



Associated Electric Cooperative Inc.

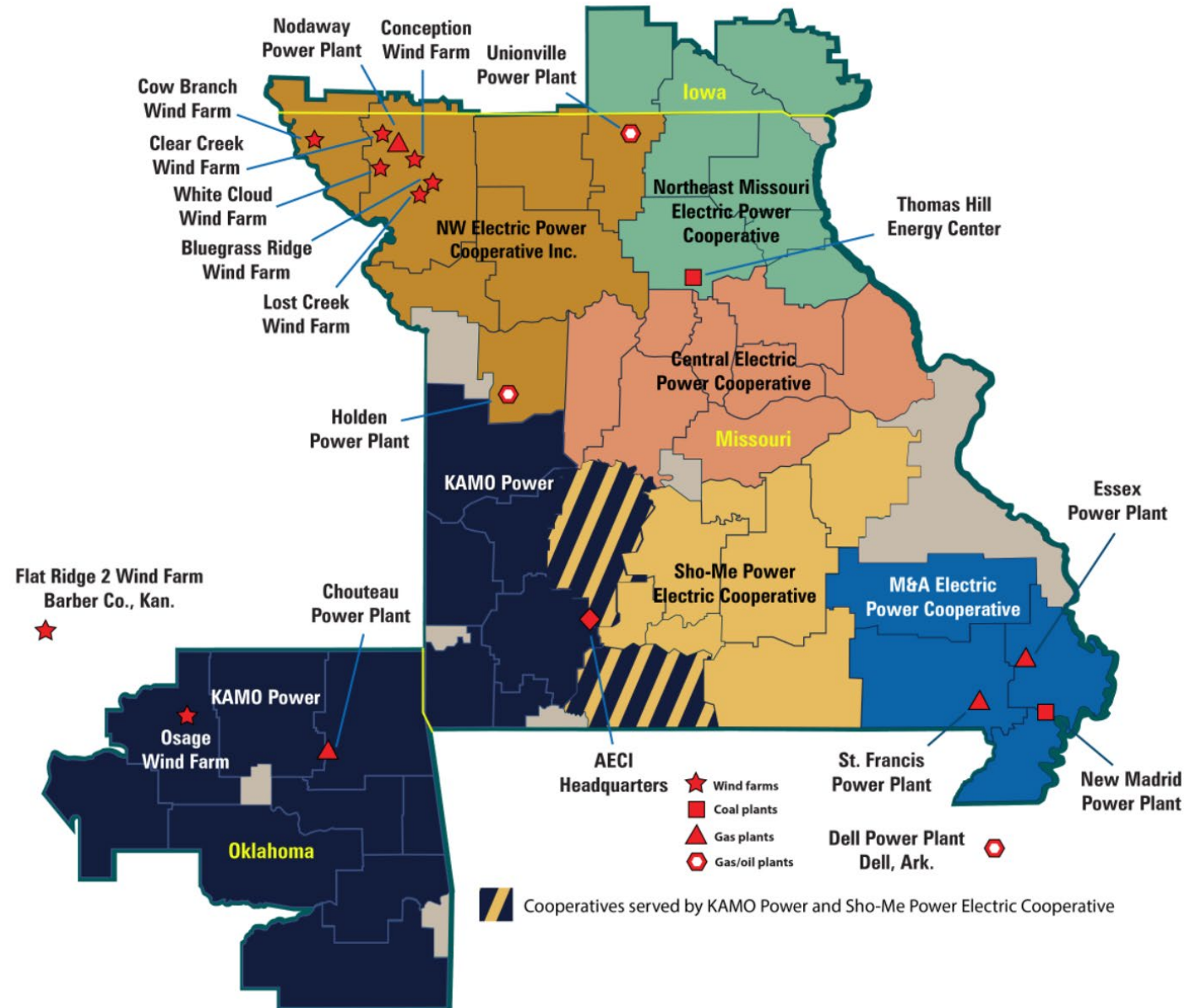
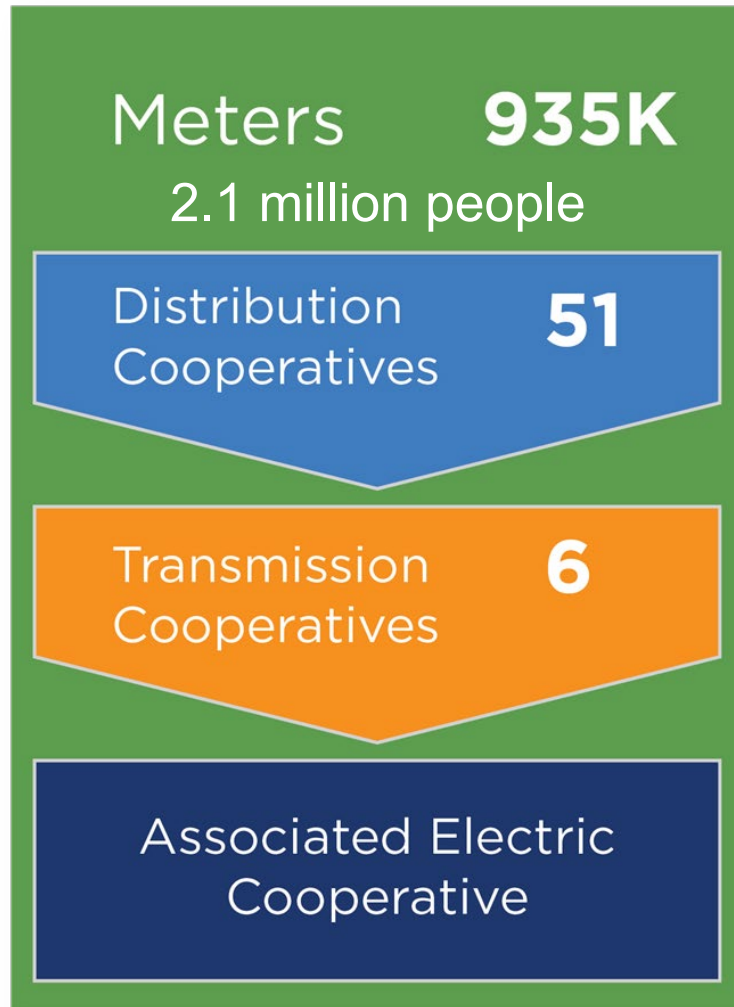
A Touchstone Energy® Cooperative 

Roger Clark, Senior Vice President & Chief Commercial Officer

August 13, 2024

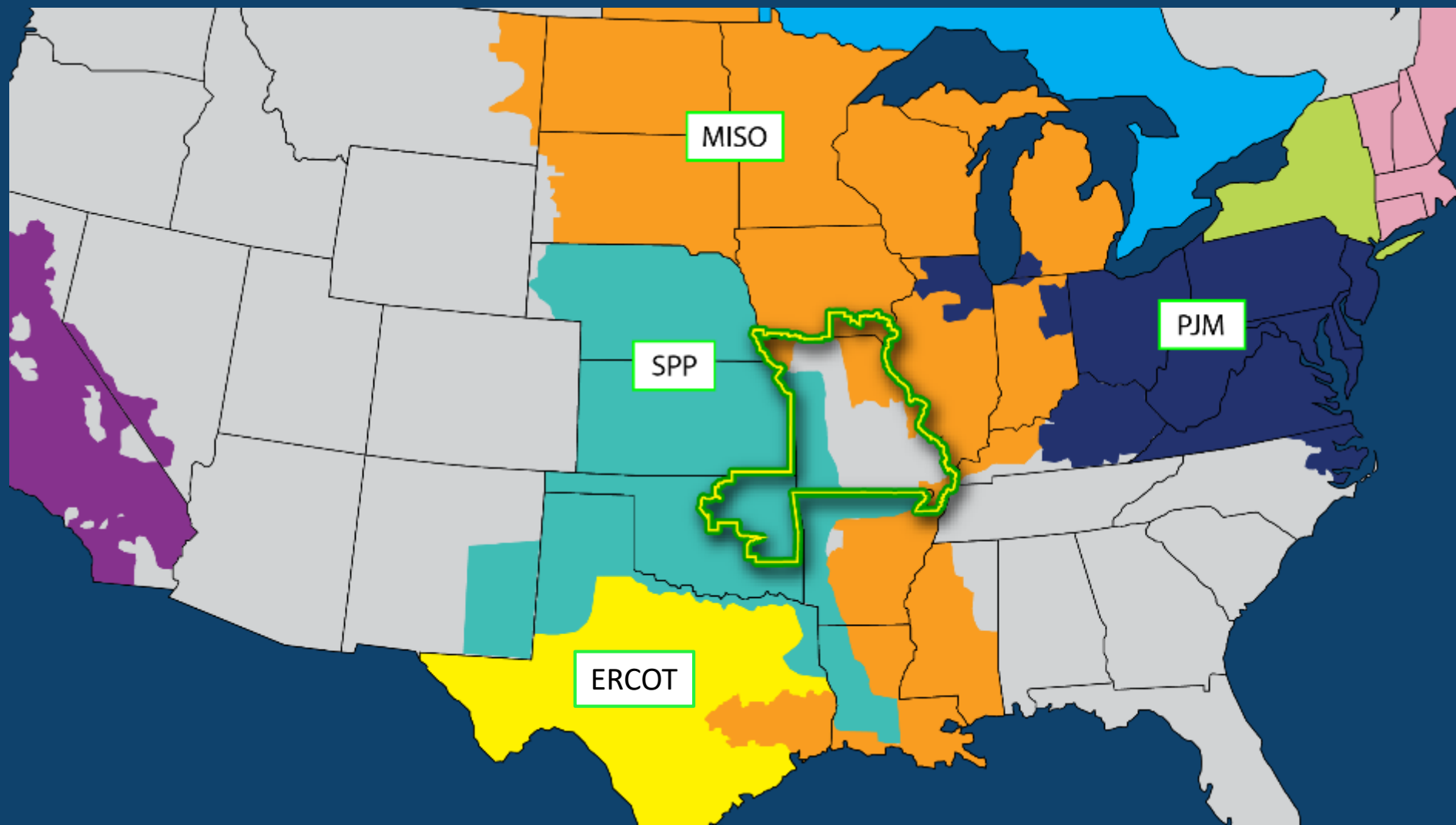
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AECI Service Territory



Associated's Regional Footprint

AECI service area in green



Generation & Load

Associated's Evolving Resource Mix



2,353 MW
COAL



2,795 MW
GAS



478 MW
HYDROELECTRIC

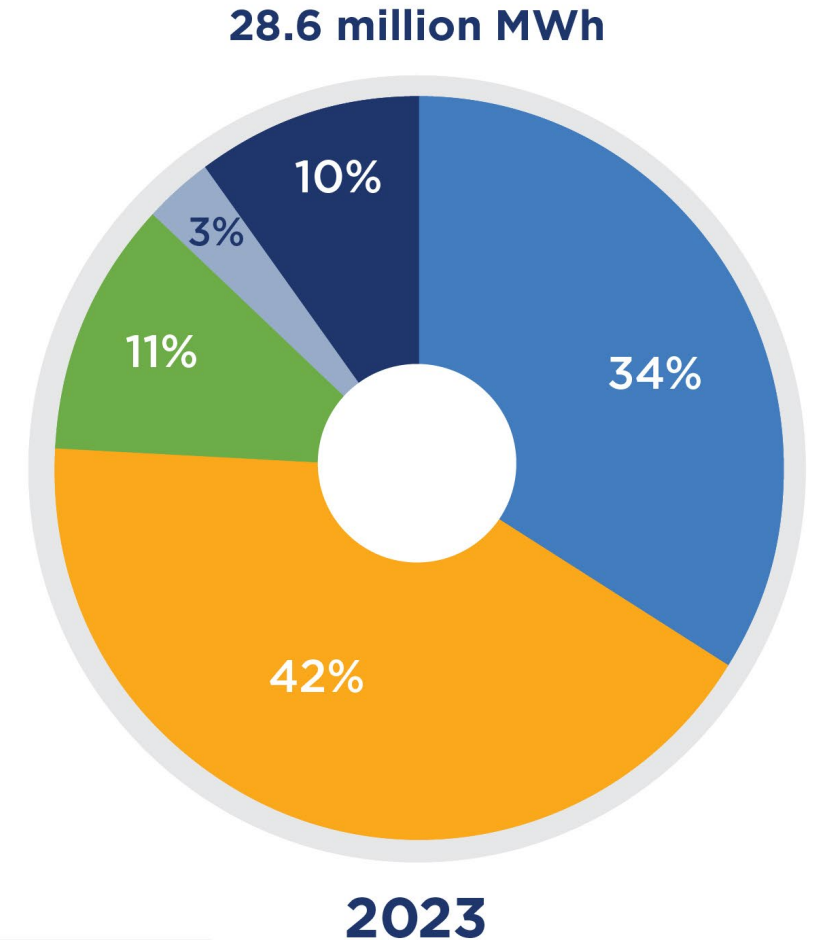
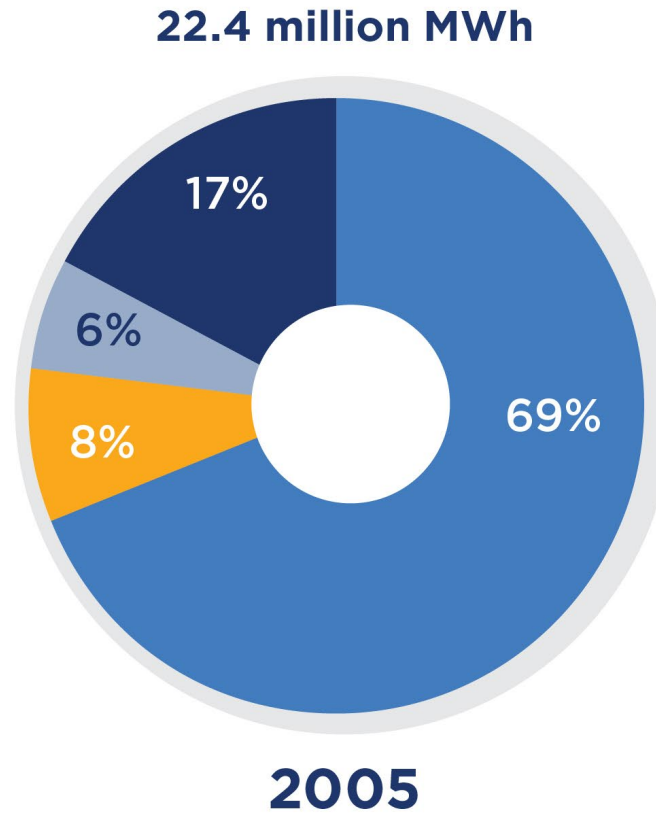


1,240 MW
WIND



44 MW
LIQUID FUEL

TOTAL NAMEPLATE - 6,910 MW
TOTAL CAPACITY - 5,670 MW

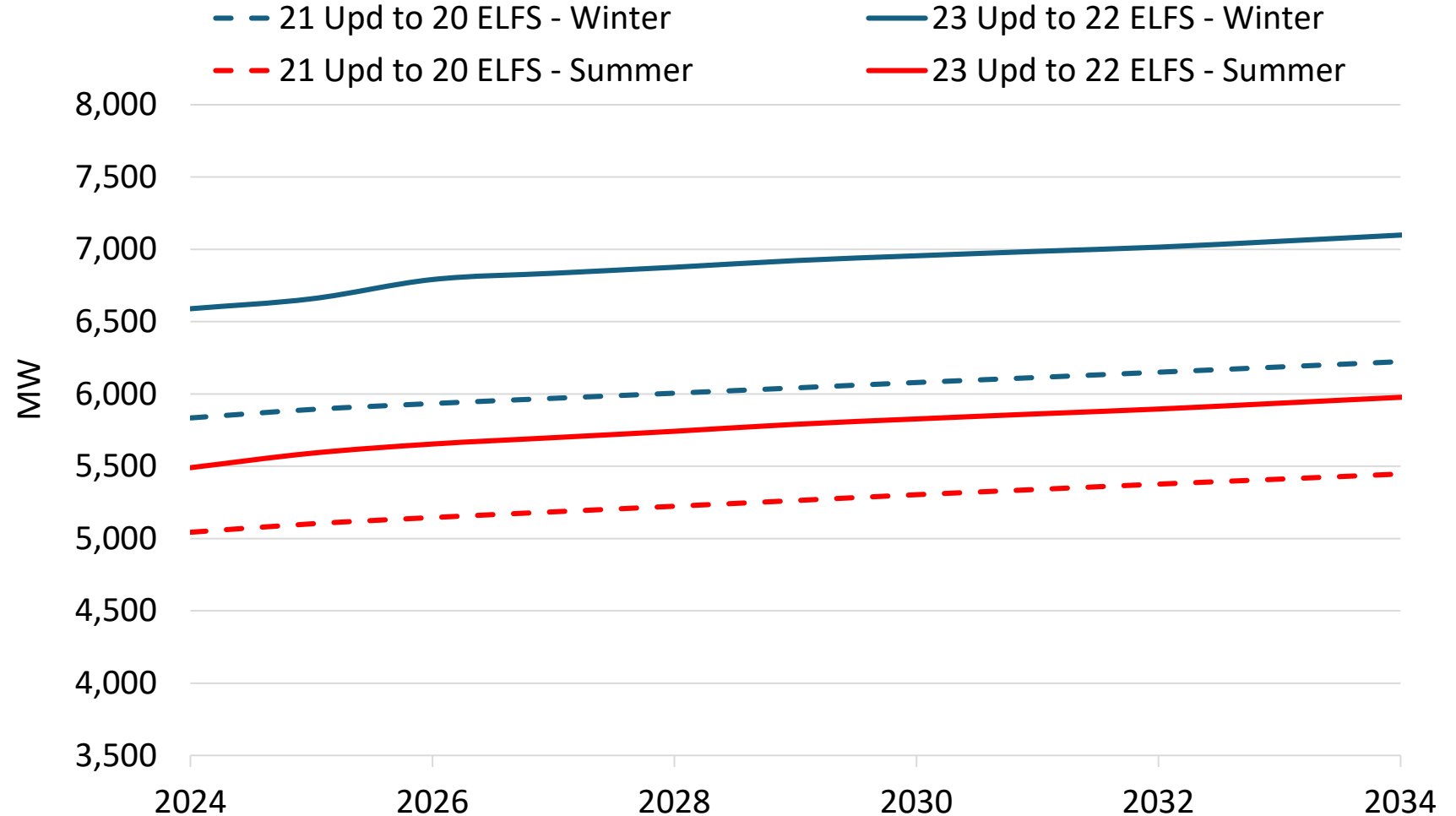


COAL • GAS • WIND • HYDRO • PURCHASES

Electric Load Forecast Study

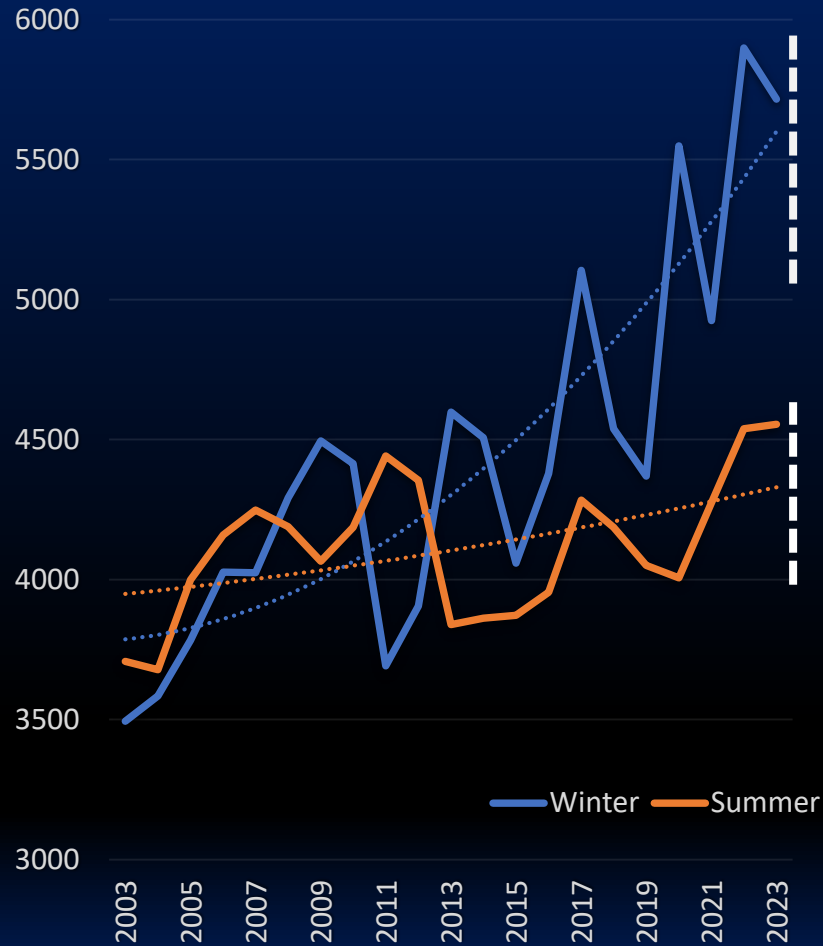
ELFS Extreme Weather Forecasted Loads

- Extreme weather forecast based off 50-year weather
- Exceeds historic extreme weather events
 - Uri – 5,549 MW
 - Elliott – 5,899 MW
 - Gerri – 5,716 MW
- 15% increase in P50 base load over the last 4 years

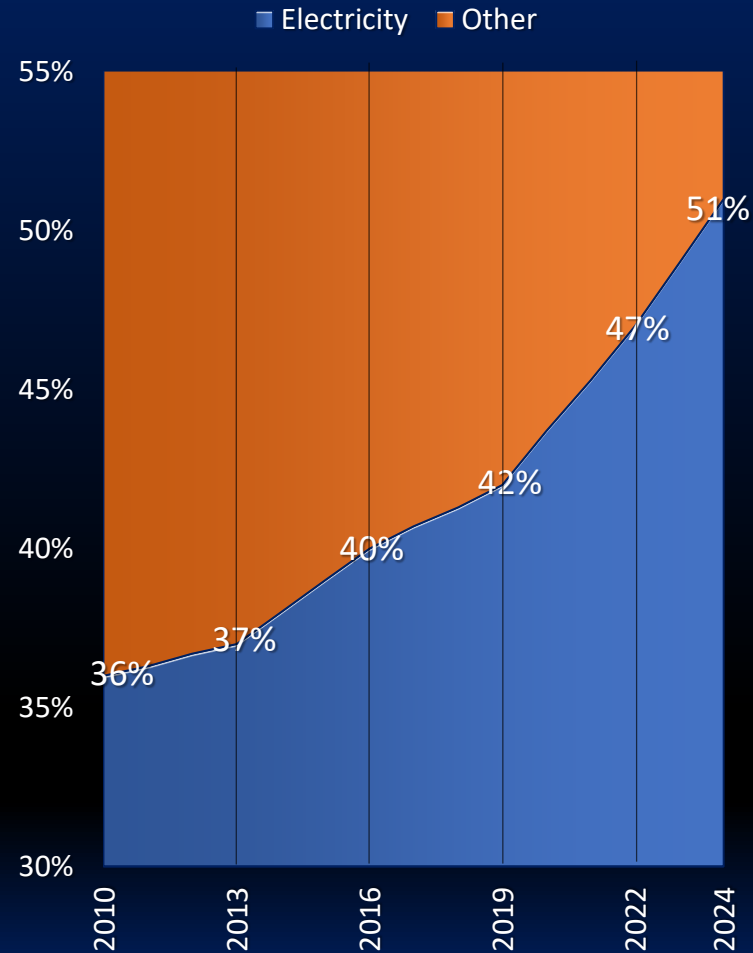


Shifting Load Profile

Associated Peak Trends



Primary Heat Source

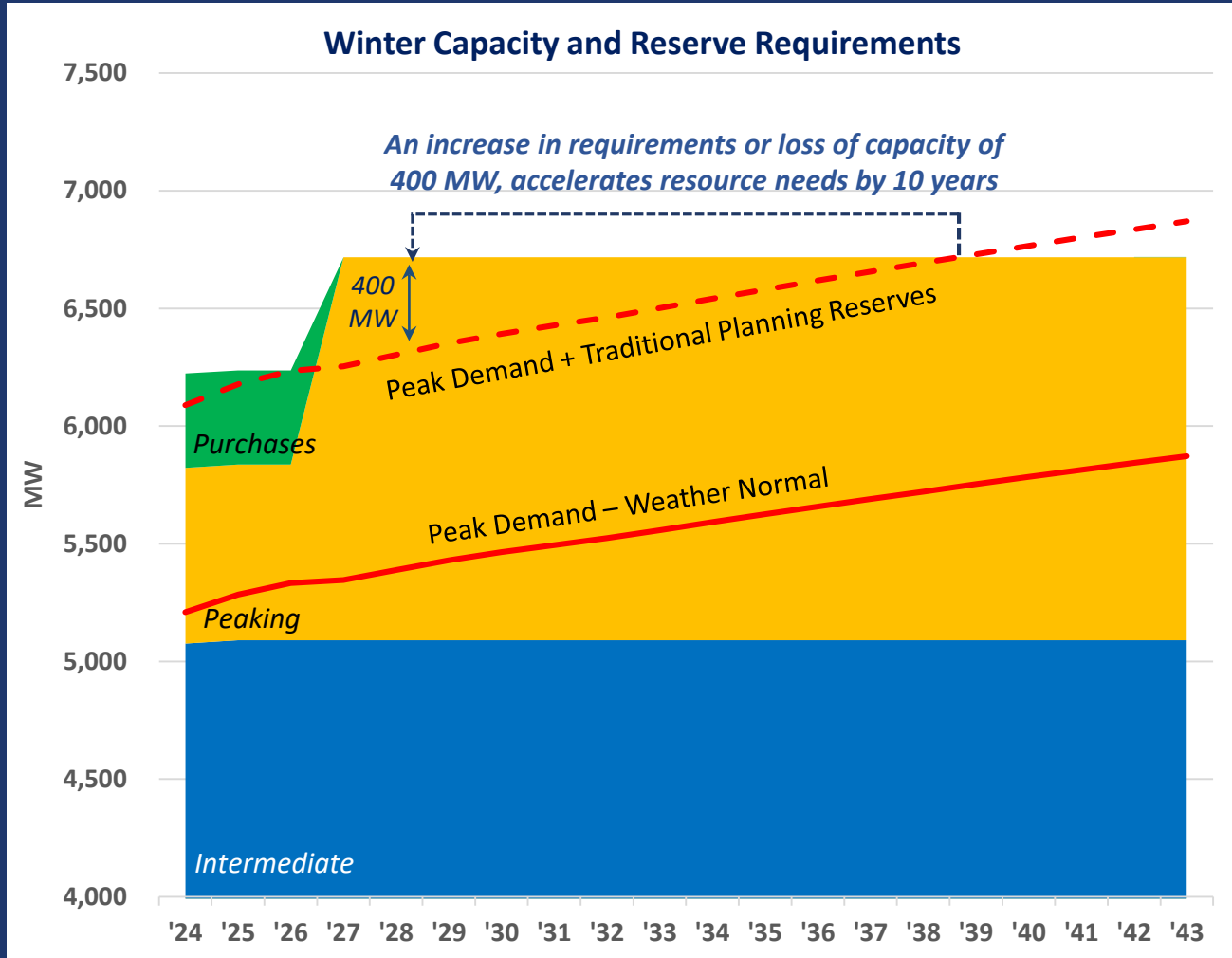


Associated transitioned to winter peaking

Winter heating load has more volatility

45% increase in Planning Reserve Margin over the last 4 years

Uncertainty in Capacity Requirements



Simple cycle gas generation can take 5 years to complete

GIA queue study process
+ transmission upgrades

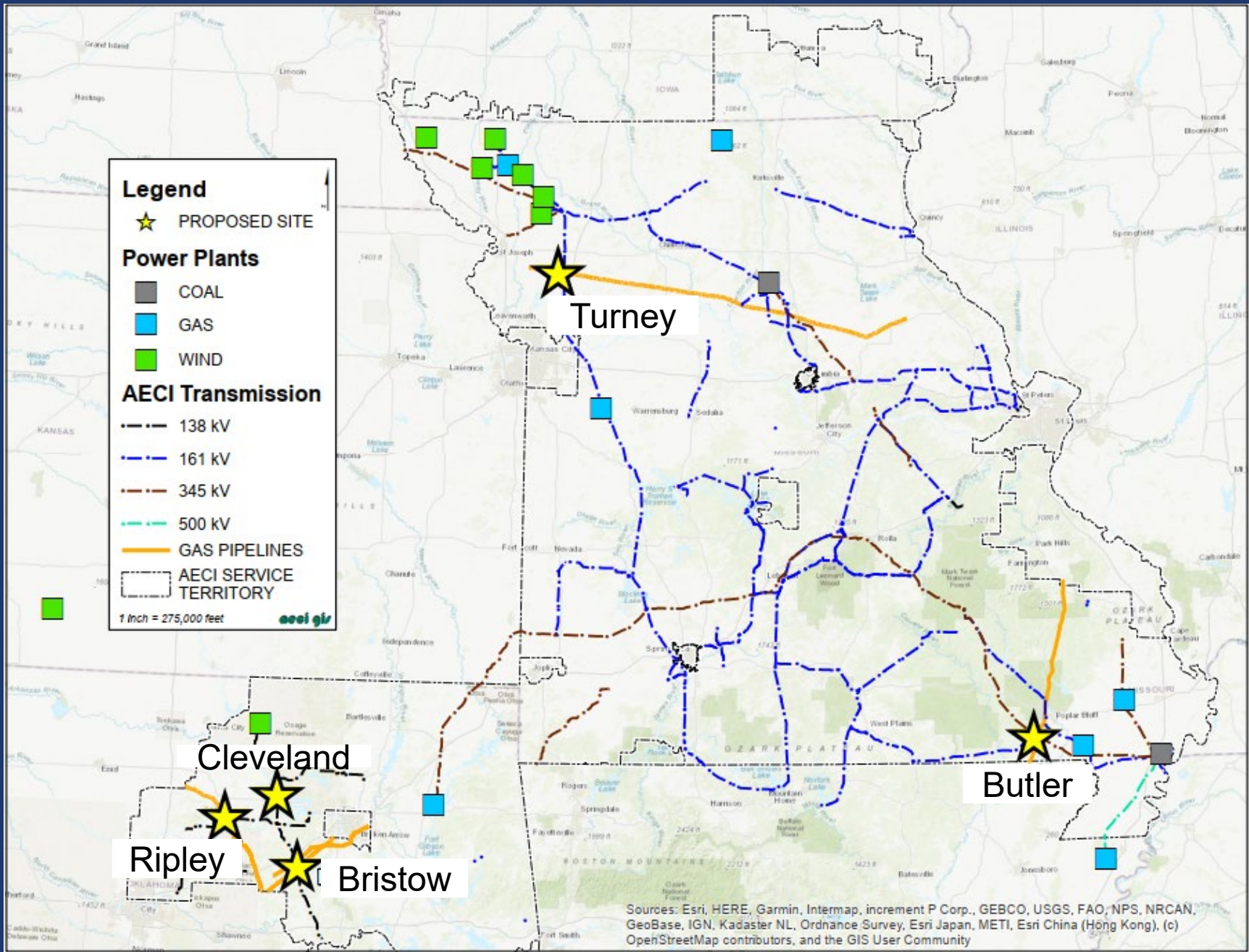
Environmental site assessments
+ ROW for trans, pipe, & water

Significant schedule shifts can result from small changes in capacity needs

Associated's commitment to its members under all-requirements contracts requires adequate capacity

Multiple factors can add capacity requirements

Large load addition/expansion
Unrecoverable loss of generation
Change in resource adequacy standards




Strategic
Locations

Transmission
Analysis

Environmental
Analysis

Gas Supply
Analysis

Ancillary
Considerations

- 
- 9000HL from Siemens Energy
 - Output (net) ~ 418 MW
 - Heat rate= 8,063 MMBtu/kWh
 - 13 min. to full load, 85 MW/min. ramp rate
 - Dual fuel capable
 - Hydrogen capable
 - Wet compression
 - Air cooled generator
 - -25 °F Design
 - Selective Catalytic Reducer (SCR) for NO_x
 - Long Term Service Agreement (LTSA)

Transmission



2023–2033 Long-Range Plan Analysis

Core LRP
Analysis

Transfer
Sensitivity
Analysis

\$606M in projects approved

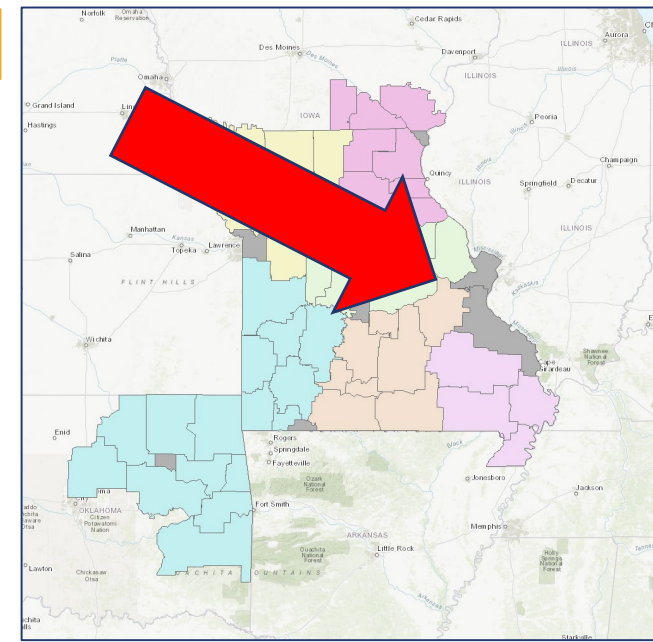
West to East

Cases:

- 2024 Spring
- 2033 Spring

Loads

- ELFS – Non-Coincident, Base



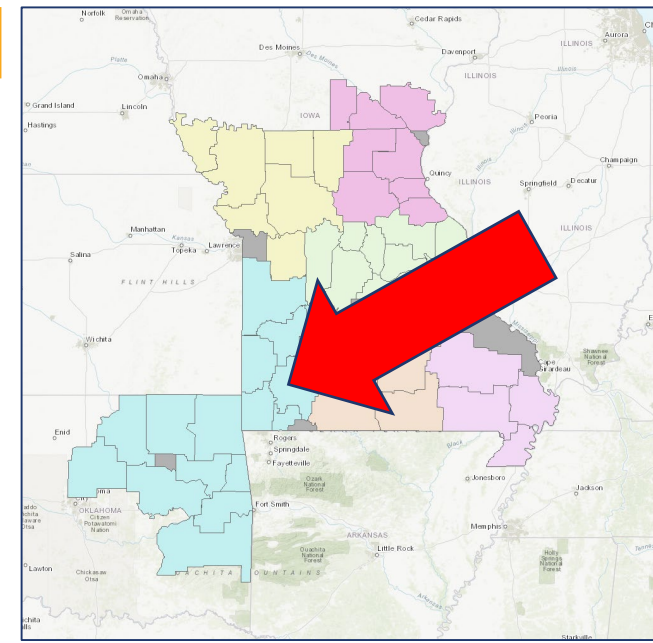
East to West

Cases:

- 2024 Winter Peak
- 2033 Winter Peak

Loads

- ELFS – Non-Coincident, Extreme Weather





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