

# ARIZONA TRIBAL ENERGY ASSOCIATION ANNUAL MEETING

Steve Johnson – Principal Operations Specialist  
Southwest Power Pool

February 18, 2021



# OUR BEGINNING

A black and white photograph of an industrial facility, likely an aluminum plant. In the foreground, a worker wearing a hard hat, sunglasses, and overalls stands with one hand raised, possibly signaling or inspecting. The background shows a large building with corrugated metal siding and various pipes and structures. A bright light source is visible on the left side of the frame.

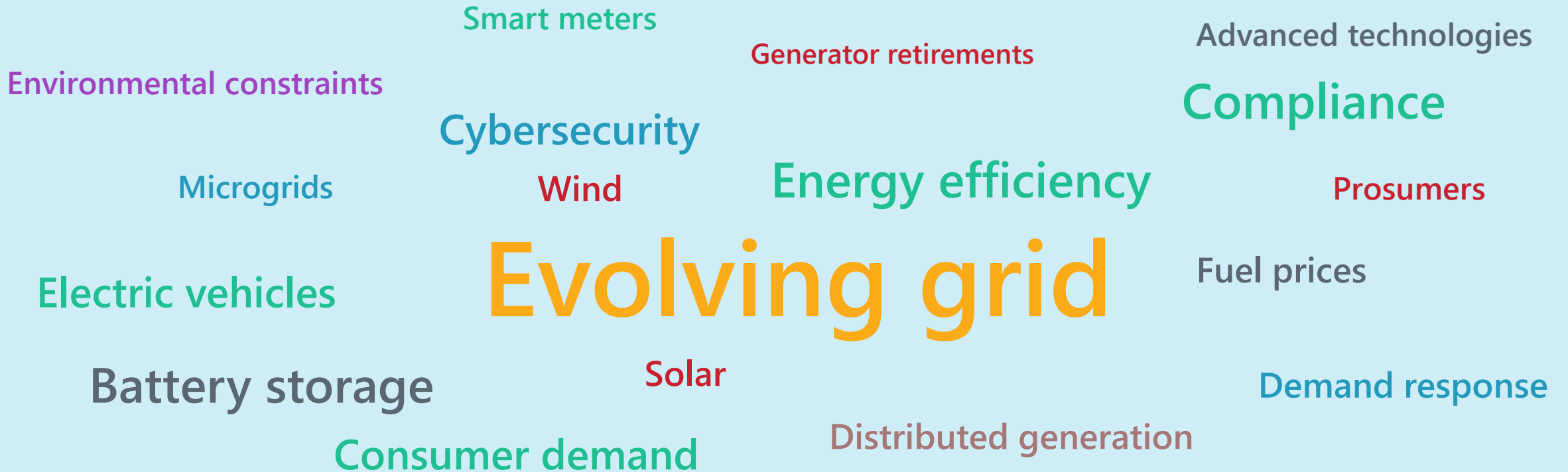
- In 1941, 11 member utilities pooled electricity to power aluminum plant at Jones Mill for critical defense
- Maintained after WWII to continue benefits of regional coordination

# SPP EVOLUTION AT A GLANCE





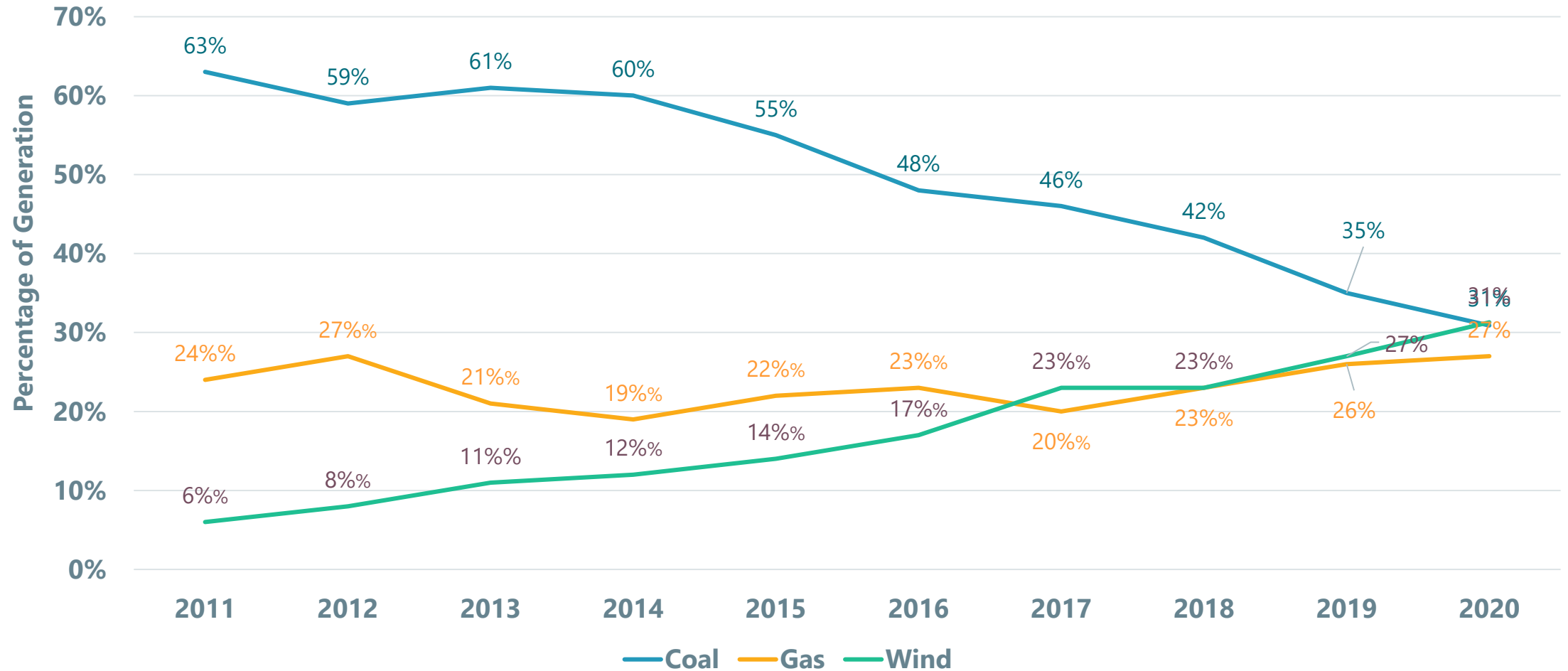
## THIS ISN'T OUR PARENTS' ELECTRIC GRID



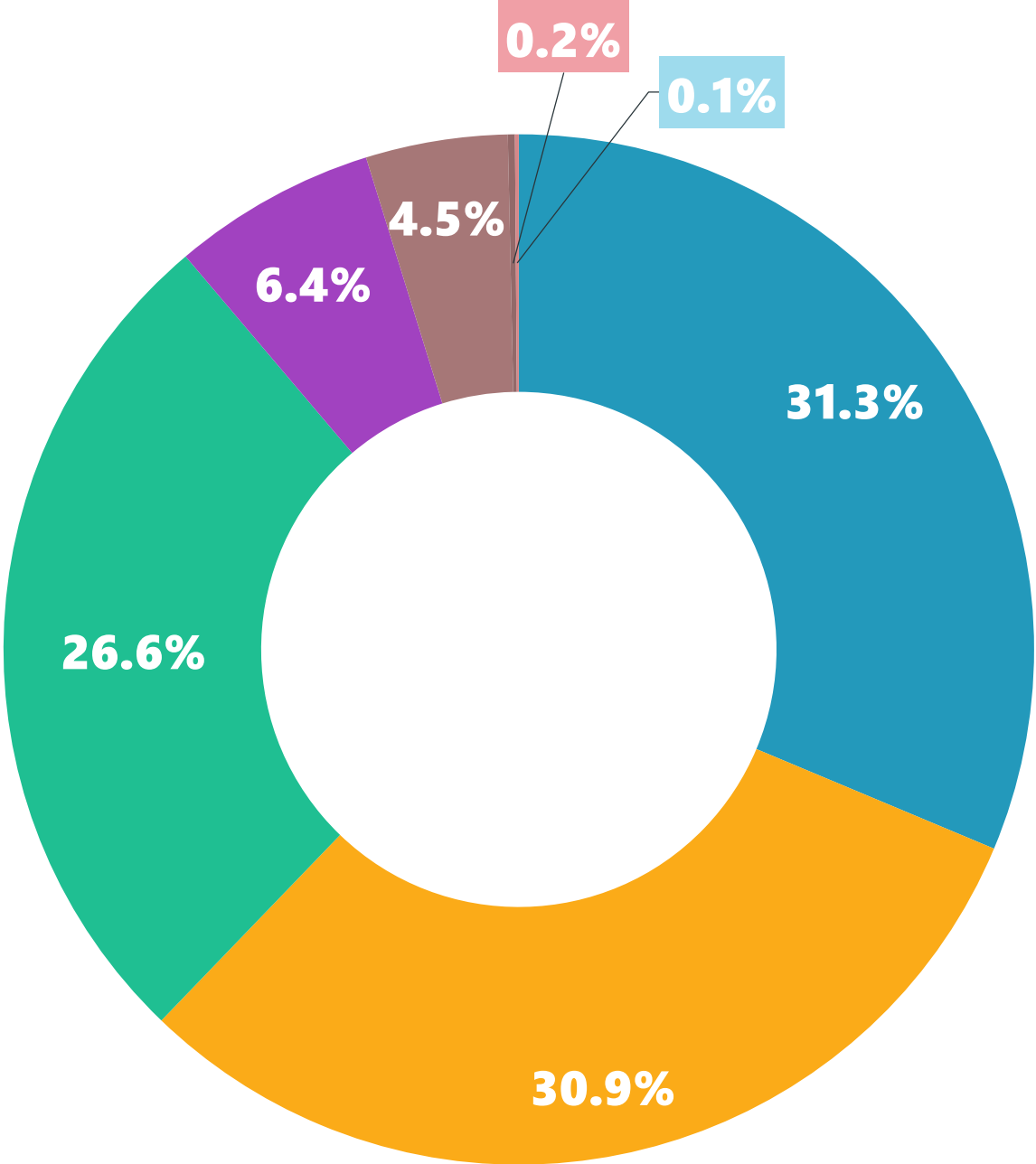
## PLANNING FOR AN UNCERTAIN FUTURE

# OUR EVOLVING ENERGY MIX

Trend By Year



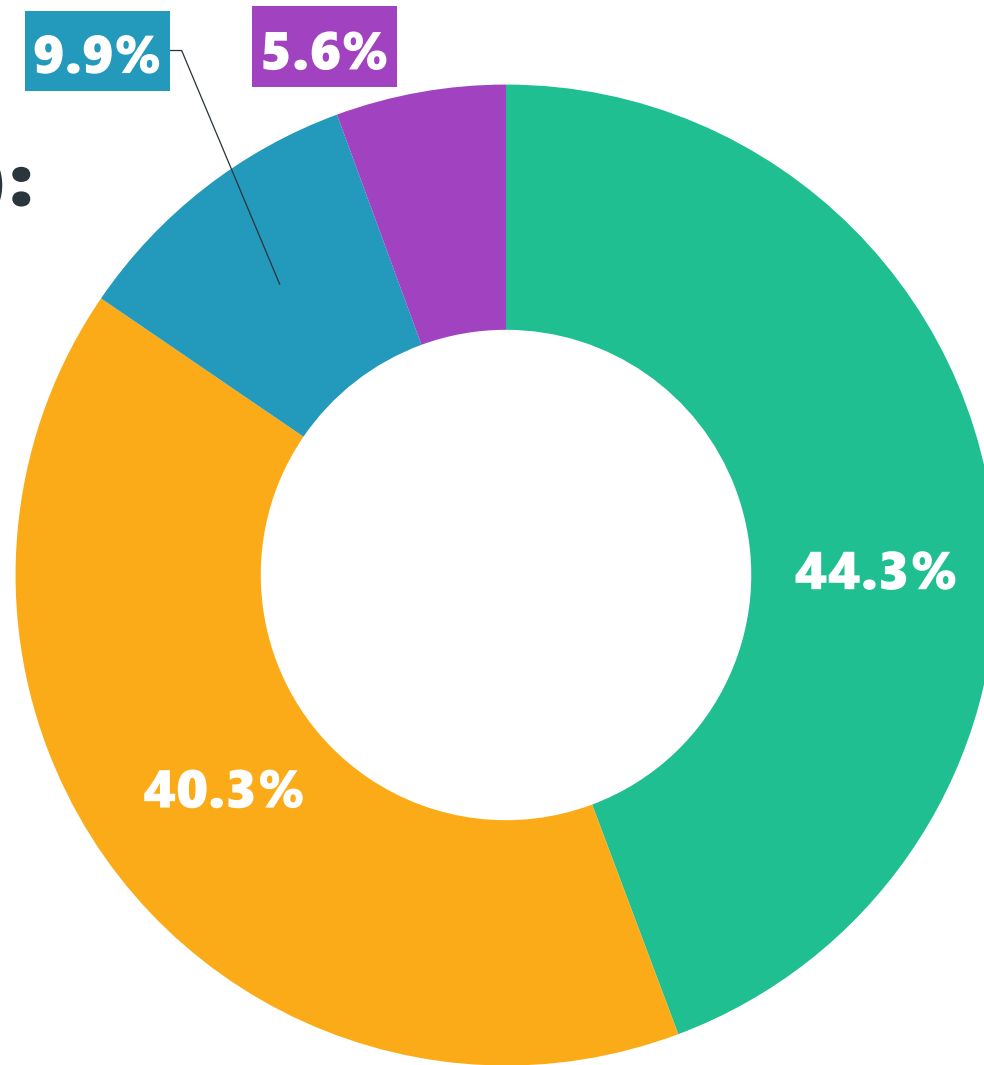
# 2020 ENERGY PRODUCTION BY FUEL TYPE: 262.730 TWH TOTAL



- Wind (31.32%)
- Coal (30.88%)
- Natural Gas (26.61%)
- Nuclear (6.40%)
- Hydro (4.45%)
- Solar (0.22%)
- Other (0.12%)

# GENERATOR INTERCONNECTION REQUESTS UNDER STUDY (BY FUEL TYPE): 91,204 MW TOTAL

- Wind (39,893 MW)
- Solar (36,259 MW)
- Storage (8,883 MW)
- Gas (5,045 MW)



Nov. 10, 2020



# WESTERN ENERGY SERVICES

*Helping our members work together to keep the lights on... today and in the future.*



SouthwestPowerPool



SPPorg



southwest-power-pool

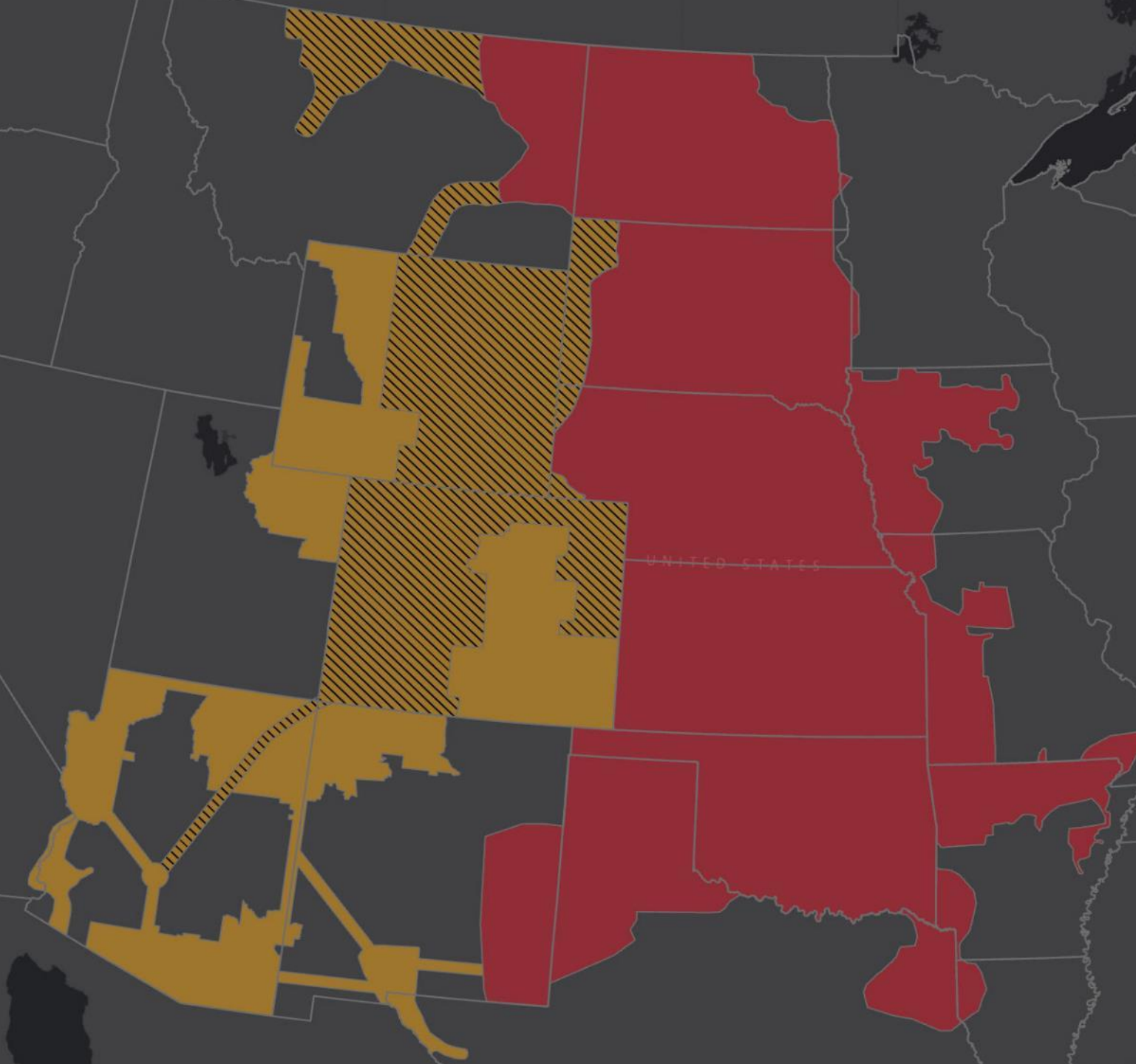
# WESTERN ENERGY SERVICES




A family of contract-based products offered to new customers in the Western Interconnection


- Unscheduled Flow Mitigation (currently providing)
- Western Reliability Coordination Services (Dec. 1, 2019)
- Western Energy Imbalance Service Market (Feb. 2021)
- Planning coordination (discussing with prospective customers)
- NWPP Resource Adequacy program development
- RTO membership not required



# RTO, RC AND WEIS FOOTPRINTS



-  Integrated Marketplace
-  WEIS Footprint
-  Western RC

 **SPP**



# WESTERN RELIABILITY COORDINATION (RC) SERVICE

*Helping our members work together to keep  
the lights on... today and in the future.*



SouthwestPowerPool



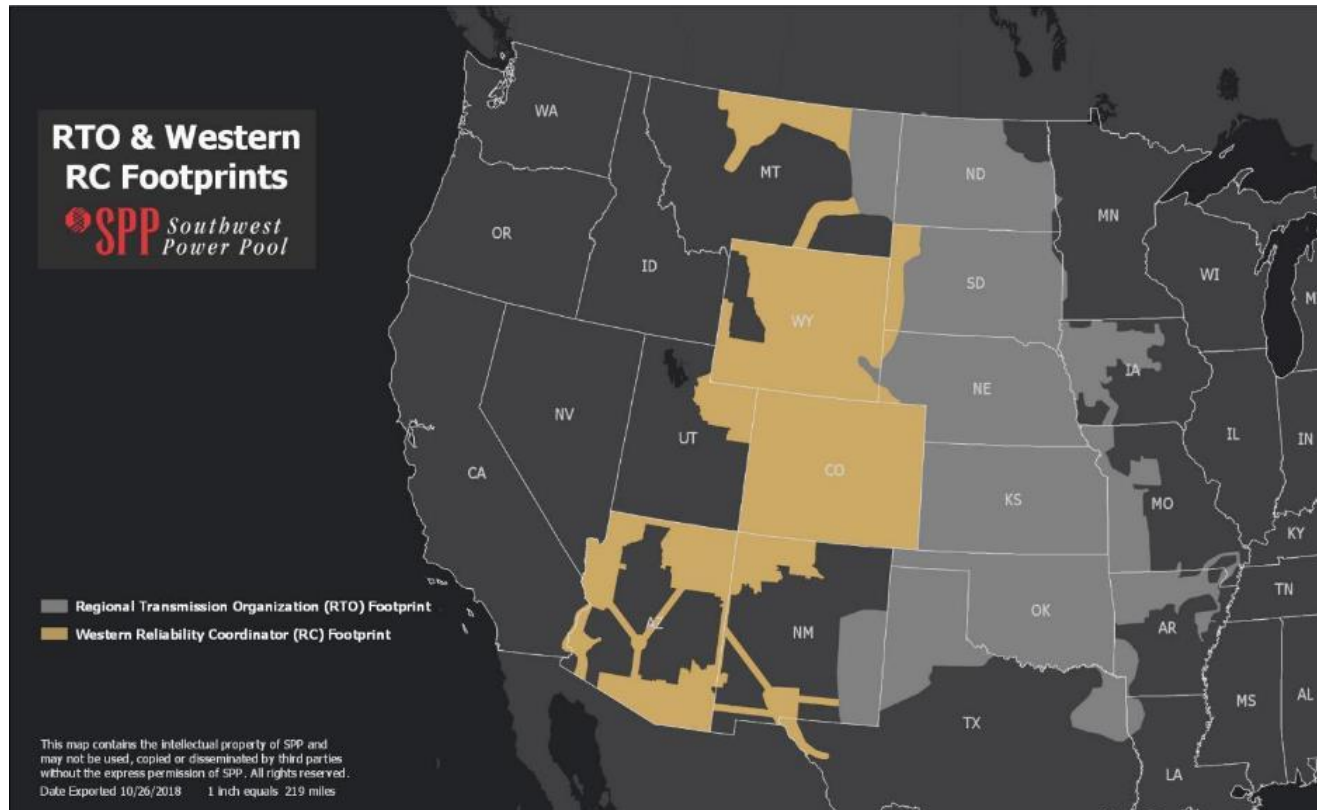
SPPorg



southwest-power-pool

# WESTERN RELIABILITY COORDINATION SERVICES

SPP-provided RC services launched December 2019



## CUSTOMERS

- Arizona Electric Power Cooperative, Inc.
- Black Hills Energy's three electric utilities: Black Hills Power, Inc., Cheyenne Light, Fuel and Power Company, and Black Hills Colorado Electric, Inc.
- City of Farmington, NM
- Colorado Springs Utilities
- El Paso Electric Company
- Intermountain Rural Electric Association
- Platte River Power Authority
- Public Service Company of Colorado (Xcel Energy)
- Tri-State Generation and Transmission Association
- Tucson Electric Power
- Western Area Power Administration (WAPA) Desert Southwest Region, WAPA Rocky Mountain Region, and WAPA Upper Great Plains – West

# WESTERN RELIABILITY COORDINATION STAKEHOLDER GROUPS

Western Reliability Executive Committee (WREC)

Western Reliability Working Group (WRWG)

West Modeling Task  
Force

RC Readiness Task Force

Congestion  
Management and Seams  
Task Force



# THE WESTERN ENERGY IMBALANCE SERVICE MARKET (WEIS)

*Helping our members work together to keep  
the lights on... today and in the future.*



SouthwestPowerPool



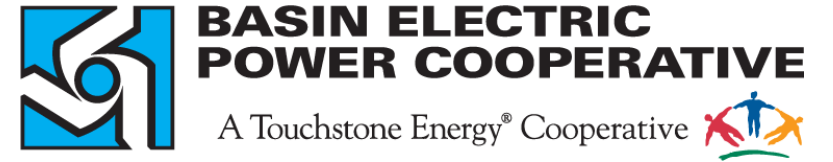
SPPorg



southwest-power-pool

# CURRENT WEIS STATUS

- **Live on Feb 1<sup>st</sup>, 2021**
- Seven market participants have executed contracts for market service:
  - Basin Electric (to include WMPA)
  - Deseret G&T Cooperative
  - Municipal Energy Agency of Nebraska
  - Tri-State G&T
  - WAPA Colorado River Storage Project (CRSP)
  - WAPA Rocky Mountain Region (RMR)
  - WAPA Upper Great Plains Region (UGP)
- SPP will onboard additional market participants according to normal onboarding timelines (~every six months)



# WEIS OVERVIEW

- SPP's contract-based energy imbalance service market:
  - Balances generation and load regionally and in real time
  - Centrally dispatches energy from participating resources every five minutes
  - Respects existing resource-adequacy and transmission service constructs
  - Enhances reliability and affordability of electricity delivery
  - Provides price transparency of wholesale energy
  - Allows parties to trade bilaterally and hedge against transmission congestion
  - Takes advantage of synergies by leveraging existing SPP systems and processes
- Separate and distinct from SPP's role as a Regional Transmission Organization (RTO) and operating under separately filed WEIS Tariff
- Design leverages best practices from SPP's administration of an EIS market 2007-2014 and foundational constructs already in place in the west

# THE WEIS IS NOT:

- X A consolidated balancing authority
- X A day-ahead market
- X TCRs (congestion hedging)
- X Ancillary services (those remain the BA's responsibility)
- X Reliability Coordination (see SPP's distinct Western RC Service)
- X Transmission planning
- X Consolidation of transmission tariffs

# WEIS ADMINISTRATION

- Operated under a Western Joint Dispatch Agreement (WJDA) defining terms of market administration
  - Separate and distinct from SPP's role as a Regional Transmission Organization (RTO) and operating under separately filed WEIS Tariff
- Implementation and ongoing costs paid by WEIS participants based on proportional share of Net Energy for Load (NEL)
- Four-year initial commitment from WEIS participants with no long-term commitments after its first four years
- WJDA guarantees participants a say in market's ongoing evolution through representation on the Western Markets Executive Committee
- Market monitoring by SPP's Market Monitoring Unit

# WESTERN MARKETS EXECUTIVE COMMITTEE (WMEC)

- Comprises representatives of each non-affiliated WJDA signatory
- Forum in which SPP and WEIS participants collaborate on market rules and enhancements
- WMEC will has authority to:
  - Approve/reject tariff amendments
  - Establish, modify and enhance market protocols
  - Recommend proposed amendments to the WJDA
- SPP board gives significant recognition to WMEC in their ultimate oversight of WEIS

# WHAT'S NEXT

- Continue to improve and expand WEIS offering
- SPP West RTO exploration

# THANK YOU!

[SPP.org](http://SPP.org)  
[twitter.com/SPPorg](https://twitter.com/SPPorg)  
[facebook.com/SouthwestPowerPool](https://facebook.com/SouthwestPowerPool)

## STEVE JOHNSON

Principal Operations Specialist

[sjohnson@spp.org](mailto:sjohnson@spp.org)

970-301-1805 cell

501-482-2309 office