SALT RIVER PROJECT AGRICULTURAL IMPROVEMENT AND POWER DISTRICT MEETING NOTICE AND AGENDA

POWER COMMITTEE

Tuesday, August 22, 2023, 9:30 AM

SRP Administration Building 1500 N. Mill Avenue, Tempe, AZ 85288

Committee Members: Leslie C. Williams, Chairman; Keith Woods, Vice Chairman; and Nick Brown, Randy Miller, Krista O'Brien, Jack White Jr., and Stephen Williams

Call to Order Roll Call

6.

1. **CONSENT AGENDA**: The following agenda item(s) will be considered as a group by the Committee and will be enacted with one motion. There will be no separate discussion of these item(s) unless a Committee Member requests, in which event the agenda item(s) will be removed from the Consent Agenda and considered as a separate item CHAIRMAN LESLIE C. WILLIAMS Request for approval of the minutes for the meeting of June 27, 2023. 2. Coronado Generating Station (CGS) Repurposing and Gateway for Accelerated Innovation in Nuclear (GAIN) StudiesKATHLEEN MUNROE; SHANNON BRAGG-SITTON, IDAHO NATIONAL LABORATORY; and AMANDA STEWART, MPR ASSOCIATES, INC. Informational presentation regarding the results of the CGS Repurposing Study and the GAIN Study. 3. Informational presentation regarding current activities and status of efforts related to the development of regional Western electricity markets. All-Source Request for Proposals UpdateGRANT SMEDLEY 4. Informational presentation regarding an update on the All-Source Request for Proposals process that was initiated in February 2023, seeking proposals for resources to meet peak capacity needs and provide carbon-free energy. Report on Current Events by the General Manager and Chief Executive Officer 5. or Designees......JIM PRATT

The Committee may vote during the meeting to go into Executive Session, pursuant to A.R.S. §38-431.03 (A)(3), for the purpose of discussion or consultation for legal advice with legal counsel to the Committee on any of the matters listed on the agenda.

The Committee may go into Closed Session, pursuant to A.R.S. §30-805(B), for records and proceedings relating to competitive activity, including trade secrets or privileged or confidential commercial or financial information.

Visitors: The public has the option to attend in-person or observe via Zoom and may receive teleconference information by contacting the Corporate Secretary's Office at (602) 236-4398. If attending in-person, all property in your possession, including purses, briefcases, packages, or containers, will be subject to inspection.



MINUTES POWER COMMITTEE MEETING

DRAFT

June 27, 2023

A meeting of the Power Committee of the Salt River Project Agricultural Improvement and Power District (the District) convened at 9:30 a.m. on Tuesday, June 27, 2023, from the Board Room at the SRP Administration Building, 1500 North Mill Avenue, Tempe, Arizona. This meeting was conducted in-person and via teleconference in compliance with open meeting law guidelines. The District and Salt River Valley Water Users' Association (the Association) are collectively known as SRP.

Committee Members present at roll call were M.J. Herrera, Chairman; K.B. Woods, Vice Chairman; R.C. Arnett, N.R. Brown, K.J. Johnson, K.L. Mohr-Almeida, and S.H. Williams; and Association Board of Governors observer L.D. Rovey.

Also present were President D. Rousseau; District Vice President C.J. Dobson; Association Vice President J.R. Hoopes; Board Members A.G. McAfee, R.J. Miller, K.H. O'Brien, M.V. Pace, P.E. Rovey, J.M. White Jr., and L.C. Williams; Council Vice Chairman J.R. Shelton; Council Liaisons A.S. Hatley and T.S. Naylor; Mmes. A.P. Chabrier, C.M. Hallows, L.F. Hobaica, G.A. Mingura, A. Rickard, E.J. Roelfs, and C.M. Sifuentes; Messrs. L. Arthanari, J.D. Coggins, A.C. Davis, C.E. Ester III, J.M. Felty, R.T. Judd, K.J. Lee, A.J. McSheffrey, R. Navarro, M.J. O'Connor, B.A. Olsen, J.M. Pratt, G. Saint Paul, G.M. Smedley, and R.R. Taylor; Nikos Bountas of Strata Clean Energy; lan Calkins of Copper State Consulting Group; Ryan Roton of Siemans Energy; and Autumn Johnson of Tierra Strategy.

In compliance with A.R.S. §38-431.02, Andrew Davis of the Corporate Secretary's Office had posted a notice and agenda of the Power Committee meeting at the SRP Administration Building, 1500 North Mill Avenue, Tempe, Arizona, at 9:00 a.m. on Friday, June 23, 2023.

Chairman M.J. Herrera called the meeting to order.

Consent Agenda

Chairman M.J. Herrera requested a motion for Committee approval of the Consent Agenda, in its entirety.

On a motion duly made by Board Member R.C. Arnett and seconded by Vice Chairman K.B. Woods, the Committee unanimously approved and adopted the following item on the Consent Agenda:

• Minutes of the Power Committee meeting on May 25, 2023, as presented

Corporate Secretary J.M. Felty polled the Committee Members on Board Member R.C. Arnett's motion to approve the Consent Agenda, in its entirety. The vote was recorded as follows:

YES: Board Members M.J. Herrera, Chairman; K.B. Woods, Vice (7)

Chairman; R.C. Arnett, N.R. Brown, K.J. Johnson,

K.L. Mohr-Almeida, and S.H. Williams

NO: None (0)
ABSTAINED: None (0)
ABSENT: None (0)

<u>Coolidge Expansion Project (CEP) and Amended Certificate of Environmental Compatibility (CEC) Application</u>

Using a PowerPoint presentation, Jim M. Pratt, SRP General Manager and Chief Executive Officer, stated that the purpose of the presentation was to provide an update on the CEP, the amended CEC application process at the Arizona Corporation Commission (ACC), and the SRP appeal pending at the Arizona Court of Appeals; and answer questions about the CEP. He introduced Rob R. Taylor, SRP Associate General Manager and Chief Public Affairs and Corporate Services Executive.

Mr. R.R. Taylor reviewed the CEC application timeline from September 13, 2021 through June 21, 2023, and detailed the events leading up to the settlement agreement with the Randolph community with respect to the community support and mitigation conditions. He introduced Bobby A. Olsen, SRP Associate General Manager and Chief Planning, Strategy, and Sustainability Executive.

Continuing, Mr. B.A. Olsen stated that the total costs for the amended CEC mitigation conditions is approximately \$23,751,000, and the total CEP costs, inclusive of the CEC conditions, with 12 units is approximately \$775,000,000. He listed benefits of the CEP and said that the CEP will enable integration of additional renewables. Mr. B.A. Olsen provided a summary of SRP's existing Financial Plan 2024 (FP24) resource plan with the CEP.

Mr. B.A. Olsen reported that SRP has a continued need for 500MW of capacity in 2026/2027, and the CEP remains the lowest cost option for that capacity and can be online by the needed timeframe. He stated that SRP never offered nor accepted a specific capacity factor limit; and neither the Line Siting Committee nor the ACC included a capacity factor limit as a CEC condition. Mr. B.A. Olsen reviewed air permit limitations regarding pollutant caps established by the U.S. Environmental Protection Agency (EPA), and stated that the actual Coolidge plant operations are expected to be primarily driven by reliability requirements set by SRP, Western Electricity Coordinating Council (WECC), and North American Electric Reliability Corporation (NERC); and the plant is anticipated to have low capacity factors. He discussed air permit and CEC impacts on the capacity factor of the new units.

Mr. B.A. Olsen concluded with a discussion of next steps and answers to questions previously submitted by Board Member R.J. Miller.

Messrs. B.A. Olsen and R.R. Taylor responded to questions from the Committee.

Copies of the PowerPoint slides used in this presentation are on file in the Corporate Secretary's Office and, by reference, made a part of these minutes.

Ms. A. Rickard and Mr. G.M. Smedley left the meeting. Council Members M.L. Farmer and R.W. Swier; Tammi Watson of Central Arizona Project (CAP); and Bruce Chapman, a member of the public, entered the meeting during the presentation.

<u>Closed Session: Energy Storage Agreements</u> <u>Copper Crossing Energy and Research Center</u>

Chairman M.J. Herrera called for a closed session for the Power Committee at 10:55 a.m., pursuant to A.R.S. §30-805(B), to consider matters relating to competitive activity, including trade secrets or privileged or confidential commercial or financial information, with respect to a request for approval to enter into energy storage agreements and ground leases for two five-megawatt (MW), ten-hour duration energy storage projects to be installed at the Copper Crossing Energy and Research Center.

Mmes. C.M. Hallows and E.J. Roelfs; Nikos Bountas of Strata Clean Energy, Ian Calkins of Copper State Consulting Group, Ryan Roton of Siemans Energy, Autumn Johnson of Tierra Strategy, Tammi Watson of CAP; and Bruce Chapman, a member of the public, left the meeting. Ms. K.S. Ramaley; and Messrs. C.A. Friedrich and C N. Hunter entered the meeting.

The Committee reconvened into open session at 11:19 a.m. with the following Members and others present: President D. Rousseau; District Vice President C.J. Dobson; Association Vice President J.R. Hoopes; Board Members R.C. Arnett, N.R. Brown, M.J. Herrera, K.J. Johnson, R.J. Miller, K.H. O'Brien, M.V. Pace, L.D. Rovey, P.E. Rovey, J.M. White Jr., L.C. Williams, S.H. Williams, and K.B. Woods; Council Vice Chairman J.R. Shelton; Council Liaison T.S. Naylor; Council Members M.L. Farmer and R.W. Swier; Mmes. A.P. Chabrier, L.F. Hobaica, G.A. Mingura, K.S. Ramaley, C.M. Sifuentes, and P.L. Syrjala; and Messrs. L. Arthanari, J.D. Coggins, A.C. Davis, C.E. Ester III, J.M. Felty, C.A. Friedrich, J.V. Giacalone, C. N. Hunter, R.T. Judd, K.J. Lee, A.J. McSheffrey, R. Navarro, B.A. Olsen, J.M. Pratt, G. Saint Paul, and R.R. Taylor.

Messrs. C.A. Friedrich and C.N. Hunter left the meeting.

Closed Session: Natural Gas Transportation Capacity Contracts

Chairman M.J. Herrera called for a closed session for the Power Committee at 11:20 a.m., pursuant to A.R.S. §30-805(B), to consider matters relating to competitive

activity, including trade secrets or privileged or confidential commercial or financial information, with respect to a request for approval to enter into one or more natural gas transportation capacity contracts.

The Committee reconvened into open session at 11:38 a.m. with the following Members and others present: President D. Rousseau; District Vice President C.J. Dobson; Association Vice President J.R. Hoopes; Board Members R.C. Arnett, N.R. Brown, M.J. Herrera, K.J. Johnson, R.J. Miller, K.H. O'Brien, M.V. Pace, L.D. Rovey, P.E. Rovey, J.M. White Jr., S.H. Williams, L.C. Williams, and K.B. Woods; Council Vice Chairman J.R. Shelton; Council Liaison T.S. Naylor; Council Members M.L. Farmer and R.W. Swier; Mmes. A.P. Chabrier, L.F. Hobaica, G.A. Mingura, K.S. Ramaley, C.M. Sifuentes, and P.L. Syrjala; and Messrs. L. Arthanari, J.D. Coggins, A.C. Davis, C.E. Ester III, J.M. Felty, J.V. Giacalone, R.T. Judd, K.J. Lee, A.J. McSheffrey, R. Navarro, B.A. Olsen, J.M. Pratt, G. Saint Paul, and R.R. Taylor.

Mr. T. Copper entered the meeting.

<u>Closed Session: Large Industrial Customer –</u> Renewable Energy Supply Agreement

Chairman M.J. Herrera called for a closed session for the Power Committee at 11:39 a.m., pursuant to A.R.S. §30-805(B), to consider matters relating to competitive activity, including trade secrets or privileged or confidential commercial or financial information, with respect to a request for approval of a renewable energy supply agreement for a large industrial customer.

The Committee reconvened into open session at 11:52 a.m. with the following Members and others present: President D. Rousseau; District Vice President C.J. Dobson; Association Vice President J.R. Hoopes; Board Members R.C. Arnett, N.R. Brown, M.J. Herrera, K.J. Johnson, R.J. Miller, K.H. O'Brien, M.V. Pace, L.D. Rovey, P.E. Rovey, J.M. White Jr., S.H. Williams, L.C. Williams, and K.B. Woods; Council Vice Chairman J.R. Shelton; Council Liaison T.S. Naylor; Council Members M.L. Farmer and R.W. Swier; Mmes. A.P. Chabrier, L.F. Hobaica, G.A. Mingura, K.S. Ramaley, and C.M. Sifuentes; and Messrs. L. Arthanari, J.D. Coggins, T. Copper, A.C. Davis, C.E. Ester III, J.M. Felty, R.T. Judd, K.J. Lee, A.J. McSheffrey, R. Navarro, B.A. Olsen, J.M. Pratt, G. Saint Paul, and R.R. Taylor.

Ms. E.J. Roelfs; Ian Calkins of Copper State Consulting Group; and Tammi Watson of CAP entered the meeting.

Report on Current Events by the General Manager and Chief Executive Officer or Designees

Jim M. Pratt, SRP General Manager and Chief Executive Officer, reported on a variety of federal, state, and local topics of interest to the Committee.

Future Agenda Topics

Chairman M.J. Herrera asked the Committee if there were any future agenda topics. None were requested.

There being no further business to come before the Power Committee, the meeting adjourned at 11:53 a.m.

John M. Felty Corporate Secretary

Overview of Results of **CGS Repurposing & GAIN Studies Power Committee Meeting - Open Session** Kathleen Munroe, Shannon Bragg-Sitton, Amanda Stewart | August 22, 2023

Agenda

- Studies Overview
- GAIN Studies (Advanced Nuclear)
- Kiewit Study Results
- Key Takeaways
- Future Planning Considerations
- Next Steps



Coal Communities Transition (CCT) / Concurrent Studies

Economic Impacts of Reduced Operations & Closures of Springerville & Coronado Generating Stations





Coronado Repurposing Study – Exploring clean energy replacement options SRP Coal Community Transition

SRP Coronado Repurposing Study

Dept. of Energy GAIN

Economic Impact of Expanding Broadband Service in Apache County

Transportation & Workforce





(a Department of Energy initiative) Study suitability of advanced nuclear reactors as a replacement technology

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Coronado Generating Station – GAIN Repurposing Study Update

August 22, 2023

Shannon Bragg-Sitton, Idaho National Lab Amanda Stewart, MPR Associates





Coronado Generating Station – Repurposing Study



Primary Objective: Assess the feasibility of transitioning from coal to nuclear; Learnings can be applied to other coal units within commuting distance from CGS

- Siting Evaluation (leveraging EPRI's Siting Guide)
 - Assess CGS site suitability
 - Identify strengths and weaknesses
 - Support selection of candidate nuclear technologies
- Nuclear Technology Assessment (leveraging EPRI's Nuclear Technology Assessment Guide)
 - Identify candidate nuclear technologies
 - Identify potential next steps
- Economic Impact Assessment
 - Evaluate economic outcomes and community impacts from:
 - a) Coal plant retirement
 - b) Introduction of a nuclear power plant





Coronado Generating
Station
Owned/Operated by
Salt River Project
Located in
Saint Johns, AZ



CGS Initial Siting Evaluation Results

- No exclusionary or avoidance factors were identified at CGS. Construction of a nuclear power plant at CGS is feasible based on initial screen.
- Ample land, supporting infrastructure, and interconnection access identified as strengths.
- Key siting considerations identified for future evaluation include:
 - Water Availability
 - Ecological Impacts on Endangered or Threatened Species
 - Continued Engagement with Native and Local Communities
- Results of the initial siting evaluation served as inputs to the CGS Nuclear Technology Assessment.

Based on the positive findings from the initial siting evaluation, SRP may want to consider nuclear as a viable replacement technology at CGS.



CGS Initial Nuclear Technology Assessment Results

- Small and medium advanced reactors (50 MWe 600 MWe) were identified as the candidate technology.
- Several potential designs were identified that could meet SRP's goals and business objectives.
 - Primary purpose is to generate electricity
 - Maturity could support SRP's deployment window
 - Capacity spans range of MW to provide flexibility

Based on the results of this initial nuclear technology assessment and work related to siting, CGS remains a viable location to host one of several potential nuclear reactor designs.



CGS Economic Impact Assessment Results

- The study evaluated regional socio-economic data and provides an estimate for different deployment scenarios
- Nuclear deployment results in significant positive economic impact for communities surrounding CGS. Economic impacts dependent on generating capacity and reactor design.

Annual Economic Impacts	Current CGS Operations	462 MW Nuclear Scenario	924 MW Nuclear Scenario
Employment (County-wide) (direct, indirect, and induced)	450	575	1,000
Labor Income	\$40M	\$50M	\$85M
Economic Output	\$300M	\$340M	\$675M

SRP should continue to engage with CGS surrounding communities to assess readiness to host nuclear power plant at CGS.

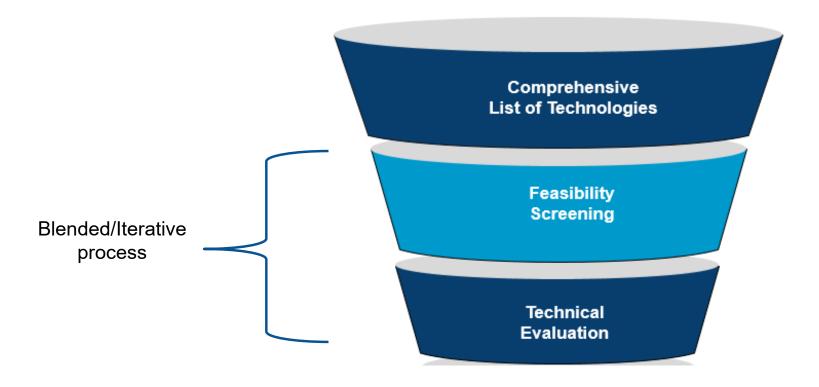


Path Forward

- GAIN study is the first step of many required to make decisions regarding nuclear at CGS
- Based on GAIN study results, nuclear continues to be a replacement technology option worth exploring at CGS.
- Should SRP decide to continue to explore nuclear at CGS, the following next steps are recommended:
 - Develop project timeline
 - Engage with design vendors
 - Continue to monitor and evaluate nuclear industry progress
 - Continue to engage with local community and tribal leaders
 - Begin deployment planning in parallel with technology monitoring

Kiewit Study

Kiewit Study Process



Study Results

Phase 1

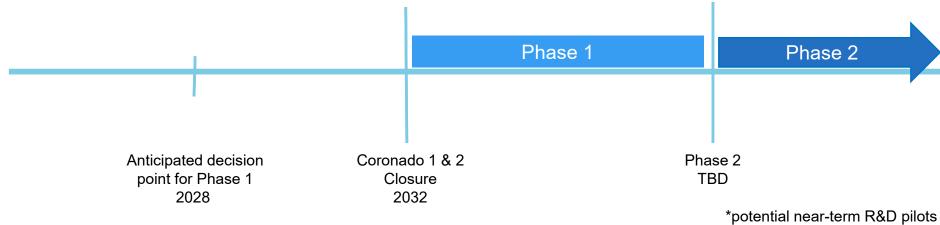
Technologies feasible for deployment at CGS site by 2033

- Battery Storage
- Biomass
- Long Duration Energy Storage*
- PV Solar
- Wind

Phase 2

Technologies that lack the maturity, supply chain or critical infrastructure to be online by Spring 2033

- Advanced Nuclear
- Hydrogen-fired Power Plant
- Long Duration Energy Storage
- Natural Gas Power Plant



Key Takeaways

- The Kiewit Study confirmed that several low and zero-carbon technologies are site compatible and could be considered for Spring 2033 implementation
- Based on study results and growing energy needs, SRP intends to develop plans to repurpose the CGS site following the cessation of coal operations
- Development plans will likely include two phases:
 - Phase 1 is the period closely following plant closure. The most feasible technology options are Battery Storage, Biomass, Long Duration Energy Storage (LDES), PV Solar and Wind.
 - Phase 2 timing is to-be-determined. These technologies need time to demonstrate reliability (mature). This list includes hydrogen-fired generation, LDES, advanced nuclear, natural gas as a bridge to low/no-carbon generation and others.

Future Planning Considerations

CGS Specific Considerations



Decision needed by 2028 for a project to be online by 2033



Resource allocation for phased development



CGS site uniquely suitable for certain technologies

Other Considerations



Transmission preservation / availability



Impact from other Arizona utility coal retirements



Phase 2 technology & infrastructure development

Next Steps

- Share findings and key takeaways with the Community
- Establish development plan and timeline
- Develop transmission strategy
- Commence due diligence activities to support a 2028 resource decision
- Based on best available information determine preferred Phase 2 options
- Engage with other Arizona utilities on transmission expansion & Phase 2 opportunities
- Return to SRP Board to seek approval for resource recommendations

Questions

thank you!

Western Markets Initiatives Update

Power Committee Meeting

Josh Robertson | August 22, 2023

SRP Priorities for New Market or RTO Participation

Customer Benefits

- Net benefits
- Load and resource diversity
- Maintain or enhance reliability
- Path to RTO

Governance

- Independence / transparency
- Public Power representation
- Local resource decision making
- Utility input on grid operations

Transmission Cost Allocation

- New project cost allocated based on needs and measurable benefits
- Transmission costs recovered via "license plate" charge

Generation Resource Sufficiency

- Maintain vertically integrated utility structure
- Self scheduling of generation
- Resource adequacy construct

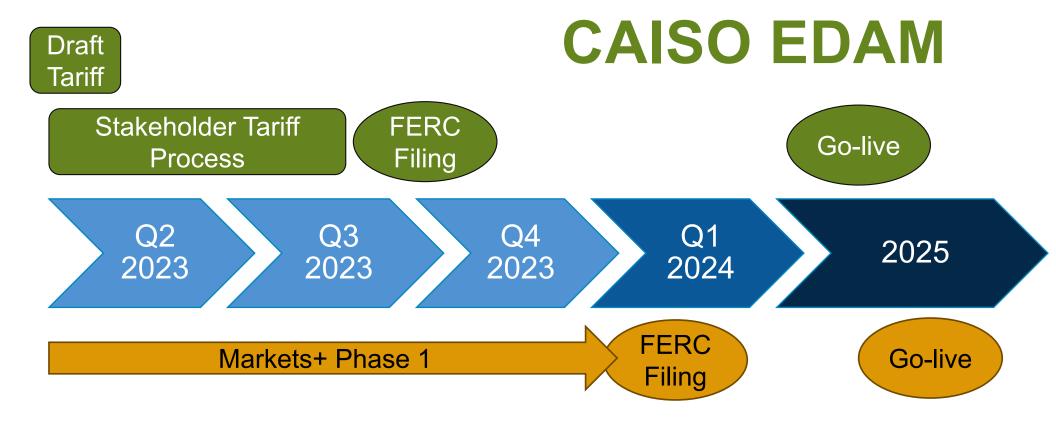
Expanded Day-ahead Market Footprints





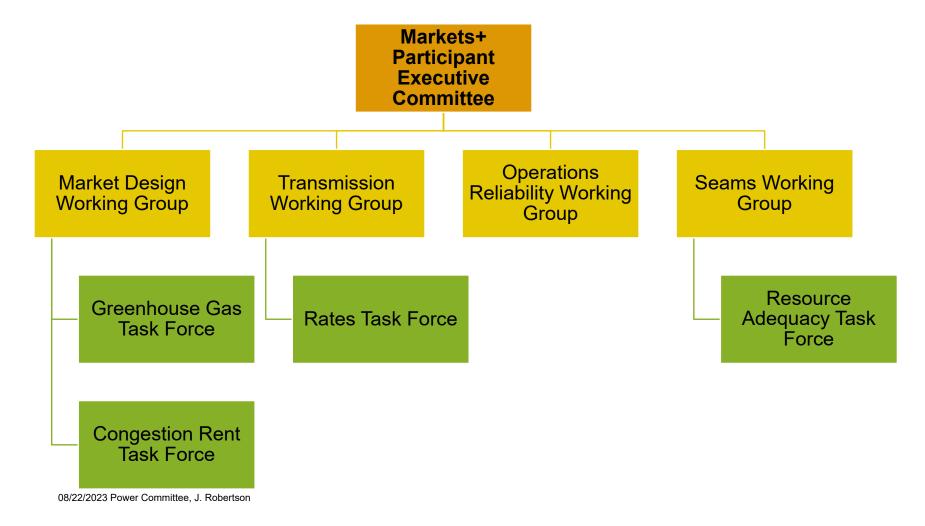
08/22/2023 Power Committee, J. Robertson

CAISO EDAM and SPP Markets+ Timelines



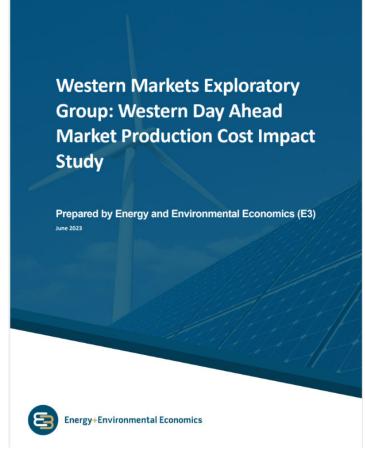
SPP Markets+

Markets+ Working Groups and Task Forces

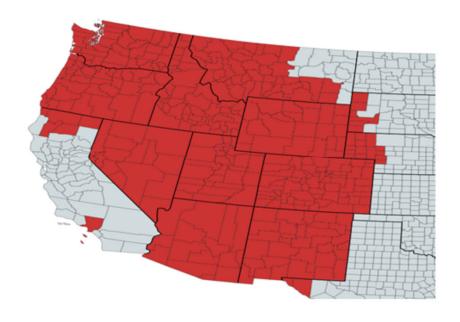


Western Market Exploratory Group (WMEG) Cost Benefit Study (CBS)

- Goal was to provide information on benefits of joining either Markets+ or EDAM
- Simulates scenarios with different market footprints
- Focuses on variable production costs and energy market prices
- Based on expected future resource plans provided by utilities



WMEG Participation



Note: Map boundaries are approximate and for illustrative purposes only

SRP Puget Sound

APS Xcel

TEP Avista

AEPCO BANC

PNM BPA

Black Hills Chelan

LADWP El Paso

Portland Grant

Seattle Northwestern

Platte Tacoma

River Tri-State

NV Energy WAPA

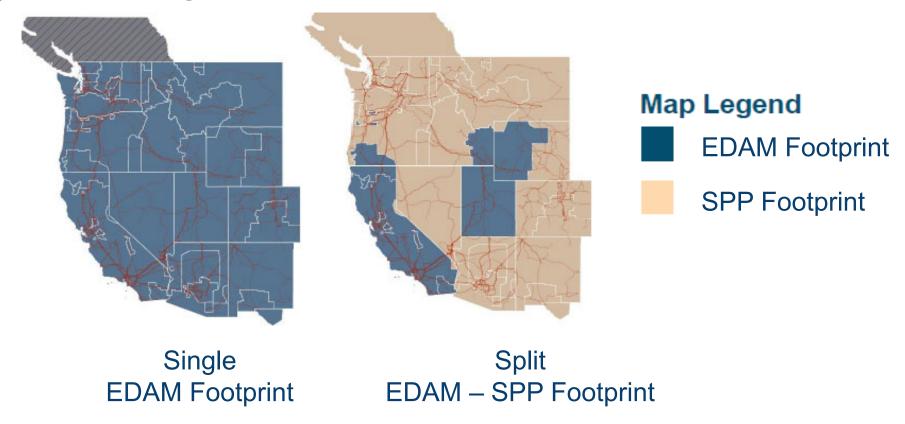
PacifiCorp

Idaho

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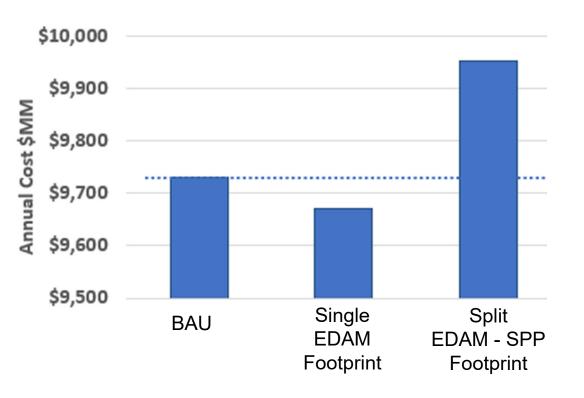
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Market Footprints Considered for WMEG Core CBS Analysis - Example



08/22/2023 Power Committee, J. Robertson

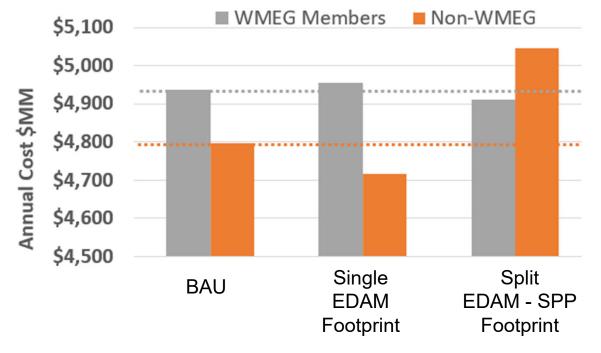
WMEG CBS WECC-wide Results (2026)



- A single market footprint is the least costly for the WECC as a whole
- Cost savings under a single footprint are not evenly distributed – there are winners and losers

08/22/2023 Power Committee, J. Robertson

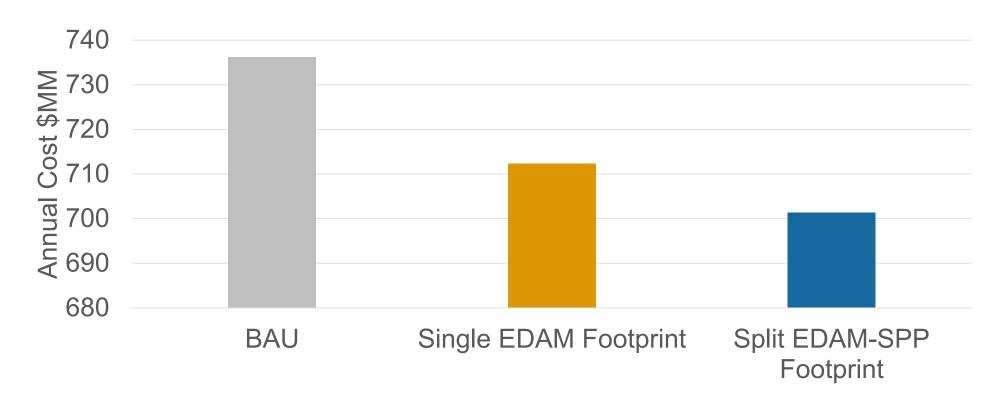
CBS Results WMEG vs. Non-WMEG Members (2026)



 As a whole WMEG participant costs <u>increase under CAISO</u> market

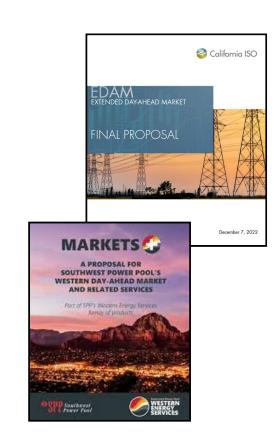
As a whole WMEG participants costs decrease under SPP market

WMEG CBS SRP Results (2026)



WMEG CBS Conclusions

- SRP results for SPP Markets+ footprint slightly better than for CAISO EDAM
- Overall production cost differences between footprints are modest
- Individual entity and regional results vary widely
- Impacts of not joining a day-ahead market if others do are likely reduced liquidity and higher costs



Western Markets Strategy Next Steps

- Continue involvement in Markets + Phase 1 development
- Monitor EDAM tariff and participant commitments
- Additional studies and modeling
- Continue efforts to maintain utility alignment
- SPP Markets+ Initiative (MPEC) Meeting at SRP
- Future decision points

thank you!



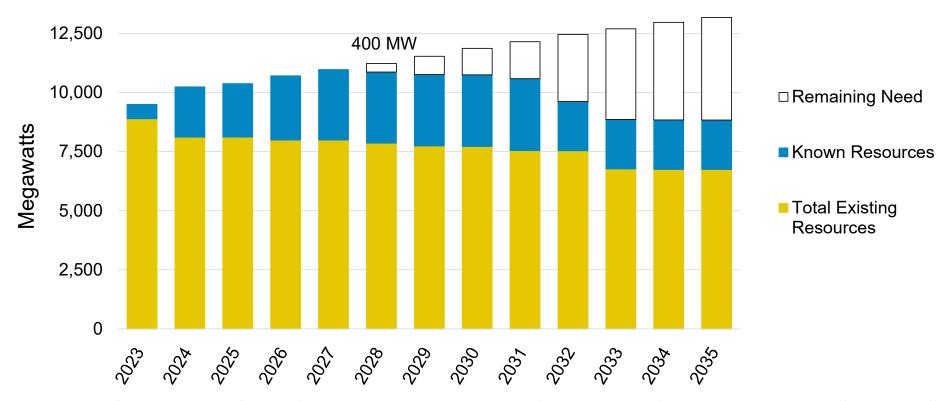
Initial Procurement Targets for 2023 All-Source RFP

- 1. Peak Capacity (resources that provide capacity at summer peak)
 - At least 200 MW by May 2026
 - At least an additional 300 MW for a total of 500 MW by May 2027
- 2. Carbon-Free Energy (accelerate planned carbon-free resource additions)
 - Up to 500 MW by May 2027



Updated Remaining Peak Capacity Needs *

(with Coolidge Expansion Project included)



^{*} Based on latest (January 2023) load forecast. Will be updated after next load forecast is published (late 2023).

Next Steps for Peak Capacity Component

- Obtain pricing for 2028 (complete)
- Identify peak capacity needs after next load forecast is published (late 2023)
- Determine procurement targets and timing (late 2023)
- Finalize acquisition of properties under contract in western Pinal County for future self-build options (late 2023)

Drivers for Earlier Procurement of Carbon-Free Resources

- SRP continues to experience delays with bringing new resources online
 - Ongoing supply chain constraints
 - Interconnection process
 - Summer commissioning challenges
- Large customers continue to seek renewable resources
 - 530 MW dedicated renewables requested by 2027





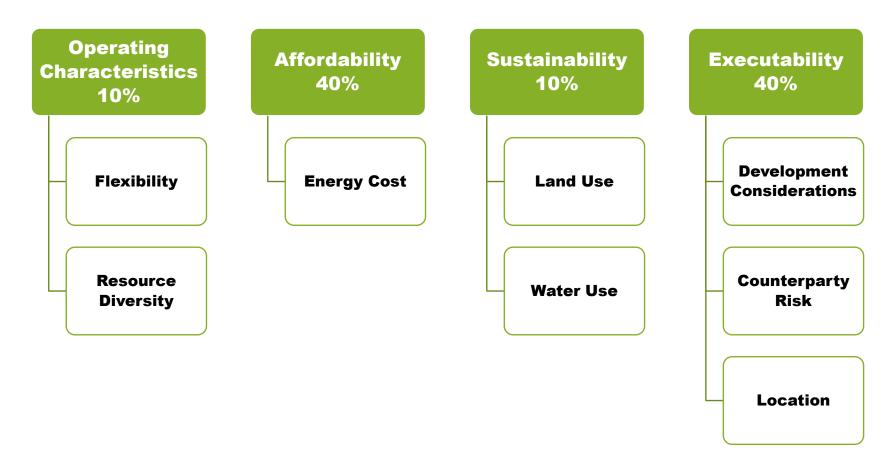
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Summary of Proposals for Carbon-Free Energy Resources

- 21 interested parties proposed projects
- Projects include varying online dates, technologies, capacities and pricing (configurations)
- 28 unique projects with
 44 configurations under review

Resource Type	Number of Unique Projects	Number of Configurations	
Solar	24	36	
Wind	3	3	
Wind + Solar	1	5	

Evaluation Criteria – Carbon-Free Energy



Next Steps for Carbon-Free Component

- Shortlist top scoring projects and negotiate term sheets (September-October)
- Review proposed carbon-free resource selections with Power Committee (November)
- Negotiate agreements and seek Board approvals (December-March 2024)