

Energy & Environment: Public Policy & Political Perspectives

POWER SUMMIT
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John C. McClure
Executive VP External Affairs &
General Counsel



Nebraska Public Power District
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Memory Lane

My “Conclusions” from 2015 presentation

- The Nation remains deeply divided politically, socially and geographically.
- National energy policy is increasingly made by federal regulatory agencies and not by Congress.
- The use of coal to produce electricity will continue to decrease nationally; but remain significant in certain geographic regions.
- Renewables and distributed generation will continue to grow; but will face increasing integration challenges in some regions.

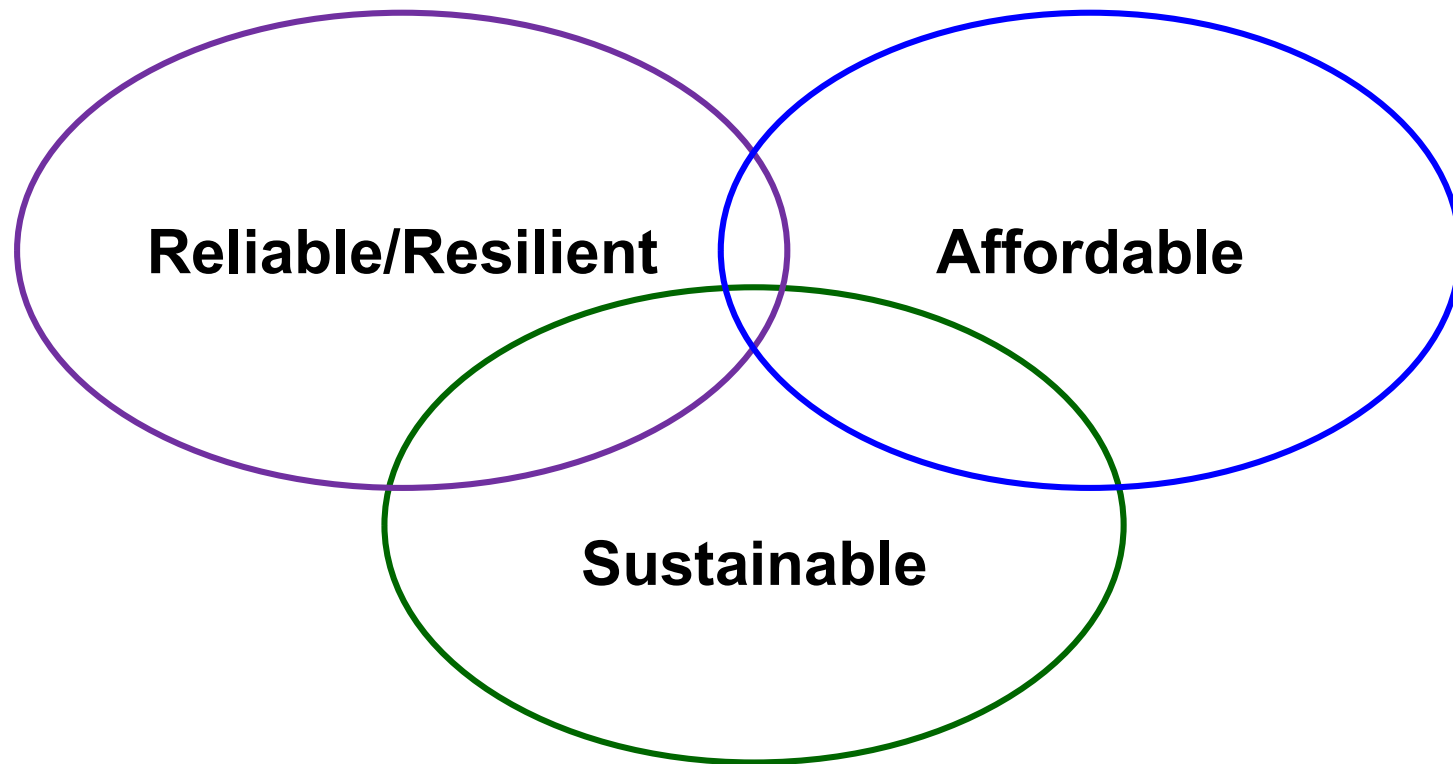
Memory Lane

My “Conclusions” from 2015 presentation *(Cont’d)*

- Natural gas will continue to play a growing role in the production of electricity.
- Transmission expansion will be required to incorporate more renewables.
- Litigation over the Clean Power Plan will leave a cloud over the program until addressed by the Supreme Court (2018/2019).
- Tax subsidies have major impacts on electricity markets.

Three Simple Questions

How can we provide electricity that is....

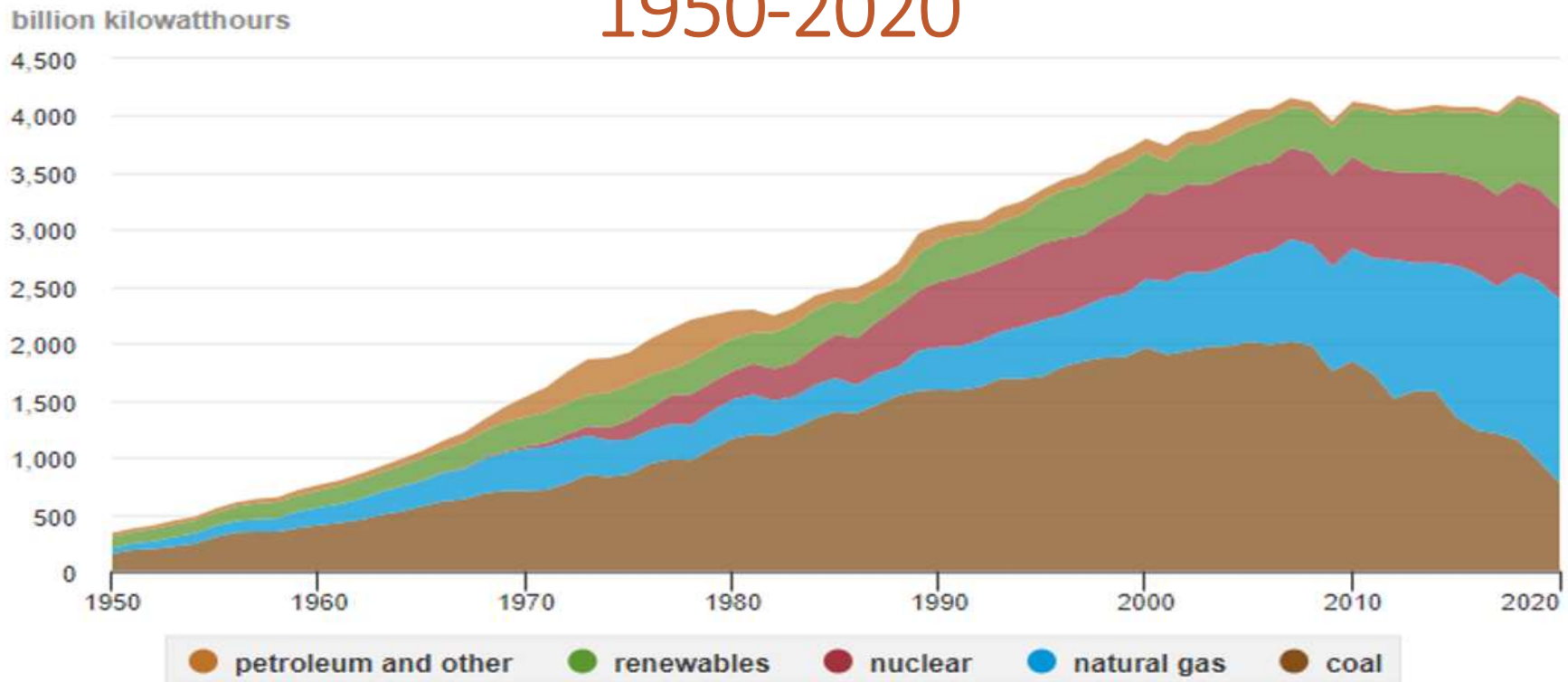


The Answers are Complex

The Electricity Industry is Undergoing Significant Transformation

- **Locally, Regionally, Nationally, Internationally**
- **The Big Drivers**
 - ✓ Decarbonization
 - Changing Fuel Mix
 - ✓ New Technologies
 - ✓ Impact of Organized Markets
 - ✓ Expectations of Customers, Rating Agencies, Investors, Lenders
 - ✓ Electrification
 - ✓ Local, State, Regional and Federal Policies
 - IJIA (Infrastructure Investment & Jobs Act)
 - IRA (Inflation Reduction Act)
 - ✓ War in Ukraine
 - ✓ Growing concern about Resource Adequacy and Reliability
 - ✓ Mega loads

U.S. Electricity Generation by Major Energy Source, 1950-2020



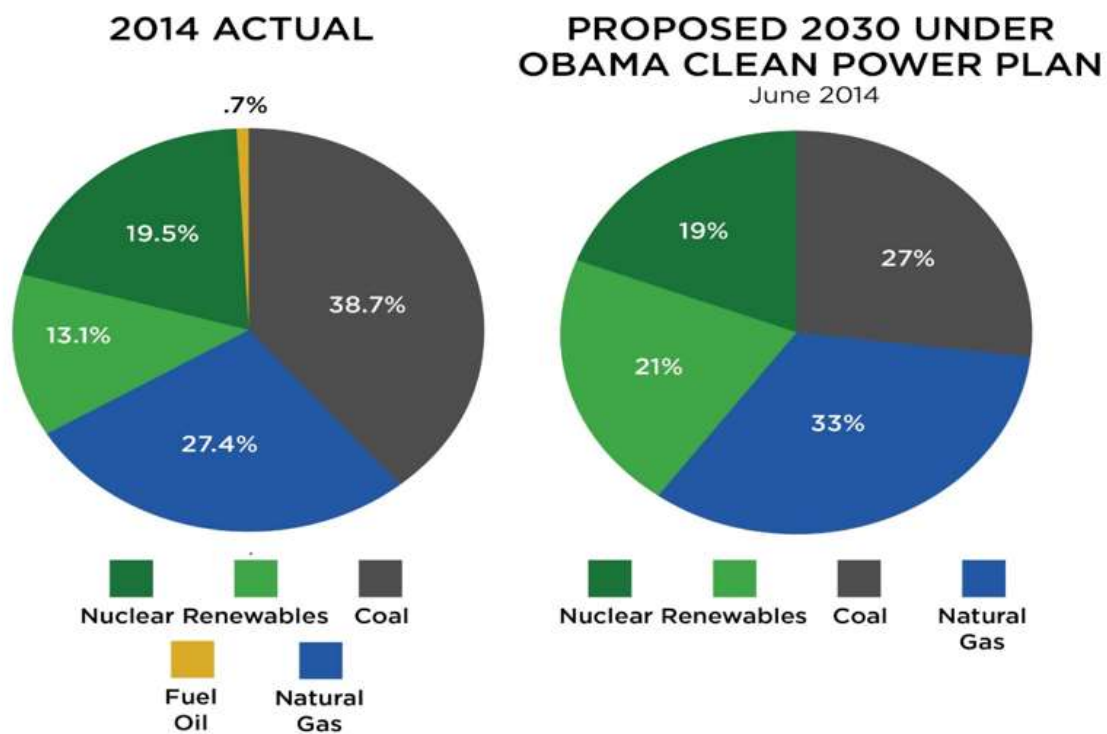
Note: Electricity generation from utility-scale facilities.

Source: U.S. Energy Information Administration, *Monthly Energy Review*, Table 7.2a, January 2021 and *Electric Power Monthly*, February 2021, preliminary data for 2020



How Fast Can Fuel Mix Evolve?

National Fuel Mix for Electricity Production

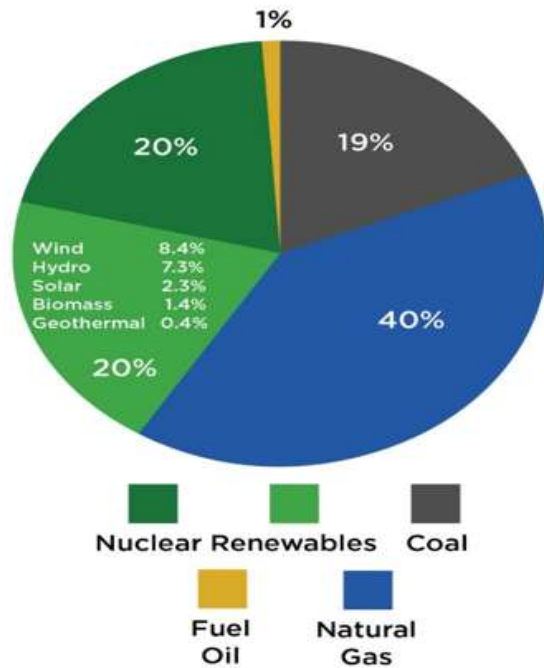


Source:
EIA

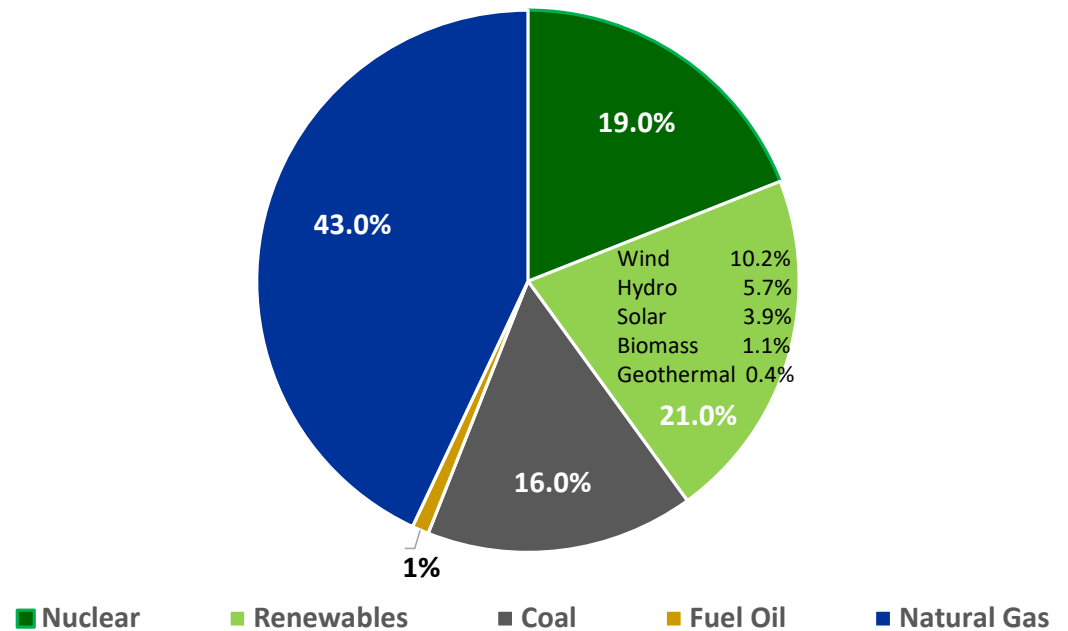
How Fast Can Fuel Mix Evolve?

National Fuel Mix for Electricity Production

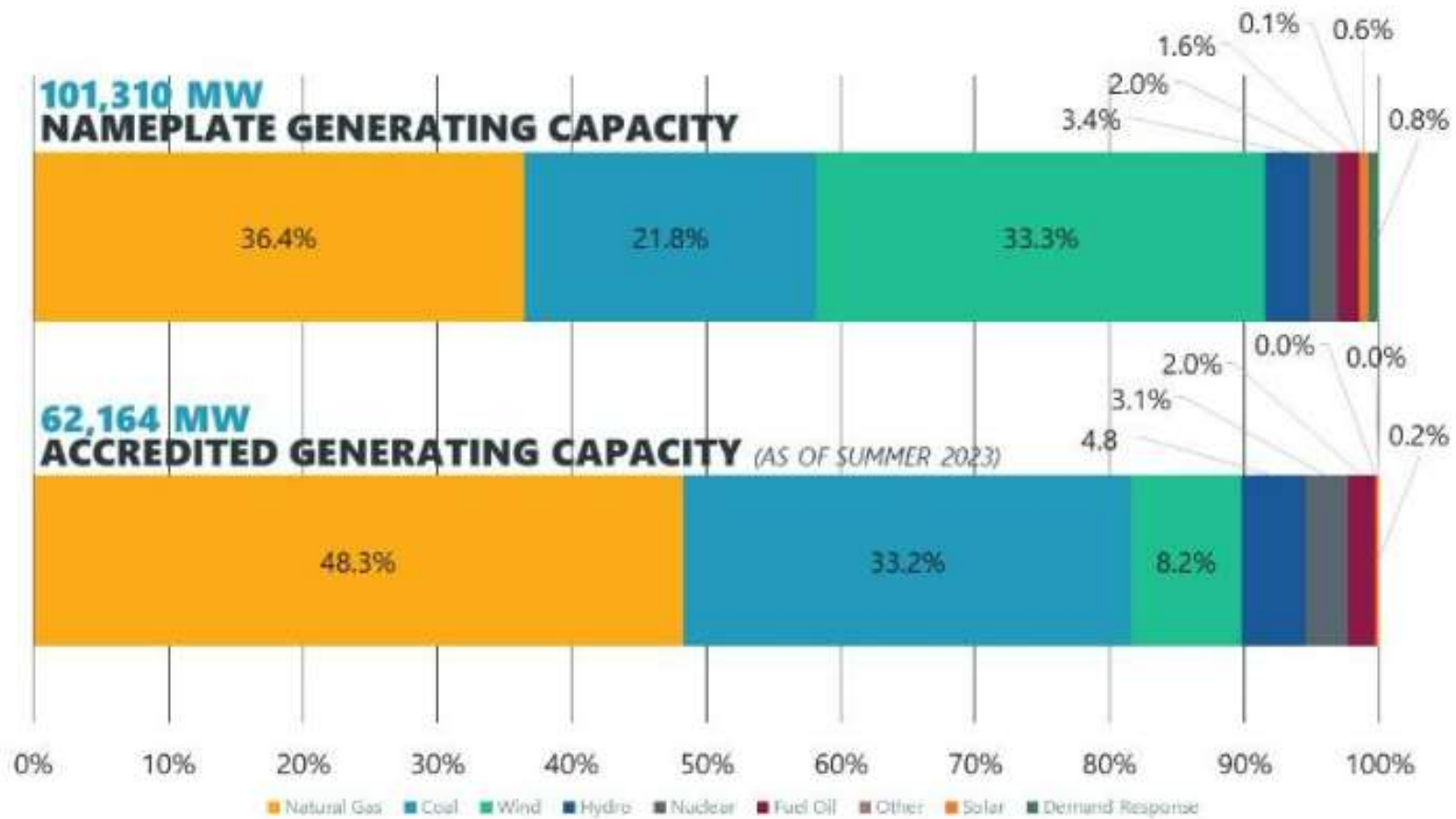
2020 ACTUAL



2023 ACTUAL



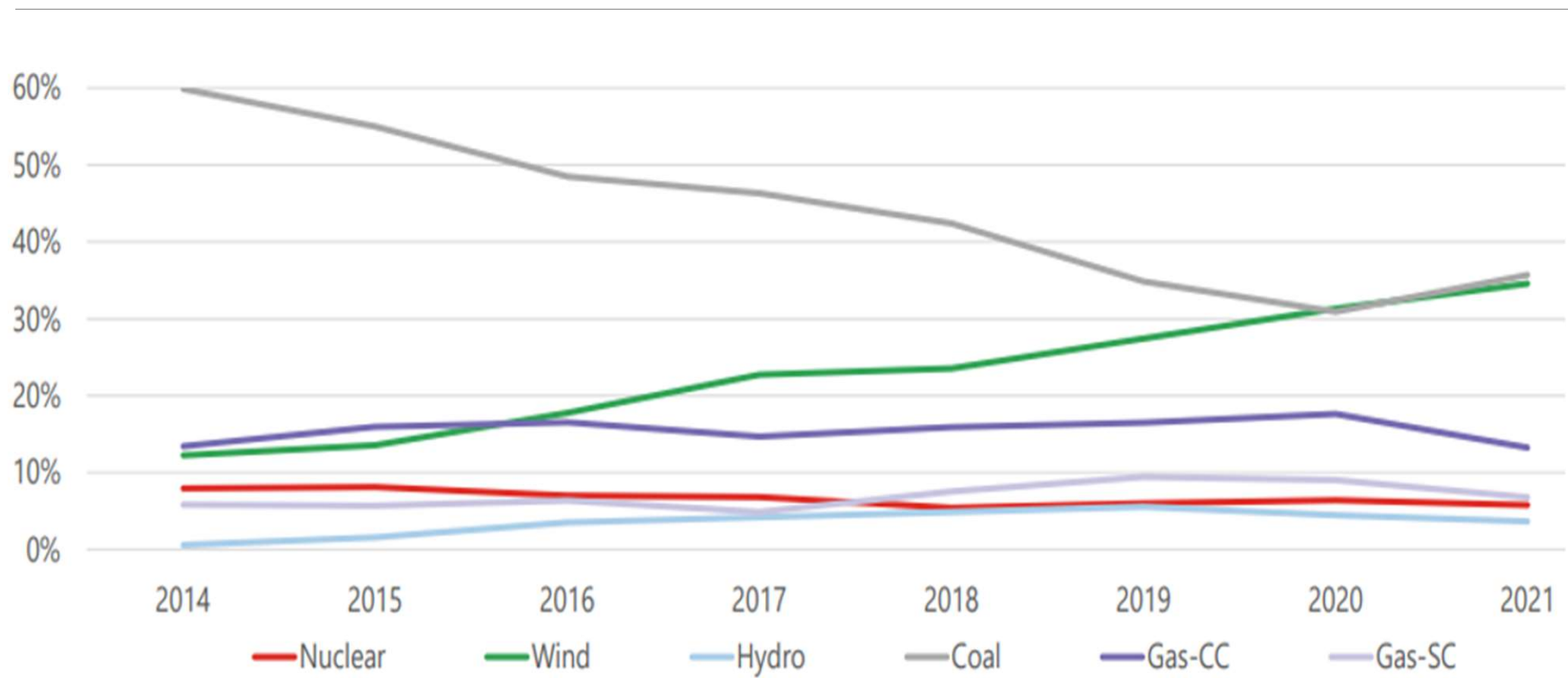
Source:
EIA



[Southwest Power Pool 2023 Annual Report \(arcgis.com\)](https://arcgis.com)

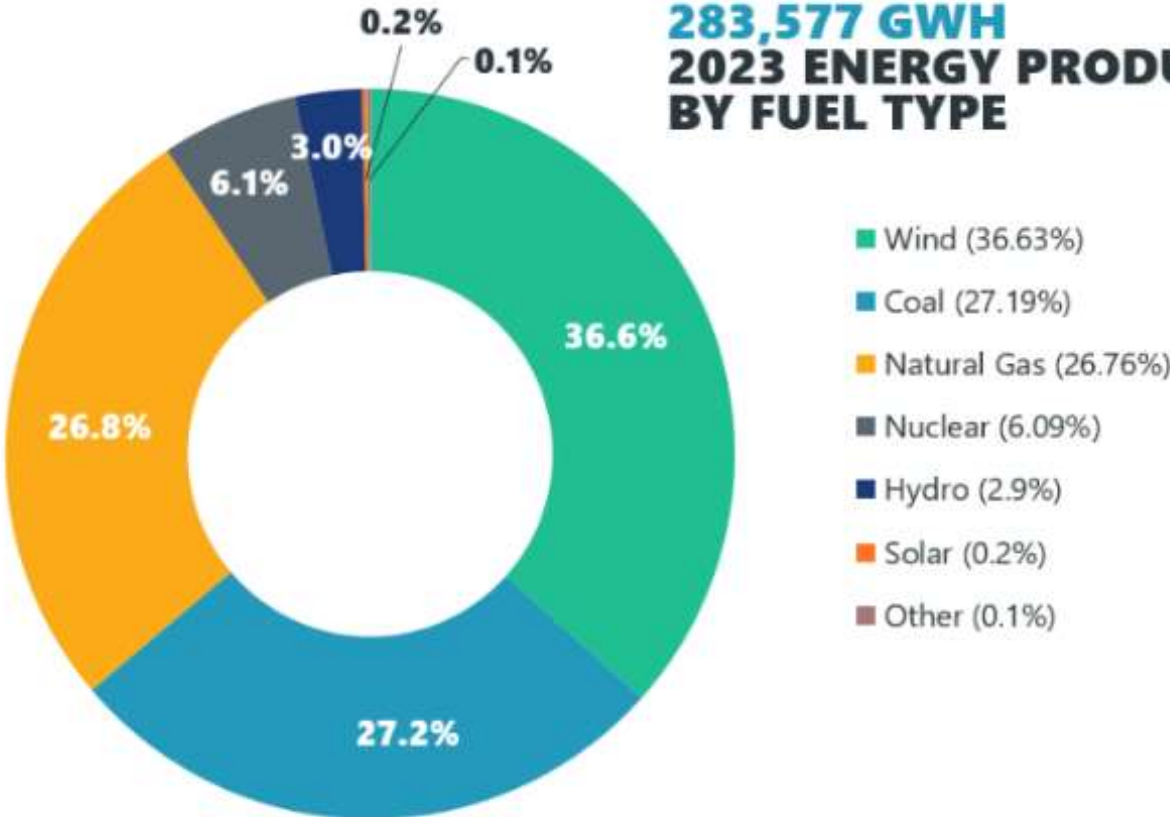
Evolving SPP Energy Mix

GENERATION BY FUEL TYPE - ANNUAL

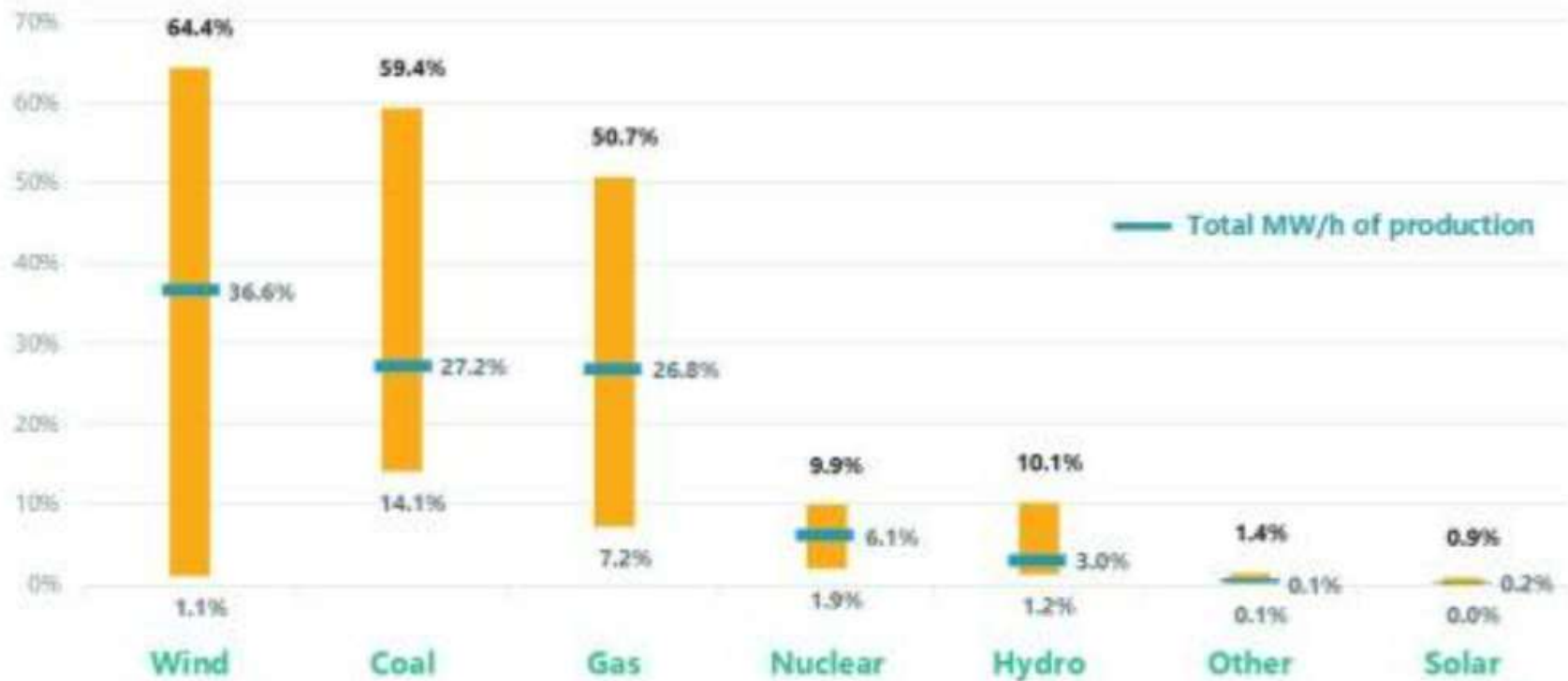


Source:
SPP

283,577 GWH 2023 ENERGY PRODUCTION BY FUEL TYPE

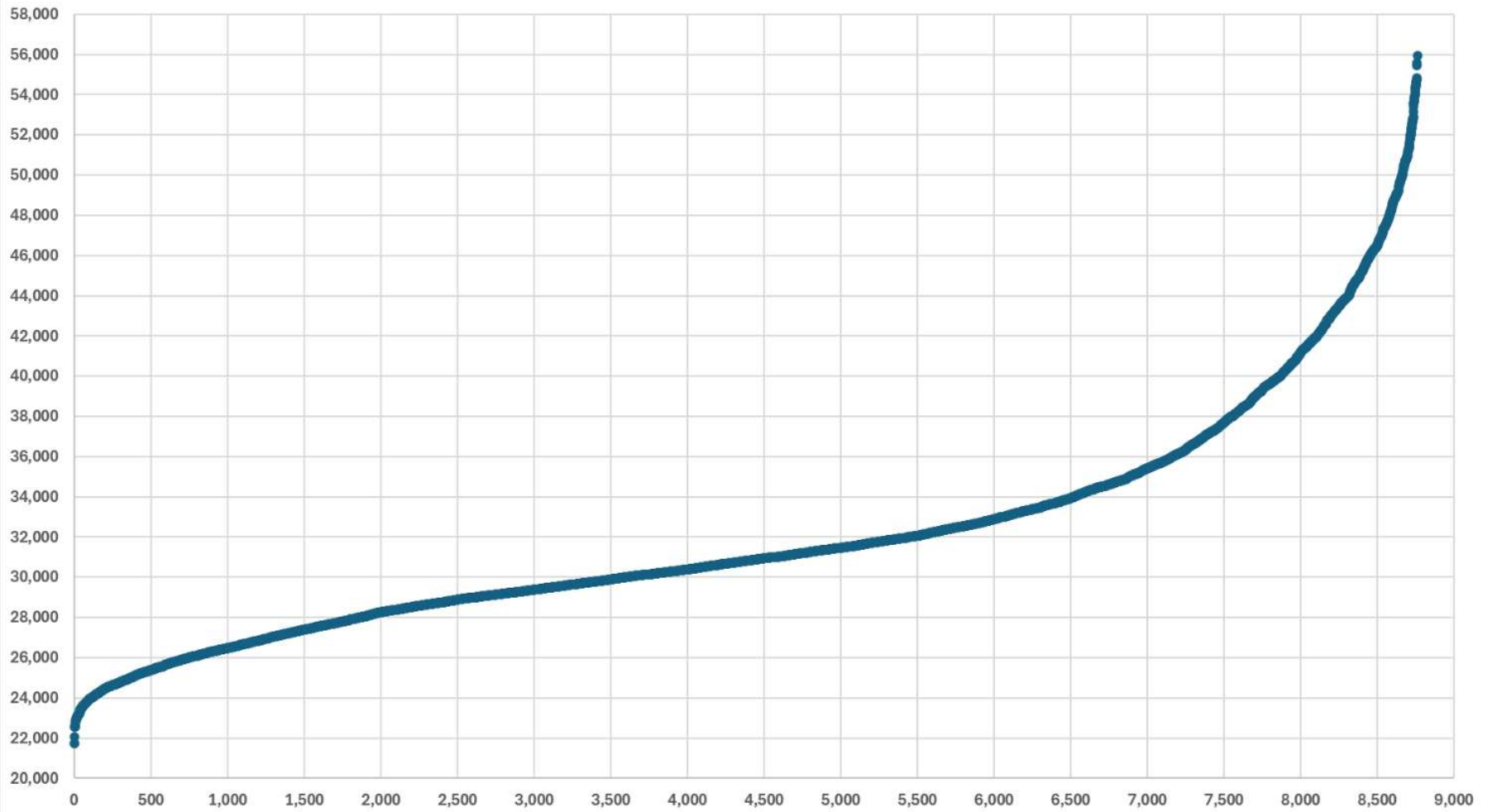


MIN AND MAX PERCENT OF GENERATION BY FUEL TYPE JANUARY – DECEMBER 2023



[Southwest Power Pool 2023 Annual Report \(arcgis.com\)](https://arcgis.com)

SPP BA: Load duration curve 2023



Source:
SPP

Nuclear Renaissance?

- **Vogtle 3 & 4**
 - ✓ Over \$30 Billion
- **Restart Closed Units**
 - ✓ Palisades
 - ✓ Three Mile Island
 - ✓ Duane Arnold
- **SMRs**
- **COST?**

Growing Challenges to Transmission and Renewable Energy Siting

- **Transmission Projects increasingly protracted**
- **Local zoning challenges for renewable projects**
 - Knox-County – North Fork litigation
 - Others

Bulk Electric System Reliability

- **Unprecedented impacts of Winter Storms**
 - Uri
 - Elliott
 - Gerri
- **NERC Concerns**
- **Increasing SPP Advisories and Alerts**

Biden Administration Energy Policy Goals

- Invest in projects to promote clean energy and decarbonization
- Make the energy system more resilient to address climate/ extreme weather hazards
- Promote Environmental Justice
- Create good paying jobs

Major Federal Legislative Actions

- Infrastructure Investment & Jobs Act (IIJA) – November 2021
- Inflation Reduction Act (IRA) – August 2022

Key Legal / Regulatory Actions

- West Virginia v. EPA
- EPA Greenhouse Gas Regulations – Being litigated
- Loper – Bright v. Raimondo (Chevron final demise)

Energy & Environmental Policies under Harris vs. Trump?



Conclusion

- A diverse fuel mix serves Nebraskans best.
- Renewables will continue to expand which will require significant transmission expansion.
 - Siting both is increasingly challenging
- Nuclear energy is clean, constant and must be preserved and expanded.
- Coal will play an important, but diminished role in the regional energy mix.
- New technologies are important and must be implemented economically and reliably considering existing infrastructure and future needs.
- Federal financial incentives and grants will help facilitate significant electric industry expansion.
- We must properly balance reliability, affordability and sustainability in the electric industry.
- Period of unprecedented load growth following decades of relatively flat electricity demand.

Questions?
