

# **Market Workshop**

## **Arizona Public Service**

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# Goals of Western Market Efforts

- **Reliability**
  - Maintain or improve
  - Will be challenged with changing resources
- **Customer cost savings**
  - Via utilization of both load and resource diversity
  - Needed to offset increases in costs
- **Integration of clean energy**
  - Cannot meet clean energy goals without it

# Background & Drivers

- Previous efforts
  - RTO discussions have occurred intermittently for over 20 years
- Current effort
  - It's different this time
  - Needed for clean energy integration
- ACC Docket tracking market efforts

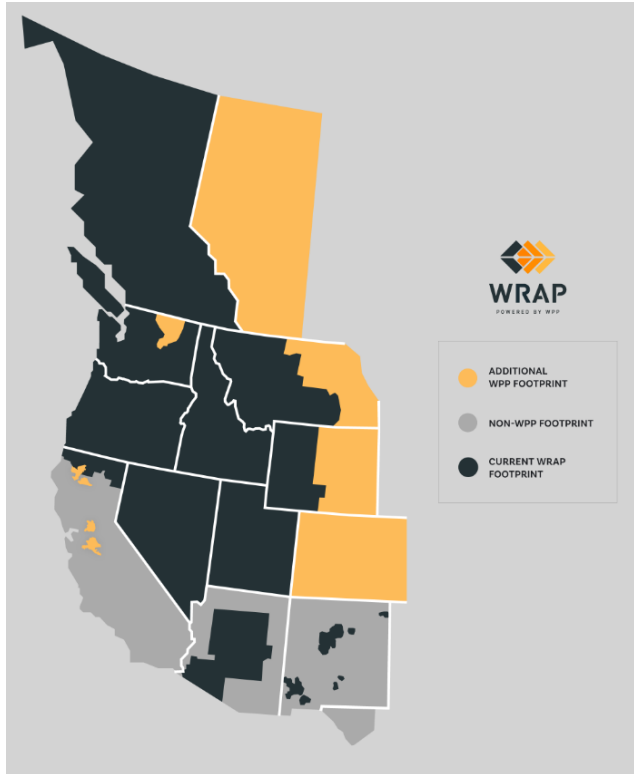
## Recall APS's goals

1. Reliability
2. Customer Savings
3. Clean energy integration

# Ongoing Engagement

- Western Resource Adequacy Program (**WRAP**)
- CAISO Extended Day Ahead Market (**EDAM**)
- Southwest Power Pool (**SPP**) Markets+ Day Ahead Market
- Western Market Exploratory Group (**WMEG**)

# Western Resource Adequacy Program (WRAP)



1. Arizona Public Service
2. Avista
3. Bonneville Power Administration
4. Calpine
5. Chelan County PUD
6. Clatskanie PUD
7. Eugene Water & Electric Board
8. Grant PUD
9. Idaho Power
10. Northwestern Energy
11. NVEnergy
12. PacifiCorp
13. Portland General Electric
14. Powerex
15. Public Service Company of New Mexico
16. Puget Sound Energy
17. Salt River Project
18. Seattle City Light
19. Shell Energy
20. Snohomish PUD
21. Tacoma Power
22. The Energy Authority

# CAISO


## Western Energy Imbalance Market (WEIM)









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# Southwest Power Pool (SPP) in the West



 *Southwest Power Pool*

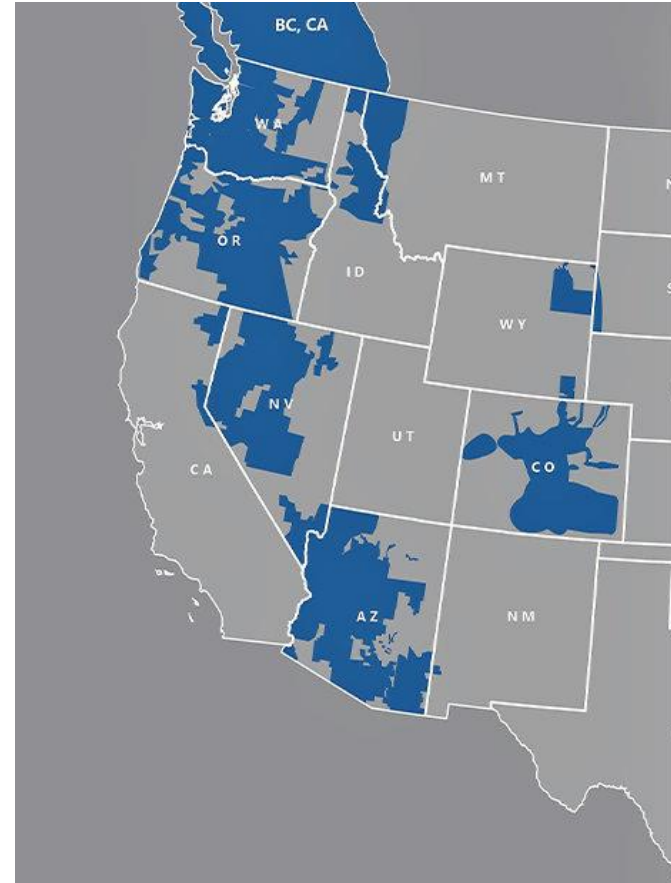
-  Regional Transmission Organization (RTO)
-  Western Energy Imbalance Service (WEIS)  
(inc. Xcel Energy-Colorado, joining April 2023)
-  Western Reliability Coordinator (RC)
-  Generation-only Western RC Participant
-  Western Resource Adequacy Program



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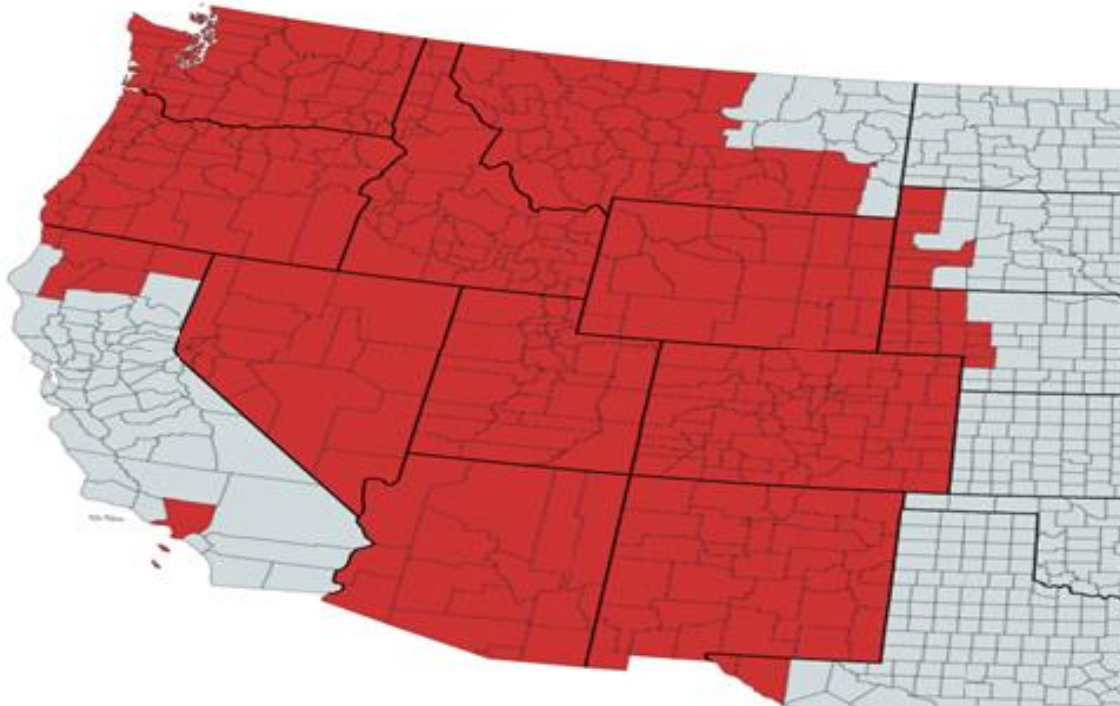
# SPP Markets+ Phase 1

- |  |   |
|--|---|
| 1. American Clean Power Association                        | 16. Powerex Corp.                         |
| 2. Arizona Electric Power Cooperative                      | 17. Public Generating Pool                |
| 3. Arizona Public Service Company                          | 18. Public Power Council                  |
| 4. Black Hills Colorado Electric & Black Hills Power, Inc. | 19. Public Service Company of Colorado    |
| 5. Bonneville Power Administration                         | 20. PUD No. 2 of Grant County, Washington |
| 6. Chelan (PUD No.1 of Chelan County)                      | 21. Puget Sound Energy                    |
| 7. Cheyenne Light, Fuel & Power Co.                        | 22. Renewable Northwest                   |
| 8. Clean Energy Buyers Association                         | 23. Salt River Project                    |
| 9. Interwest Energy Alliance                               | 24. Snohomish Public Utility              |
| 10. Liberty Utilities (Calpeco Electric)                   | 25. Tacoma Power                          |
| 11. Municipal Energy Agency of Nebraska                    | 26. The Energy Authority                  |
| 12. National Resource Defense Council                      | 27. Tri-State                             |
| 13. Northwest & Intermountain Power Producers Coalition    | 28. Tucson Electric Power Company         |
| 14. NV Energy  | 29. Western Energy Freedom Action         |
| 15. Pattern Energy   | 30. Western Power Trading Forum           |
|  | 31. Western Resource Advocates            |





# Western Market Exploratory Group (WMEG)



1. APS
2. SRP
3. TEP
4. PNM
5. Black Hills
6. LDWP
7. Portland General
8. Seattle City & Light
9. Platte River
10. NV Energy
11. PacifiCorp
12. Idaho
13. Puget Sound
14. Xcel Energy
15. Arizona Electric Co-Op
16. Avista Corp.
17. BANC
18. BPA
19. Chelan County PUD
20. El Paso Electric
21. Grant County PUD
22. NorthWestern Energy
23. Tacoma Power
24. Tri-State
25. WAPA

# Target Milestones

- WRAP began transition period on January 1, 2023.
  - Binding participation will transition between 2025 and 2028.
- Day Ahead market option work and commitments
  - 2023/2024
    - Includes participation in Tariff and Business Practices for each option (CAISO/SPP)
- Day ahead market operation – Late 2025/Early 2026
- Future market steps “up to and including RTO”
  - 2026-2030 and beyond