

June 12, 2024

Ms. A. Shonta Dunston, Chief Clerk
North Carolina Utilities Commission
4325 Mail Service Center
Raleigh, North Carolina 27699-4300
Via Electronic Filing

RE: E-100, Sub 190: CEBA's Technical Conference Presentation Materials

Dear Ms. Dunston,

Pursuant to the Commission's January 17, 2024, *Order Scheduling Public Hearings, Establishing Interventions and Testimony Due Dates and Discovery Deadlines, Requiring Public Notice, and Providing Direction Regarding Duke's Supplemental Modeling* and the June 10, 2024, *Order Granting Extension of Time to File Technical Conference Presentation Materials*, intervenor Clean Energy Buyers Association ("CEBA") hereby provides its Presentation Materials for the June 17, 2024 Technical Conference. As previously represented, the following people will attend and present these materials as a panel on behalf of CEBA:

- Jennifer Chen: World Resources Institute
- Ivan Urlaub: Principal, Urlaub Strategies

Please contact me with any questions or concerns regarding this matter.

Sincerely,

/s/ Scott Dunbar

Scott Dunbar
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Denver, CO 80203
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cc: Parties of Record



Clean Energy Buyers Association

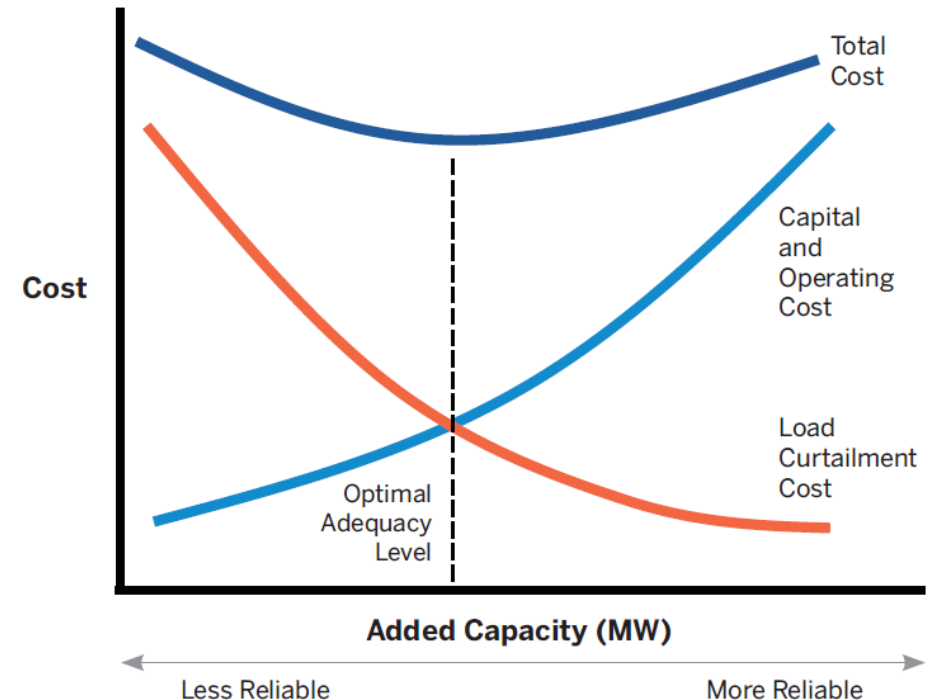
CP-IRP Technical Conference
June 17, 2024

Dr. Jennifer Chen: World Resources
Institute

Ivan Urlaub: Director Energy and
Infrastructure, New Energy Economics
& Principal, Urlaub Strategies

Higher target reserve margin will not guarantee improved reliability

- NERC: “The reliability of the interconnected [bulk power system] is comprised of both adequacy and operating reliability”
- Astrapé Study proposes to increase reserve margin from 17% to 22% (increase of approx. 1,831 MW)
- **No cost impact provided**

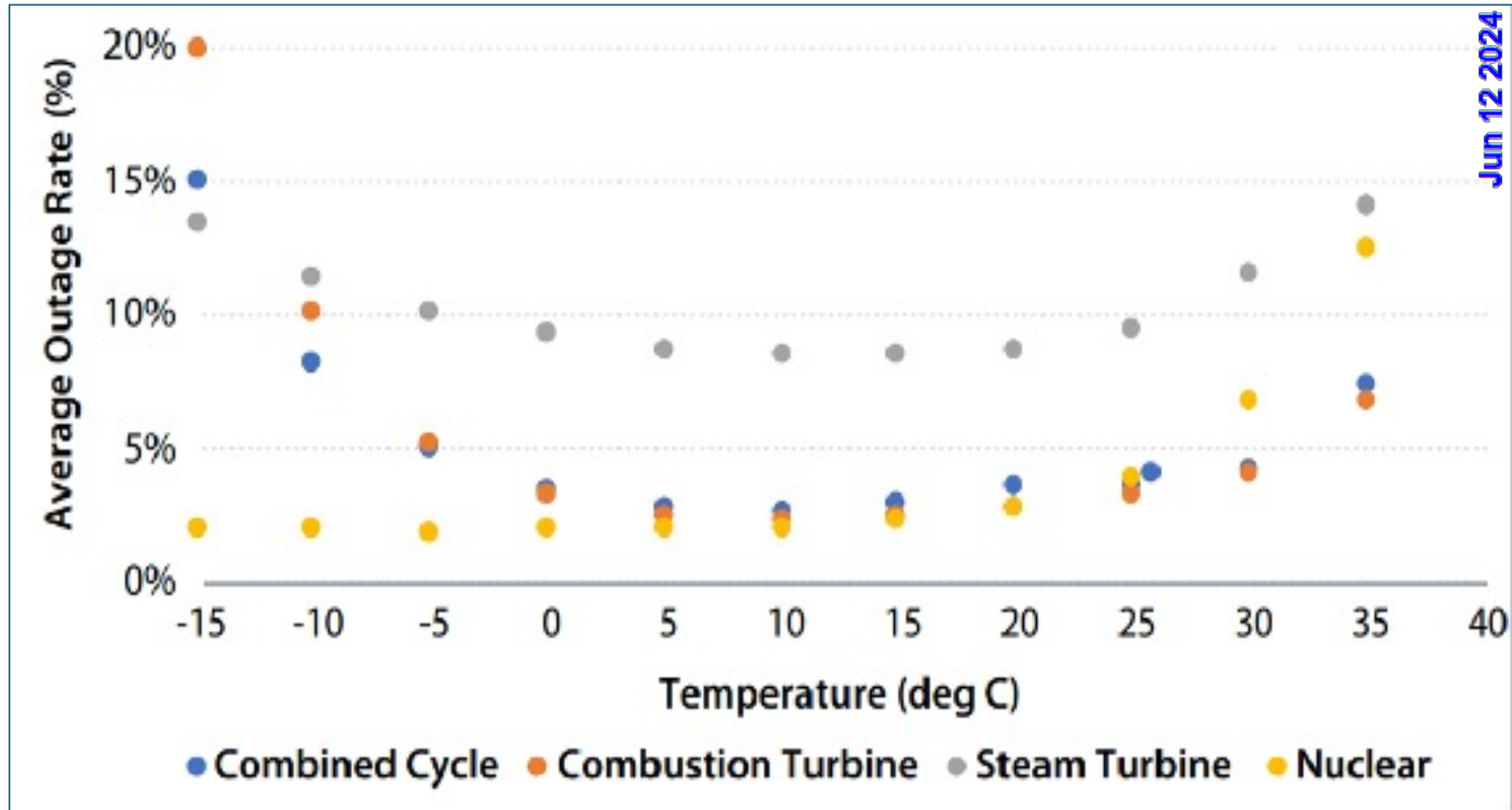




Better extreme weather preparedness can reduce target reserve margin increase

- Improved near-term forecasting and planned outage scheduling can mitigate extreme weather problems
- Fuel-free resources would not suffer from fuel-delivery issues, e.g., gas pipeline interruptions

Historical Outage Rates for Fossil/Nuclear by Temperature

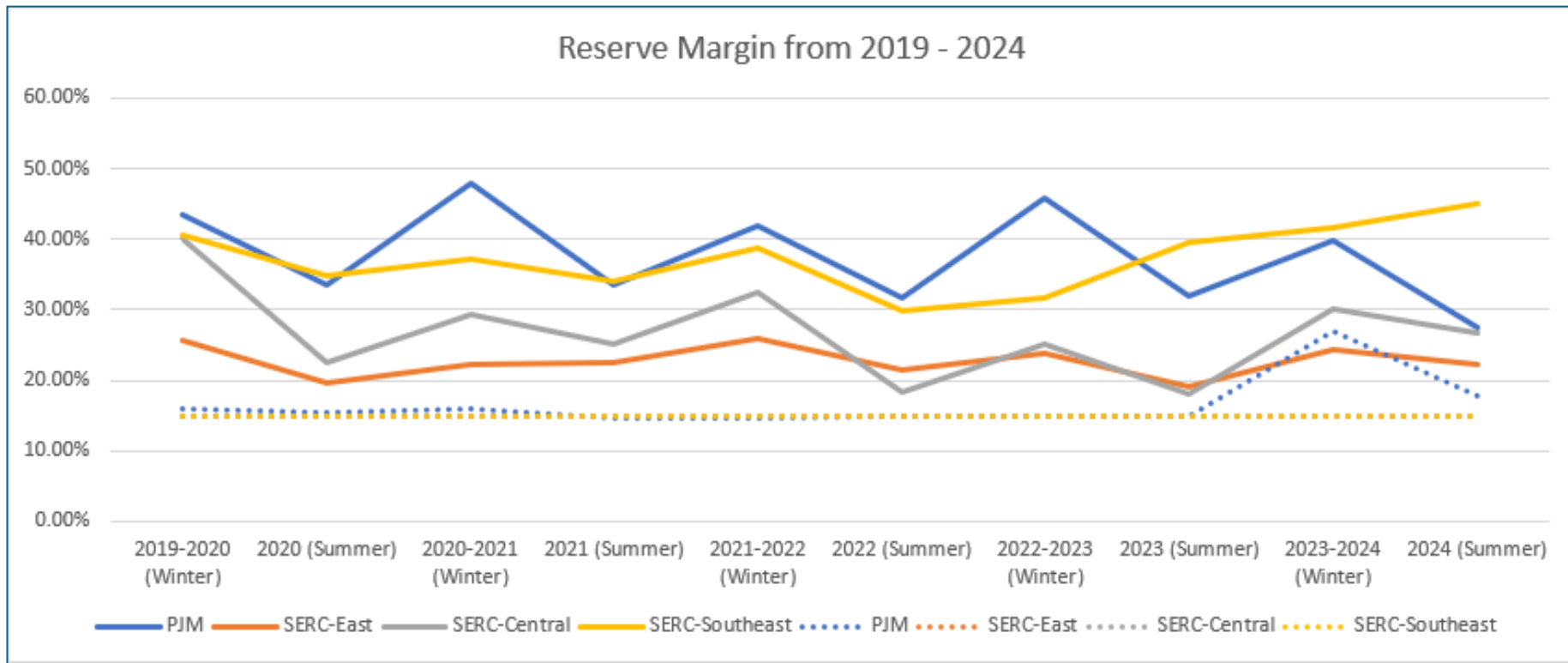




Resource sharing allows for lower reserve margin requirements

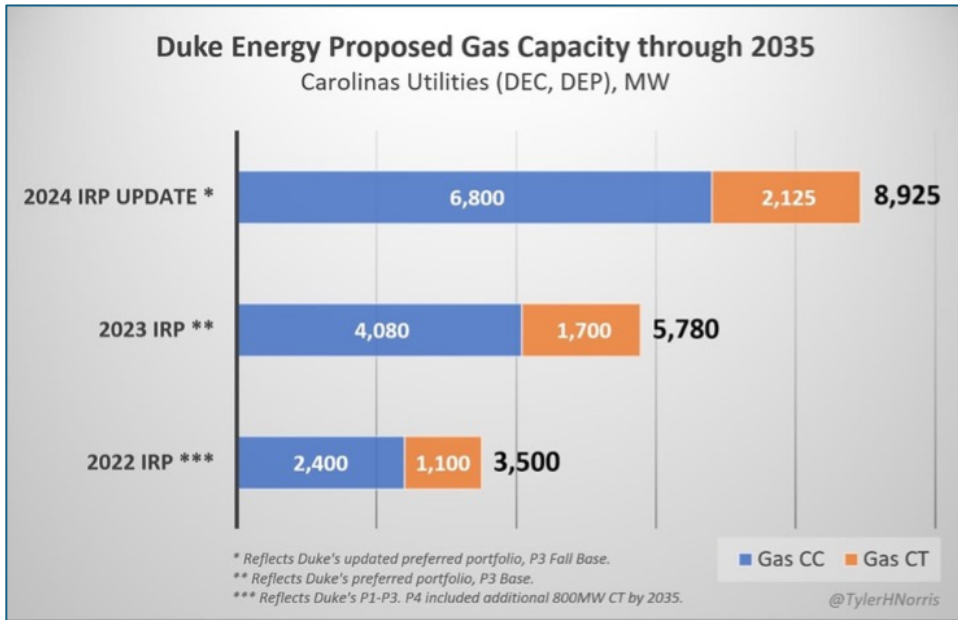
- Study assumes that neighbors only meet targets (dashed lines), not historical trends (solid lines)
- Astrapé scenarios only model even more islanded situations compared to base case

NERC Summer & Winter Assessments

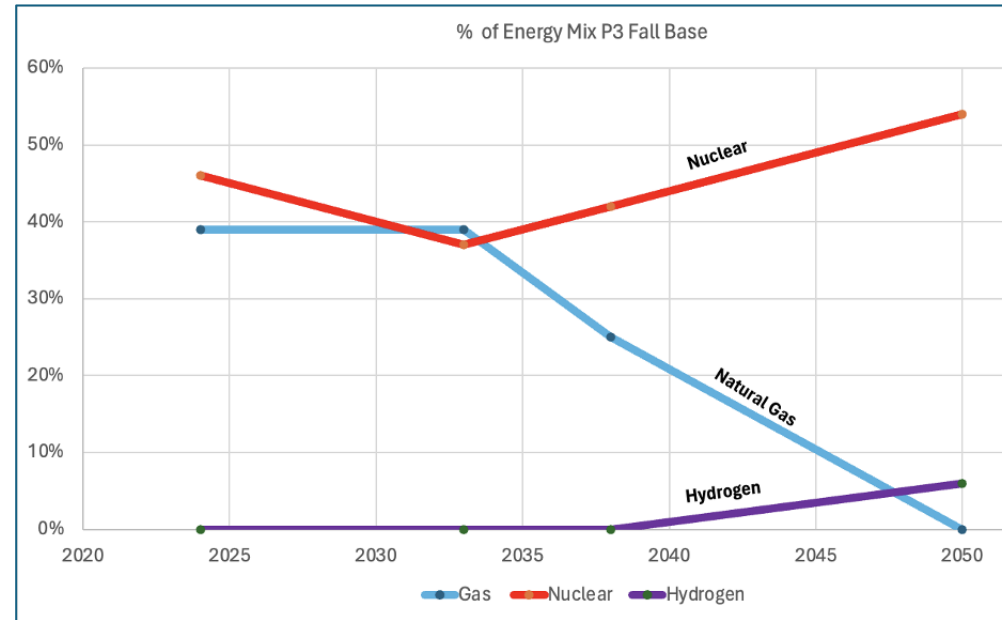


P3 Fall Base Portfolio – Adds More Gas

New CCs increase reliance on gas-fueled electricity



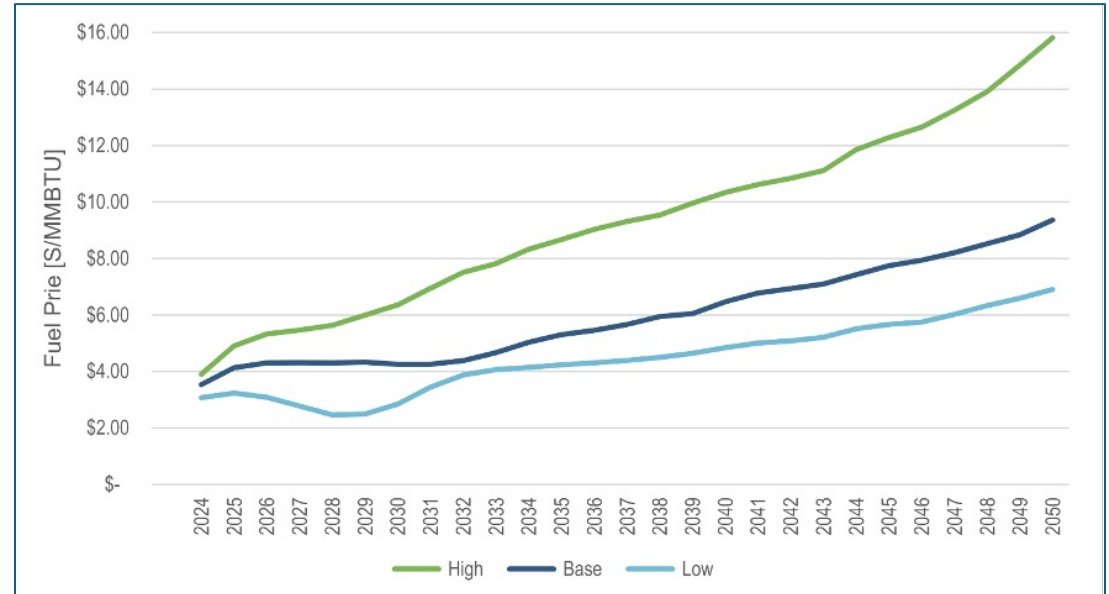
Assumes declining use of natural gas and ramp up in nuclear



Significant Forward Price Risk of Natural Gas Generation

- No price certainty
- Duke projects fuel costs could be 67.4% higher than its base case assumption

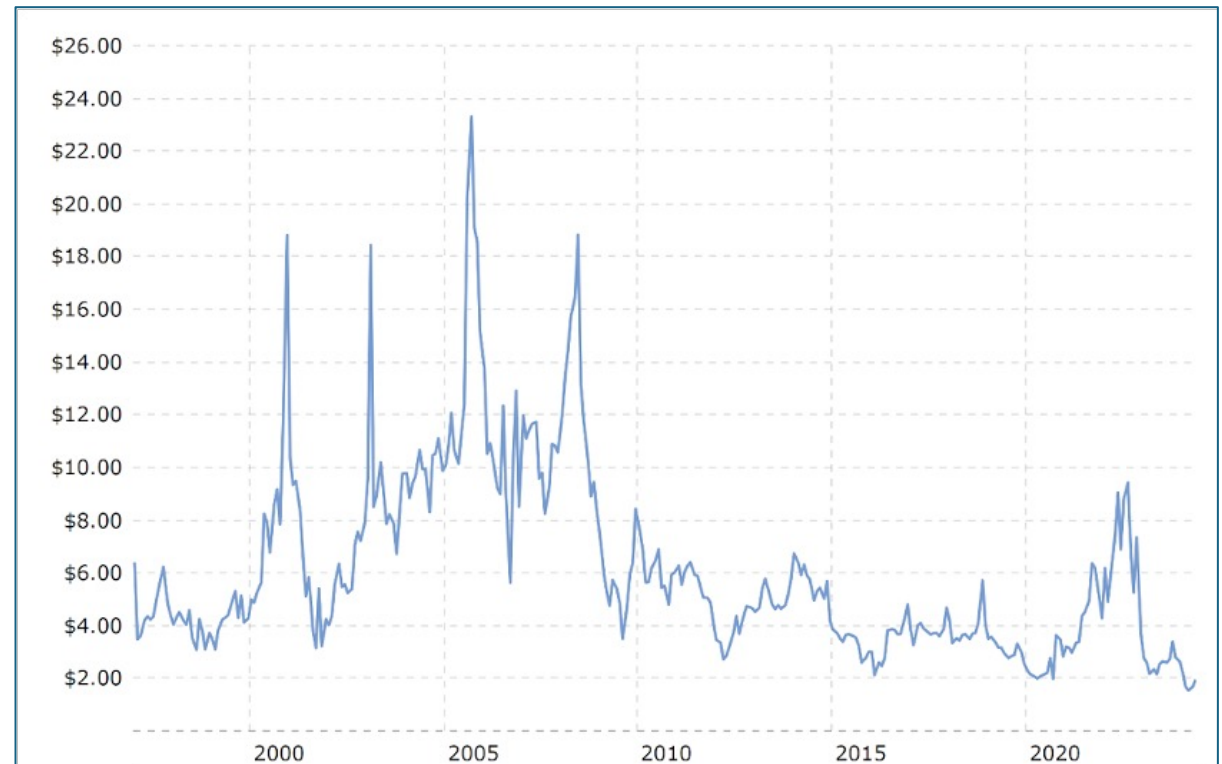
High, Base, and Low Henry Hub Natural Gas Price Forecasts
(Nominal \$/MMBtu)



Global Volatility Price Spikes Add Billions in Unexpected Costs

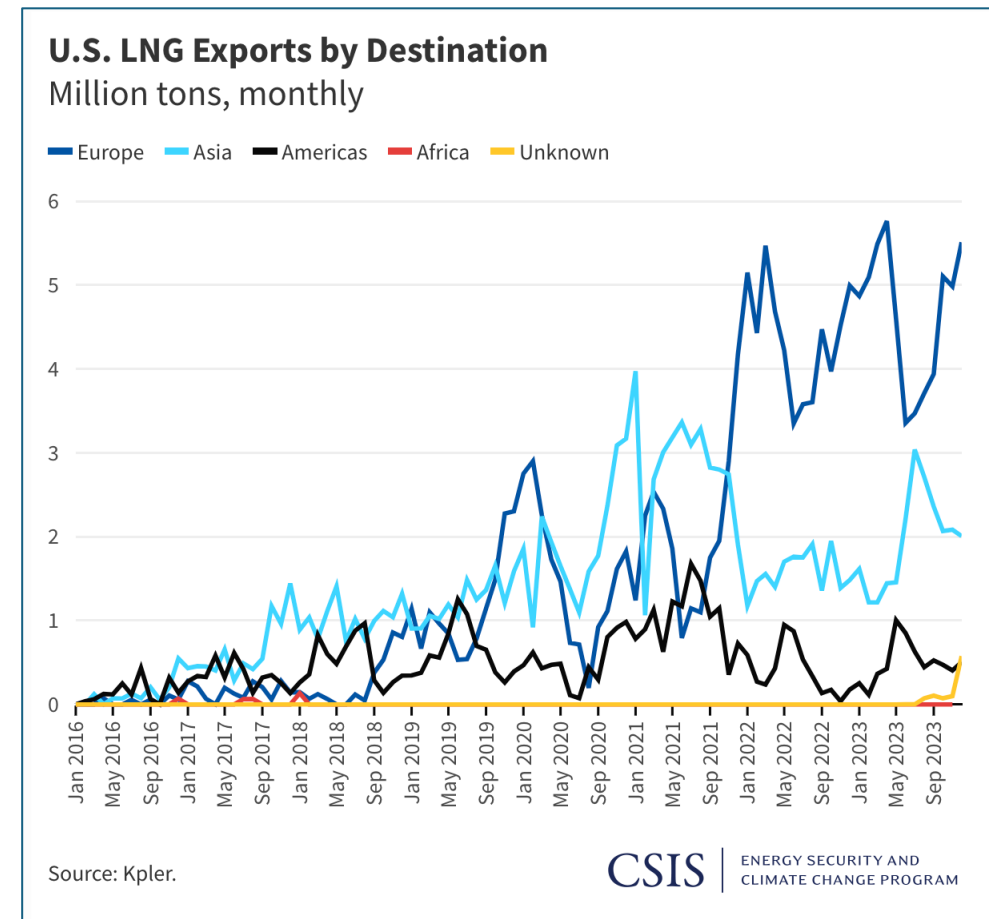
- Natural gas markets inherently volatile
- LNG exports tie domestic gas to global markets ending decade of price stability in US
- Price run-up in 2021 and 2022 results in multi-billion dollar fuel cost adjustment passed through to customers

Historic Gas Prices
(inflation adjusted)



Gas Price Volatility Is Outside of Duke's Control, Globally and Regionally

- Exposure to global price volatility is expanding with rapid increase in LNG ports
- Rising global demand for gas drives price volatility
- Absence of in-state gas supply and infrastructure adds a separate source of price and volatility risk





How to reduce risk and reliability concerns?

- Duke can reduce price variance by adopting portfolios which rely less on natural gas
- Duke could reduce price and reliability risk by procuring fuel-free resources (solar, battery storage, offshore wind, etc.), building out its transmission system, and offering additional energy efficiency and demand response programs
- Duke should use its high gas price forecast instead of the base price for planning, price volatility accurately, and begin including the cost of volatility and measures to mitigate volatility into its plans

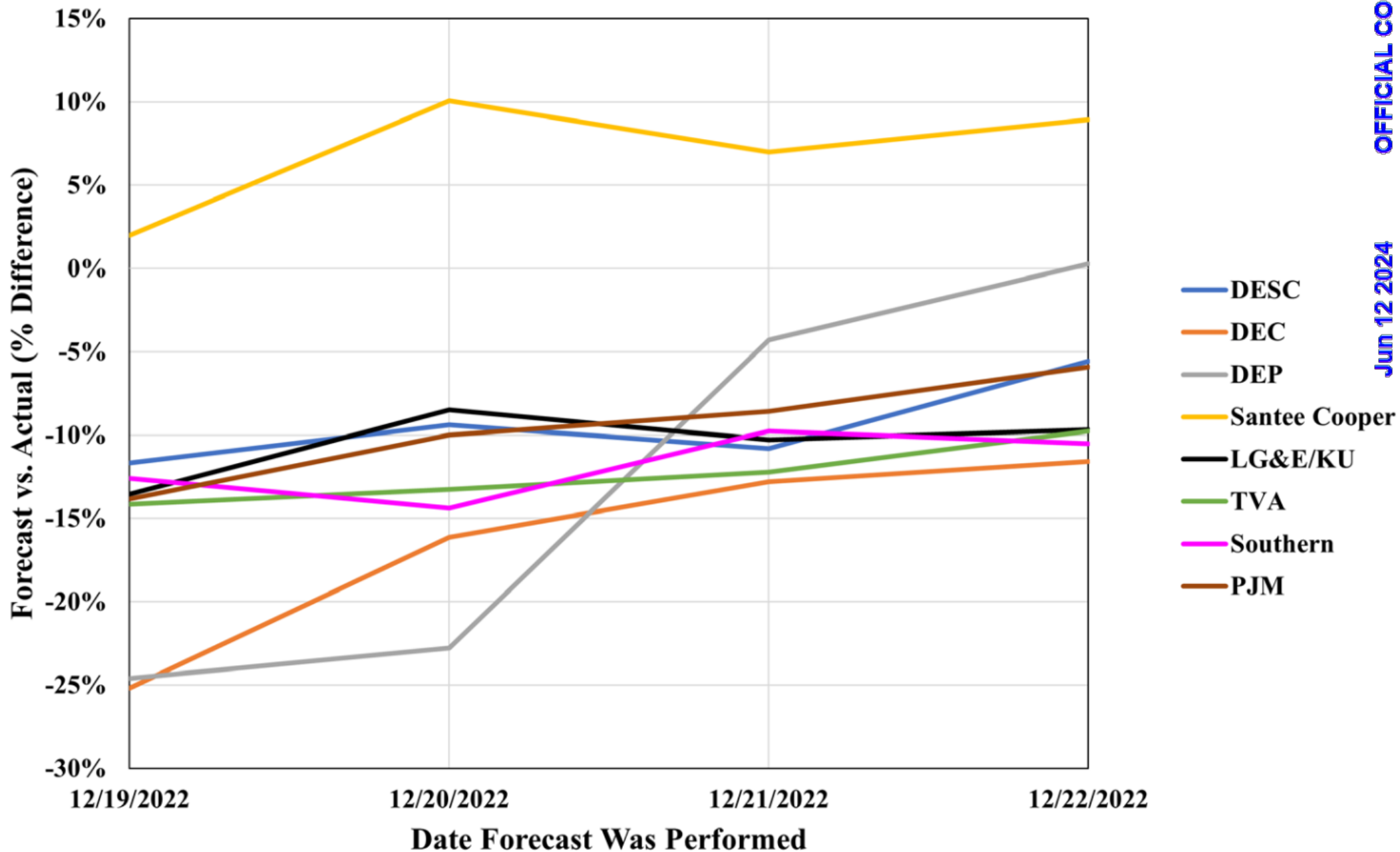


Questions?

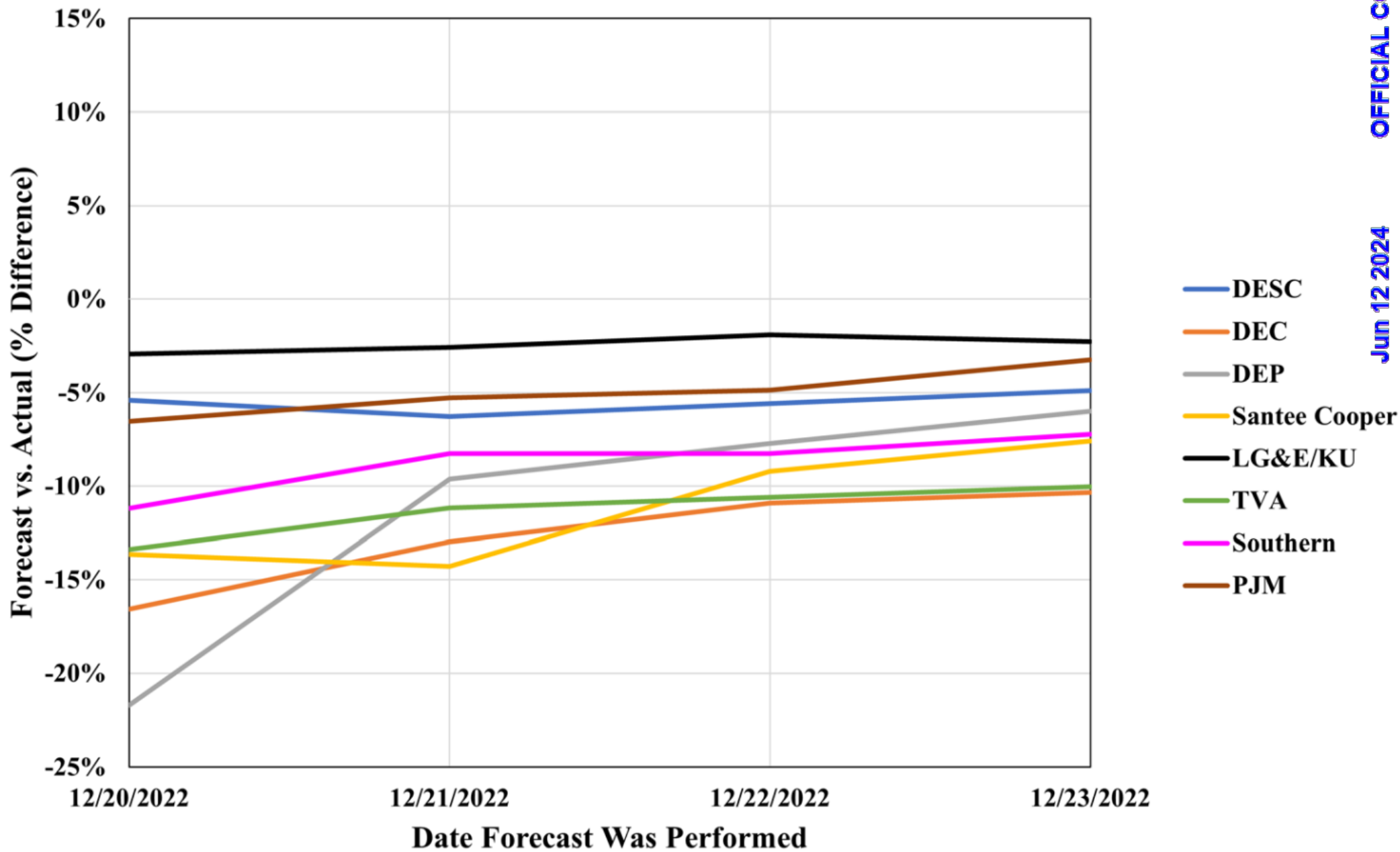
Dr. Jennifer Chen: jennie.chen@wri.org

Ivan Urlaub: ivan.urlaub@newenergyeconomics.org

Peak Load Forecasts vs. Actual Peak Loads For December 23, 2022



Peak Load Forecasts vs. Actual Peak Loads For December 24, 2022



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Jun 12 2024

Entities in the U.S. Eastern Interconnection Affected by the Extreme Cold Weather

