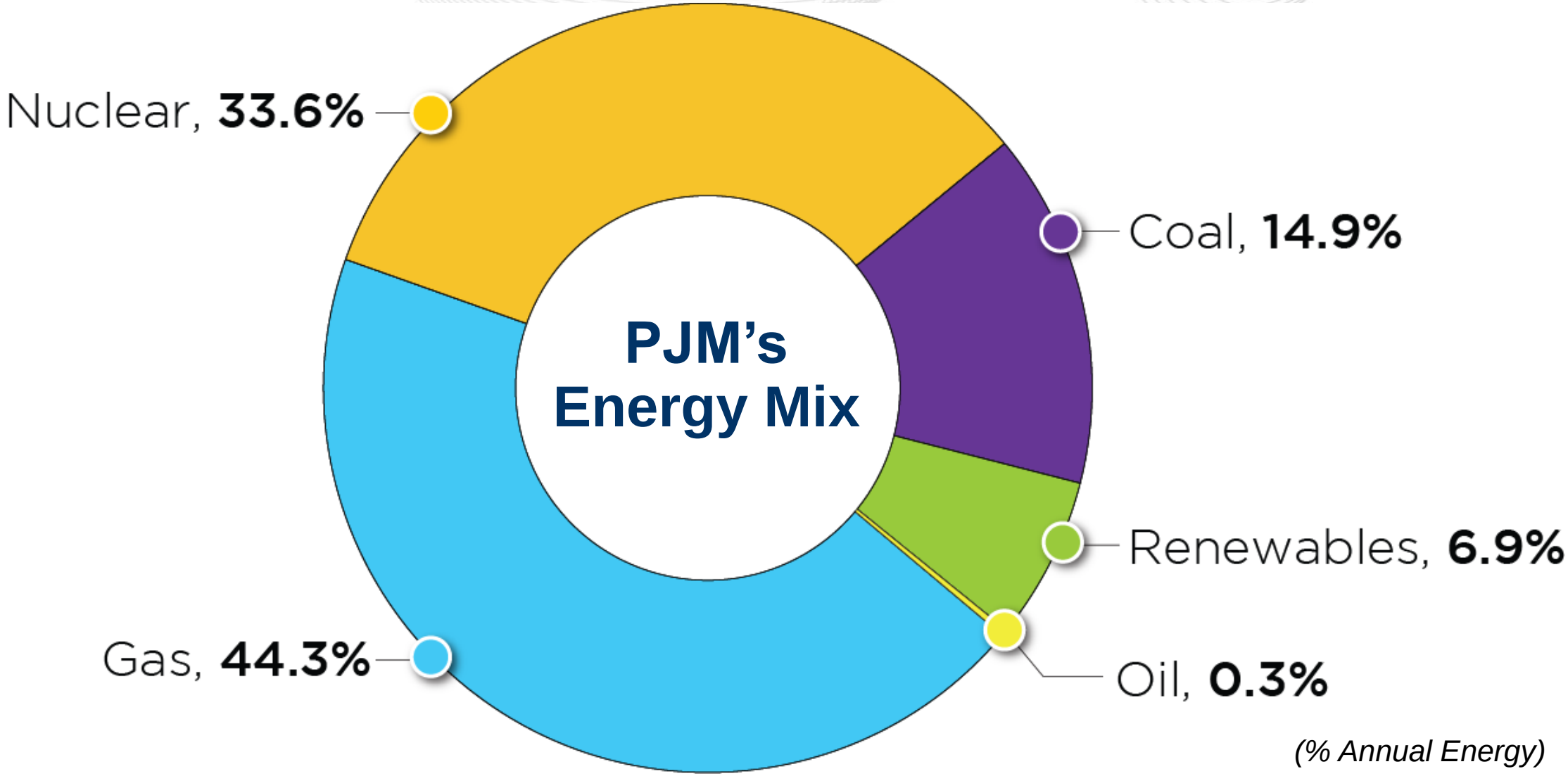
May 20, 2024

Background

- EPA issued a number of final environmental rules on April 26
  - Greenhouse gas limitations for existing steam and new gas-fired units
  - Update to Mercury and Air Toxics Standards
  - Update to Effluent Limitation Guidelines
  - Update to Coal Combustion Residuals rule
- PJM, MISO, SPP and ERCOT provided joint comments during the GHG rulemaking process regarding reliability concerns and potential mechanisms to mitigate reliability impacts
- Final GHG rule contains a number of reliability mechanisms, most importantly, is the flexibility provided to the states to address certain reliability concerns

2023 PJM System Mix



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Specifics of EPA GHG Rule: Existing Steam

- Removed existing gas units - moved to a separate rulemaking
- Coal compliance dates:
  - Jan 1, 2030 - ≥ 40% co-firing with natural gas, may run to Dec 30, 2038
  - Jan 1, 2032 – no requirements, if retiring
  - Jan 1, 2032 – 90% carbon capture (or equivalent), may run beyond Dec 30, 2038
- Allow states to provide for longer compliance periods based on demonstrated reliability/resource adequacy issues
- Allow units to run for emergencies without jeopardizing compliance
- Allow states to develop alternative limitations based on Remaining Useful Life and Other Factors

Specifics of EPA GHG Rule: New Gas

- Capacity-based requirements
  - Peaking (capacity factors ≤ 20%) – clean fuels (natural gas, No. 1 or No. 2 oil)
  - Intermediate (capacity factors > 20% – ≤ 40%) – efficient operations
  - Baseload (capacity factors > 40%) – 90% carbon capture (or equivalent) by Jan 1, 2032

- Provides ability to extend compliance deadlines if needed to install controls (permits, supply chains, etc)

- Effective May 23, 2023

Additional Challenges

- EPA's Wastewater Discharge Rules, coupled with GHG rule could drive more coal retirements than anticipated under the GHG Rule
- Impracticalities of installing carbon capture and sequestration or hydrogen hinder the development of new baseload natural gas combined cycles needed to meet rising demand
- Regional resource adequacy concerns to be addressed by state-by-state decision-making