

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

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**POWER COMMITTEE**  
Thursday, June 20, 2024, 9:30 AM

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

Committee Members: Leslie C. Williams, Chairman; and Nicholas Brown, Sandra Kennedy, Randy Miller, Krista O'Brien, Jack White Jr., and Stephen Williams

Call to Order

Roll Call

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 May 23, 2024.

2. Western Markets Initiatives Update..... JOSH ROBERTSON

Informational presentation regarding current activities and status of efforts related to the development of regional Western electricity markets.

3. Natural Gas Transportation Overview .....JOE GIACALONE

Informational presentation regarding the current state of natural gas transportation capacity, SRP's existing gas transportation portfolio, an outlook for future SRP requirements, and current state of availability for additional transportation capacity in the future.

4. Potential Technology for Future Generation and Energy Storage Assets ..... TOM COOPER

Informational presentation regarding 1) generation and energy storage technologies that may play important roles in deeply decarbonizing the electricity sector; 2) the relative contribution of these different technologies under different future scenarios; 3) the current state of development of these technologies; and 4) steps SRP and select other utilities are taking regarding their development within their respective power systems.

5. Report on Current Events by the General Manager and Chief Executive Officer and Designees ..... JIM PRATT

6. Future Agenda Topics .....CHAIRMAN LESLIE C. WILLIAMS

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.



**THE NEXT POWER COMMITTEE MEETING  
IS SCHEDULED FOR THURSDAY, AUGUST 22, 2024**



MINUTES  
POWER COMMITTEE MEETING

DRAFT

May 23, 2024

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 Thursday, May 23, 2024, from the Hoopes Board Conference 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 L.C. Williams, Chairman; and N.R. Brown, S.D. Kennedy, R.J. Miller, K.H. O'Brien, J.M. White Jr., and S.H. Williams.

Also present were President D. Rousseau; Board Members R.C. Arnett, M.J. Herrera, K.L. Mohr-Almeida, L.D. Rovey, and P.E. Rovey; Council Chairman J.R. Shelton; Council Liaison J.W. Lines; Council Members R.S. Kolb, C. Resch-Geretti, and N.J. Vanderwey; Mmes. I.R. Avalos, A.N. Bond-Simpson, M.J. Burger, A.P. Chabrier, M.B. Faulk, L.F. Hobaica, V.P. Kisicki, L.A. Meyers, T.A. Murdock, J.R. Schuricht, and P.L. Syrjala; Messrs. J.D. Coggins, T. Cooper, J.M. Felty, J.E. Guerrero, C.N. Hunter, C.R. Janick, R.T. Judd, J.J. Kerby, B.J. Koch, K.J. Lee, B.A. Olsen, J.S. Overstreet, J.M. Pratt, R.R. Taylor, Z.Z. Thompson, and G.M. Traasdahl; Jeffrey Barrett of Apex Clean Energy; Leo Bird of Bright Night Power; John Deese and Kurt Waldner of Origis Energy; Paul Kelley of SB Energy; Andy McCoy of the Arizona Attorney General's Office; Bridget Sidwell and Zachary Walker of Strata Clean Energy; and Eric Watson, a member of the public.

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 Tuesday, May 21, 2024.

Chairman L.C. Williams called the meeting to order.

Consent Agenda

Chairman L.C. Williams requested a motion for Committee approval of the Consent Agenda, in its entirety.

On a motion duly made by Board Member J.M. White Jr. and seconded by Board Member S.H. Williams, the Committee unanimously approved and adopted the following item on the Consent Agenda:

- Minutes of the Power Committee meeting on April 25, 2024, as presented

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

YES:	Board Members L.C. Williams; and N.R. Brown, S.D. Kennedy, R.J. Miller, K.H. O'Brien, J.M. White Jr., and S.H. Williams	(7)
NO:	None	(0)
ABSTAINED:	None	(0)
ABSENT:	None	(0)

### 2024 SRP Summer Preparedness

Using a PowerPoint presentation, Jay E. Guerrero, SRP Manager of Operations Planning, stated that the purpose of the presentation was to provide information regarding SRP's activities to prepare for meeting forecasted load in summer 2024.

Mr. J.E. Guerrero provided a map of SRP's water service area, power service area, and eastern mining district; and a map of SRP resources, including battery storage, coal, hydro, natural gas, nuclear, and renewable energy for summer 2024. He provided a peak hour retail load forecast in Megawatts (MW) for 2024, compared to actual peak hour retail load for 2020 through 2023, and discussed planned capabilities to meet the forecasted need of 9,385 MW (peak retail load plus firm sales plus reserves) for summer 2024.

Mr. J.E. Guerrero provided a status for fuel, natural gas supply, and new resources for 2024. He introduced Jace J. Kerby, SRP Director of Transmission Line Design, Construction, and Maintenance.

Continuing, Mr. J.J. Kerby explained that generation, transmission, and distribution readiness includes asset management, situational awareness, and emergency preparations. He detailed the following aspects of asset management: risk and data-based approach to equipment replacements, condition and inspection-based proactive and corrective maintenance, other preventive maintenance, and annual maintenance of cooling systems.

Mr. J.J. Kerby detailed the following aspects of situational awareness: coordination of daily operational briefings – twice daily during extreme heat, inter-utility coordination and support, and outage coordination. He detailed the following aspects of emergency preparations: storm, load shed, and heat training drills; pre-storm equipment staging and staffing; and outage restrictions and notifications.

Messrs. J.E. Guerrero and J.J. Kerby 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.

Messrs. C.R. Janick, Z.Z. Thompson, and G.M. Traasdahl left the meeting during the presentation. Board Member M.V. Pace; Ian Calkins of Copper State Consulting; and Nayeli Gallardo of Invenergy entered the meeting during the presentation.

#### Long-Duration Energy Storage (LDES) Pilot Request for Information (RFI) Update

Using a PowerPoint presentation, Chico N. Hunter, SRP Manager of Innovation and Development, stated that the purpose of the presentation was to provide information gathered from the fall 2023 non-inverter based LDES RFI process.

Mr. C.N. Hunter provided an example of a summer day with significant solar and storage deployment and described the role of LDES in providing energy. He reviewed solar and storage MW capacity for Financial Plan 2025 (FP25) through Fiscal Year 2035 (FY35).

Mr. C.N. Hunter provided a landscape of diverse emerging thermal, chemical, and mechanical energy storage entities. He reminded the Committee of the 2022 LDES pilot Request for Proposals (RFP) issued in September 2022, wherein two finalists were selected, and one of the two finalists was contracted (CMBlu Energy, Inc.).

Mr. C.N. Hunter provided an overview of the 2023 LDES RFI and compared a generator dominated power system to an inverter dominated power system. He said that SRP has evaluated 14 proposals in the LDES RFI, of which four are thermal, ten are mechanical, and none are chemical.

Mr. C.N. Hunter concluded with a tentative schedule for the LDES pilot RFI. He 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.

Mmes. A.N. Bond-Simpson and P.L. Syrjala; Messrs. J.E. Guerrero and J.J. Kerby; and Nayeli Gallardo of Invenergy left the meeting during the presentation. Mr. B.L. Petrey entered the meeting during the presentation.

#### Flatland Energy Storage Project

Using a PowerPoint presentation, Barry L. Petrey, SRP Manager of Resource Acquisition, stated that the purpose of the presentation was to provide information regarding the 200 MW Flatland energy storage project selected from the 2023 All-Source RFP.

Mr. B.L. Petrey provided an overview of the updated procurement targets to serve capacity needs from Calendar Year 2024 (CY24) to CY30. He reviewed the RFP timeline presented to the Power Committee from November 2022-to-date.

Mr. B.L. Petrey provided details of the Flatland Energy Storage project as follows: 1) Resource Type – lithium-ion battery storage addition; 2) Capacity – 200 MW/800 MW hour (4-hour duration); 3) Projected Commercial Operation – March 1, 2026; 3) Location – Brittlebush Solar Park in Coolidge, Arizona; 4) Developer – EDP Renewables; and 5) Interconnection – Randolph 230 kilovolt (kV) receiving substation. He presented an ariel view of the Brittlebush Solar Park and Flatland Storage.

In conclusion, Mr. B.L. Petrey summarized the benefits of the Flatland energy storage project as follows: 1) it contributes to the near-term capacity need for 2026; 2) it is one of the highest scoring projects for 2026 commercial operation; 3) the agreement terms are favorable; and 4) the battery addition is to an existing contracted solar facility.

Mr. B.L Petrey 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. T.A. Murdock; and Messrs. T. Cooper and C.N. Hunter left the meeting during the presentation.

#### Closed Session: Flatland Energy Storage Project

Chairman L.C. Williams called for a closed session for the Power Committee at 10:44 a.m., pursuant to A.R.S. §30-805(B), for the Committee 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 an Energy Storage Agreement for the 200 MW Flatland Project.

Jeffrey Barrett of Apex Clean Energy; Leo Bird of Bright Night Power; Ian Calkins of Copper State Consulting; John Deese and Kurt Waldner of Origis Energy; Paul Kelley of SB Energy; Andy McCoy of the Arizona Attorney General's Office; Bridget Sidwell and Zachary Walker of Strata Clean Energy; and Eric Watson, a member of the public, left the meeting.

The Committee reconvened into open session at 10:58 a.m. with the following members and others present: President D. Rousseau; Board Members R.C. Arnett, N.R. Brown, M.J. Herrera, S.D. Kennedy, R.J. Miller, K.L. Mohr-Almeida, K.H. O'Brien, M.V. Pace, L.D. Rovey, P.E. Rovey, J.M. White Jr., L.C. Williams, and S.H. Williams; Council Chairman J.R. Shelton; Council Liaison J.W. Lines; Council Members R.S. Kolb, C. Resch-Geretti, and N.J. Vanderwey; Mmes. I.R. Avalos, M.J. Burger, A.P. Chabrier, M.B. Faulk, L.F. Hobaica, V.P. Kisicki, L.A. Meyers, and J.R. Schuricht; and Messrs. J.D. Coggins, J.M. Felty, R.T. Judd, B.J. Koch, K.J. Lee, B.A. Olsen, J.S. Overstreet, B.L. Petrey, J.M. Pratt, and R.R. Taylor.

Ian Calkins of Copper State Consulting; and Bridget Sidwell of Strata Clean Energy entered the meeting.

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.

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

There was no report on current events by Jim M. Pratt, SRP General Manager and Chief Executive Officer.

Future Agenda Topics

Chairman L.C. Williams 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 10:59 a.m.

John M. Felty  
Corporate Secretary





# Western Markets Initiatives Update

Power Committee Meeting

Josh Robertson | June 20, 2024

# Western Markets Presentations to SRP Board

- 12/05/2022 Western Markets Update – Informational Session
- 12/13/2022 WPP Western Resource Adequacy Program (WRAP) – Approval
- 01/24/2023 Phase 1 of Southwest Power Pool's Markets+ – Approval
- 08/22/2023 Western Markets Update – Informational Session
- 10/31/2023 Western Markets – Board Study Session
- 04/25/2024 WRAP Update and Approval to Delay First Binding Season – Approval

# SRP's Energy Market Principles

## 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

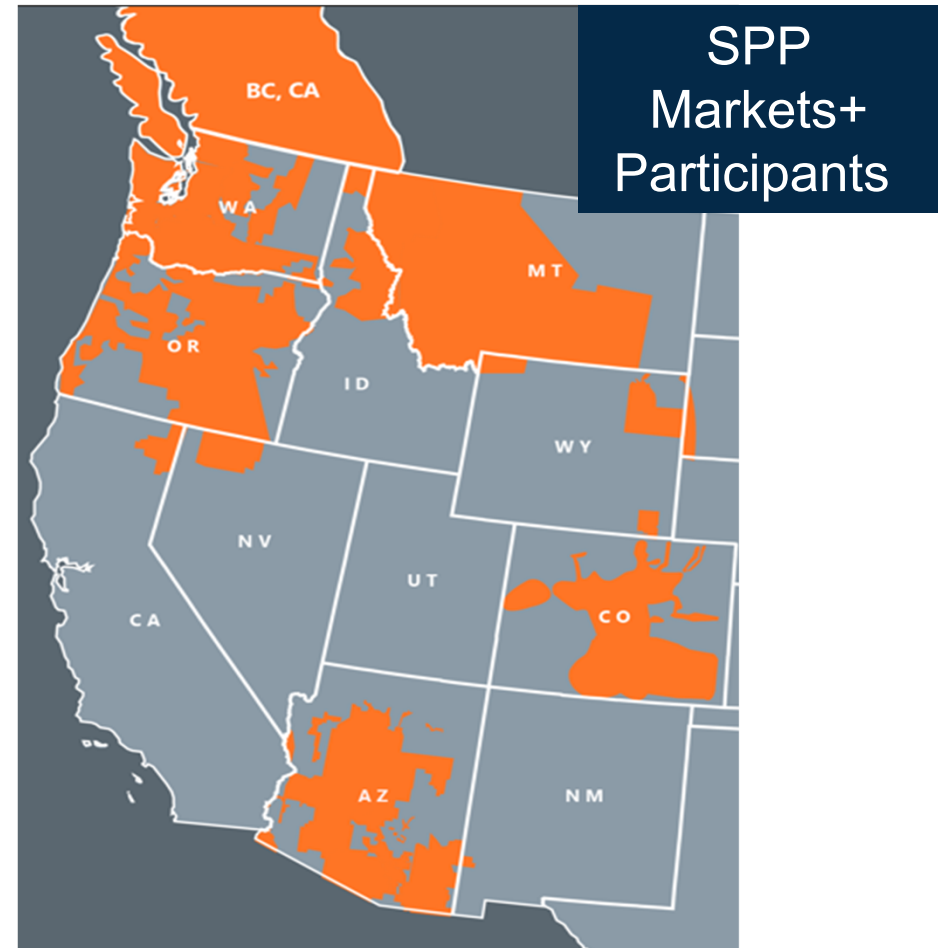
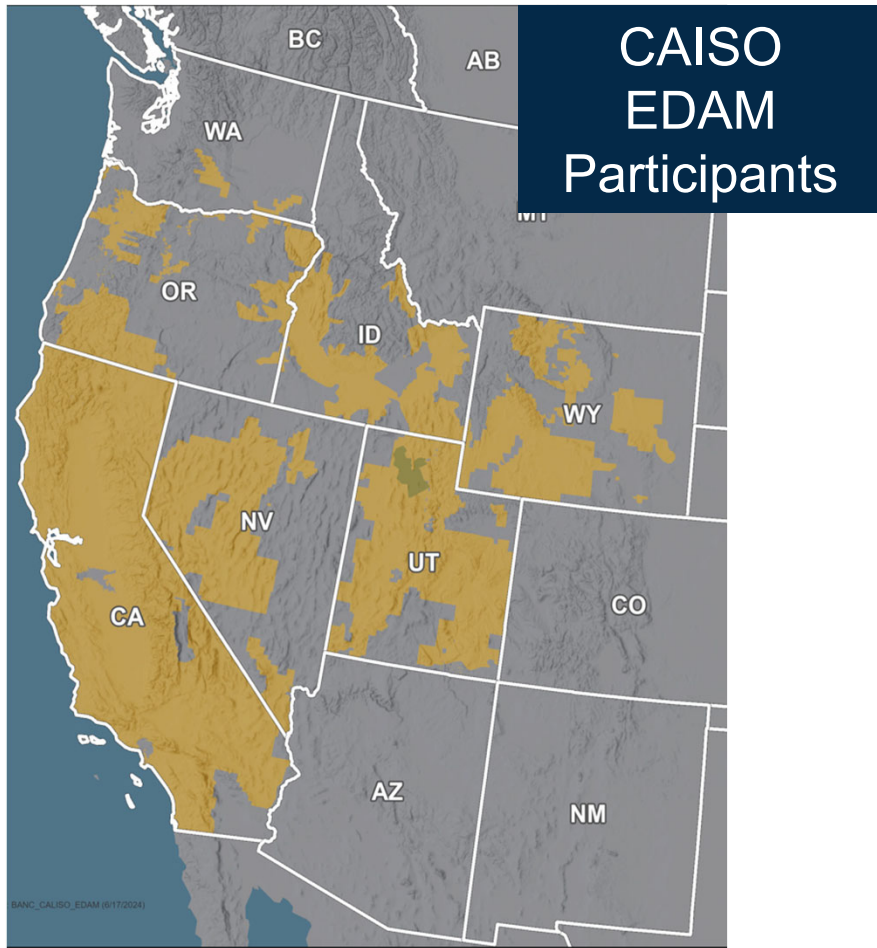
## Transmission Cost Allocation

- 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

# Potential Day-Ahead Market Footprints



06/20/2024 Power Committee, J. Robertson

# CAISO EDAM and SPP Markets+ Timelines

## CAISO EDAM

Draft  
Tariff

Stakeholder Tariff  
Process

FERC  
Filing

Go-live

Q2  
2023

Q3  
2023

Q4  
2023

Q1  
2024

2026

2027

Phase 1









FERC  
Filing

Phase 2

Go-live











## SPP Markets+

# Viewing Day-Ahead Markets through SRP's Principles

	EDAM	Markets+
<b>CUSTOMER</b>	WMEG results 	WMEG results 
	Resource diversity 	Resource diversity 
	Maintain/enhance reliability 	Maintain/enhance reliability 
	Path to RTO 	Path to RTO 





WMEG - Western Markets Exploratory Group

# Viewing Day-Ahead Markets through SRP's Principles

	EDAM	Markets+
<b>GOVERNANCE</b>	Independent 	Independent 
	Transparent 	Transparent 
	Role for Public Power 	Role for Public Power 
	Local resource decision 	Local resource decision 
	Input on grid operation 	Input on grid operation 



# Viewing Day-Ahead Markets through SRP's Principles

	EDAM	Markets+
<b>GENERATION RESOURCE SUFFICIENCY</b>	Self scheduling 	Self scheduling 
	Resource Sufficiency Test 	Single Resource Adequacy 

# SRP's Next Steps

- Continue involvement in Markets + protocol development
- Monitor EDAM implementation
- Continue efforts to maintain utility alignment
- Follow up on completed gap analysis
- Provide a day-ahead market recommendation to Power Committee Fall 2024

**thank you!**



# Natural Gas Transportation Overview

Power Committee

Joe Giacalone | June 20, 2024

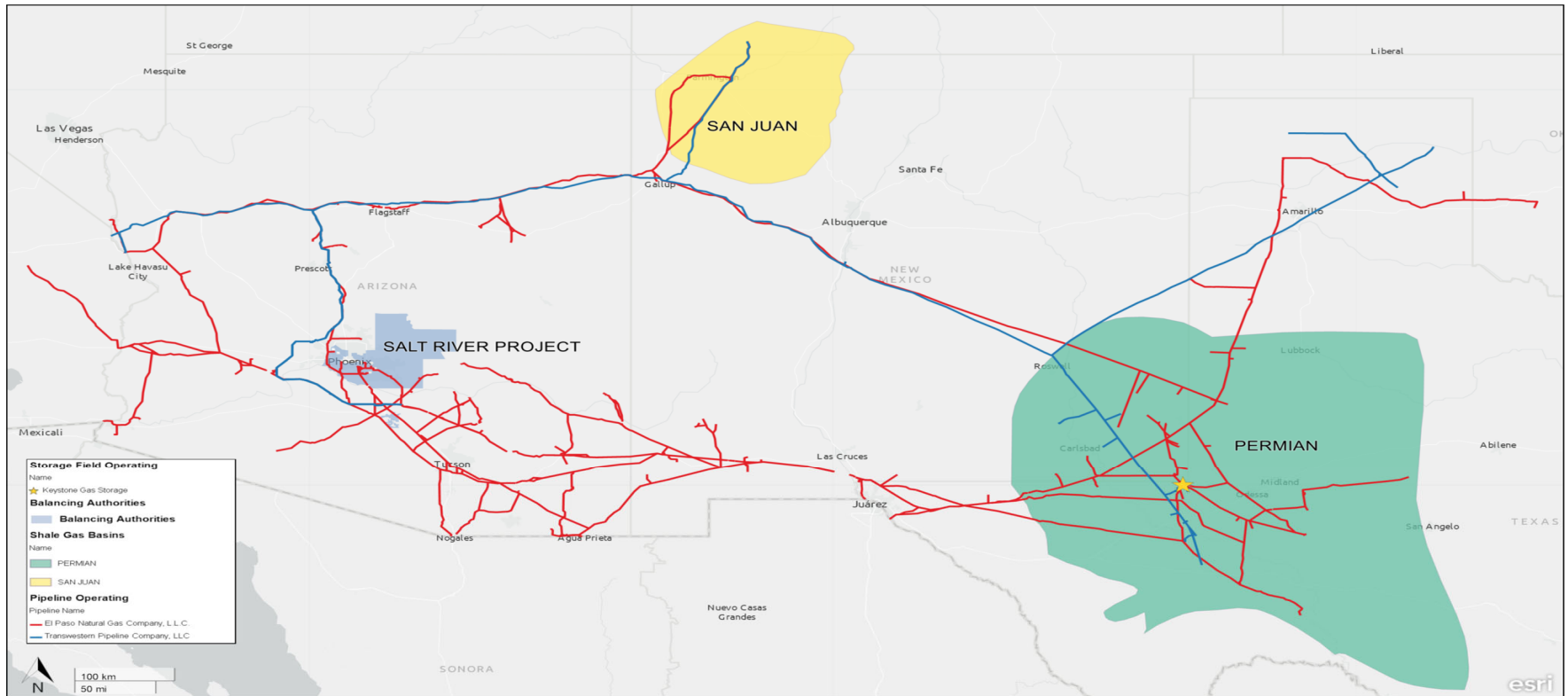
# Agenda

- Arizona natural gas pipeline overview.
- SRP natural gas transportation portfolio.
- Future gas transportation requirements.
- Gas transportation market update.

# What is Natural Gas Transportation Capacity?

- Firm capacity provides SRP the daily right, but not the obligation, to use a certain amount of space along the pipeline.
- Delivery of natural gas cannot be curtailed by the pipeline owner/operator under a firm contract except under unforeseeable circumstances.

# Natural Gas Pipelines Serving Arizona



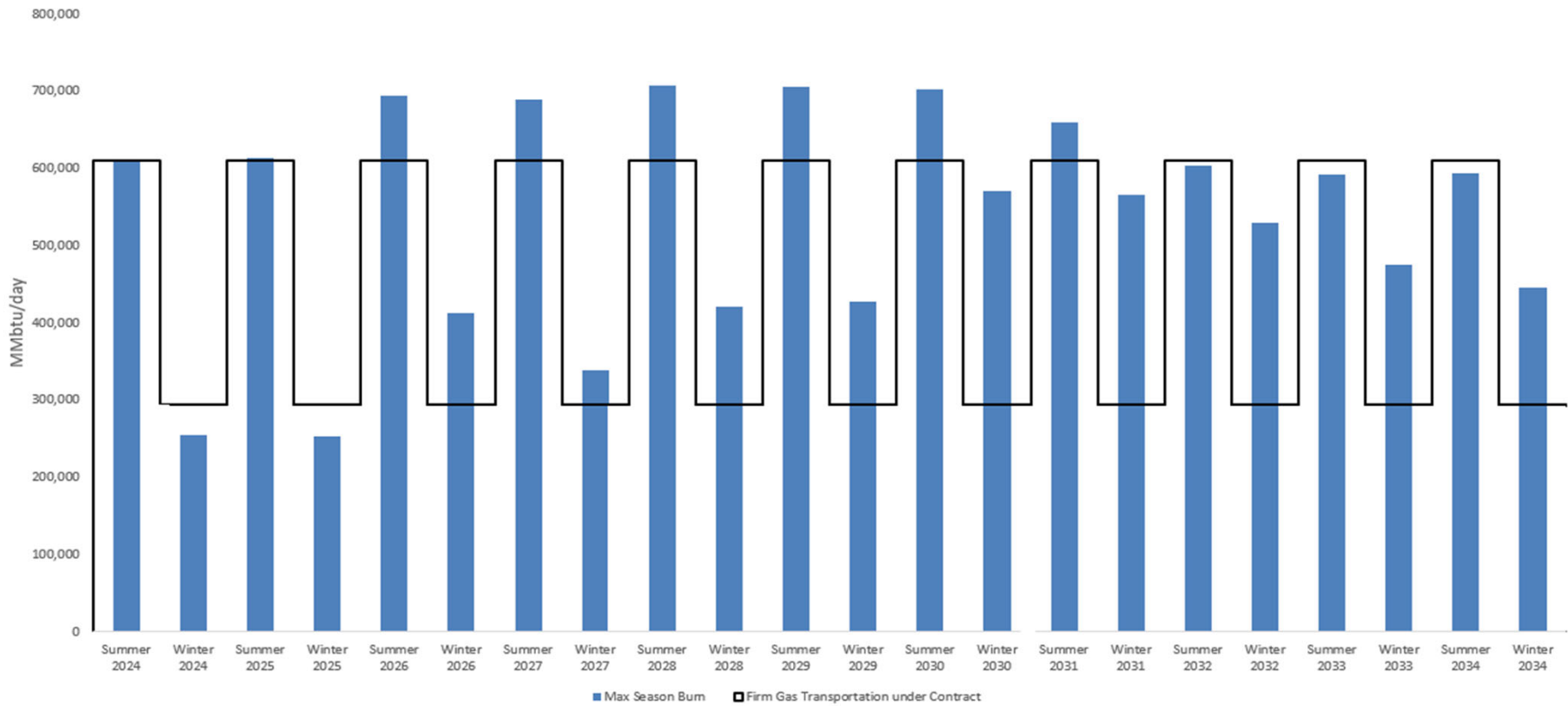


# SRP Natural Gas Transportation Portfolio

- SRP maintains 610k dth/d of firm Summer capacity and 295k dth/d of firm Winter capacity.
- In 2023, Summer demand has exceeded 610k dth/d and Winter demand has exceeded 295k dth/d. Forecasts call for increased demand over the next 10 years.
- When demand exceeds firm capacity, delivered gas must be purchased, subject to availability.

# Forecasted Retail Gas Needs (FP25)

FP25 Case



# Current Arizona Natural Gas Transportation Market

- El Paso Natural Gas (EPNG) and Transwestern Gas (TW) pipelines are fully subscribed. Each pipeline has presented expansion proposals with a 4-5 year construction timeline.
- Expiring transportation or release capacity held by other shippers are the only opportunities for incremental transportation capacity.
- Expiring capacity is typically sold through a bidding process open to all potential shippers. Release capacity can be negotiated bilaterally.
- Unsuccessfully bid on an expiring contract and a small expansion in 2023.

# Arizona Natural Gas Infrastructure

- EPNG and TW pipelines have presented expansion proposals to several shippers in the Southwest.
  - 700k dth/d – 1.5M dth/d
  - 4-5 year construction timeline
- Kinder Morgan, parent of EPNG, has proposed the development of a 4bcf gas storage facility near Eloy, AZ. Development would require 4-8 years.

# Next Steps

- Monitor market for expiring capacity.
- Continue bilateral conversations with entities willing to release capacity.
- Review expansion proposals for pipeline capacity and storage and continue discussions with Arizona shippers.

**thank you!**



# Potential Technology for Future Generation and Energy Storage Assets

Power Committee

Tom Cooper, Senior Director of Future System Assets & Strategy

June 20, 2024



## Mission

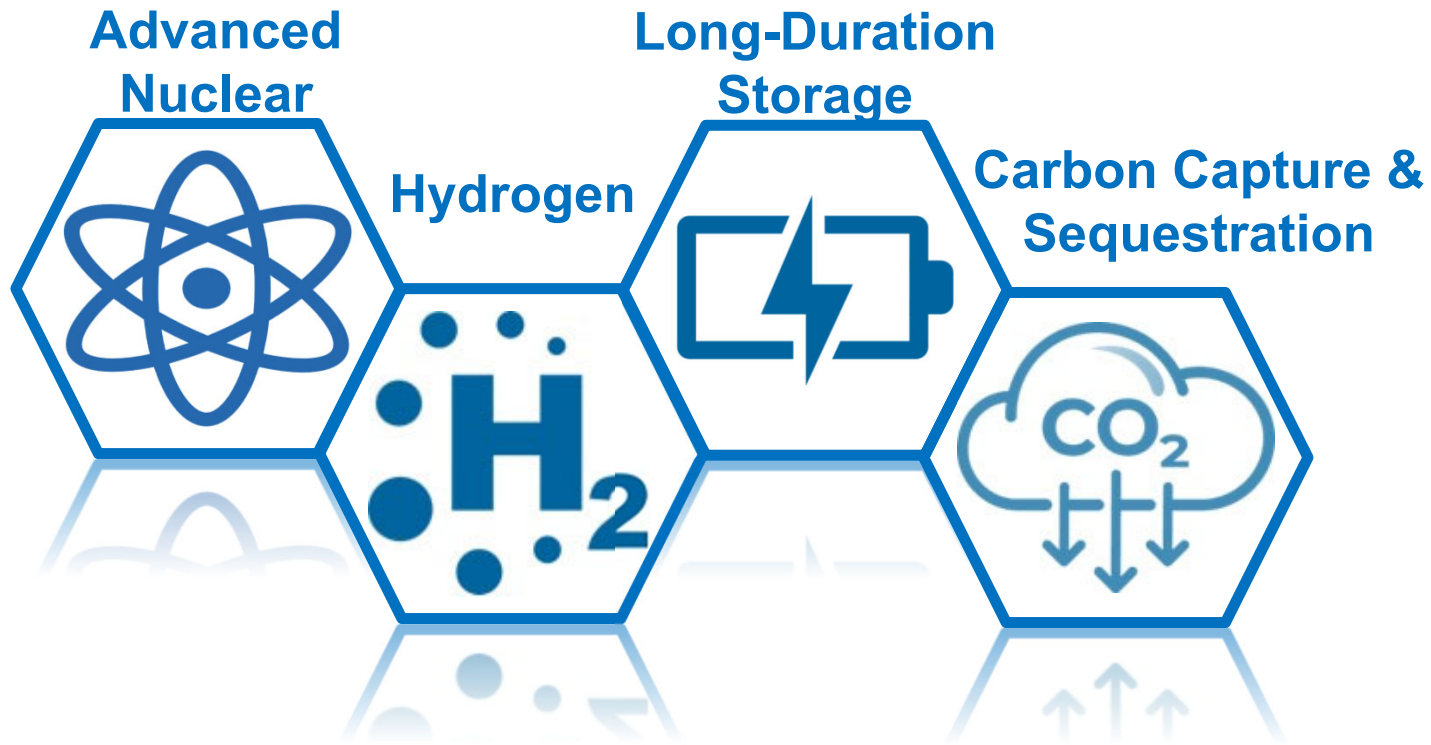
SRP serves our customers and communities by providing reliable, affordable and sustainable water and energy.



## 2050 Vision

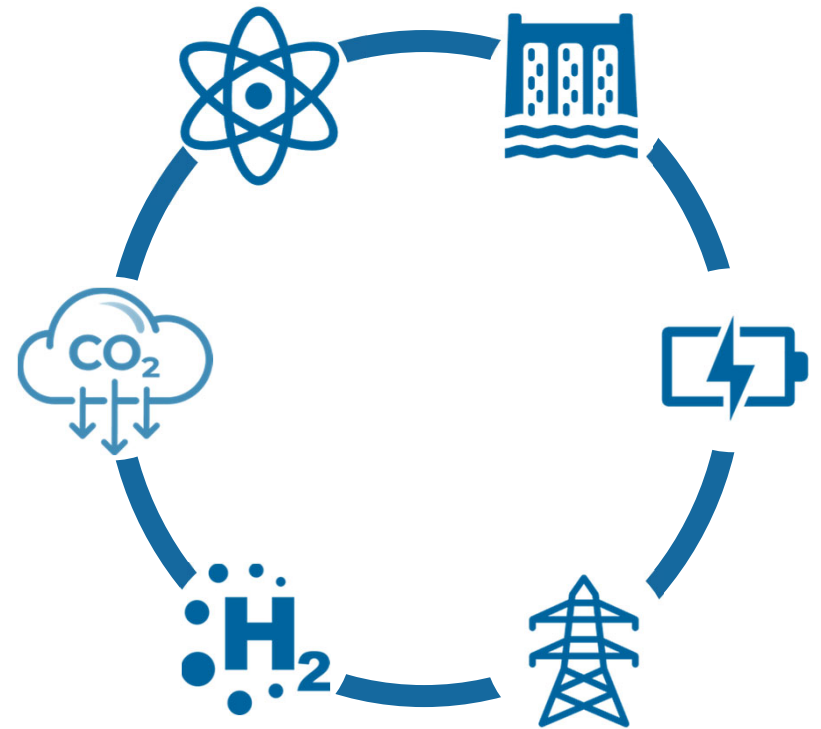
A secure water and clean energy future empowers Arizona to thrive for generations to come.

# Pathways to Deep Decarbonization in US



# What is a Future System Asset?

- Development > 10 years
- Aligned to net-zero goal
- Significant challenges



# What are the Challenges?



**Permitting and  
Licensing**



**Technological  
Maturity**



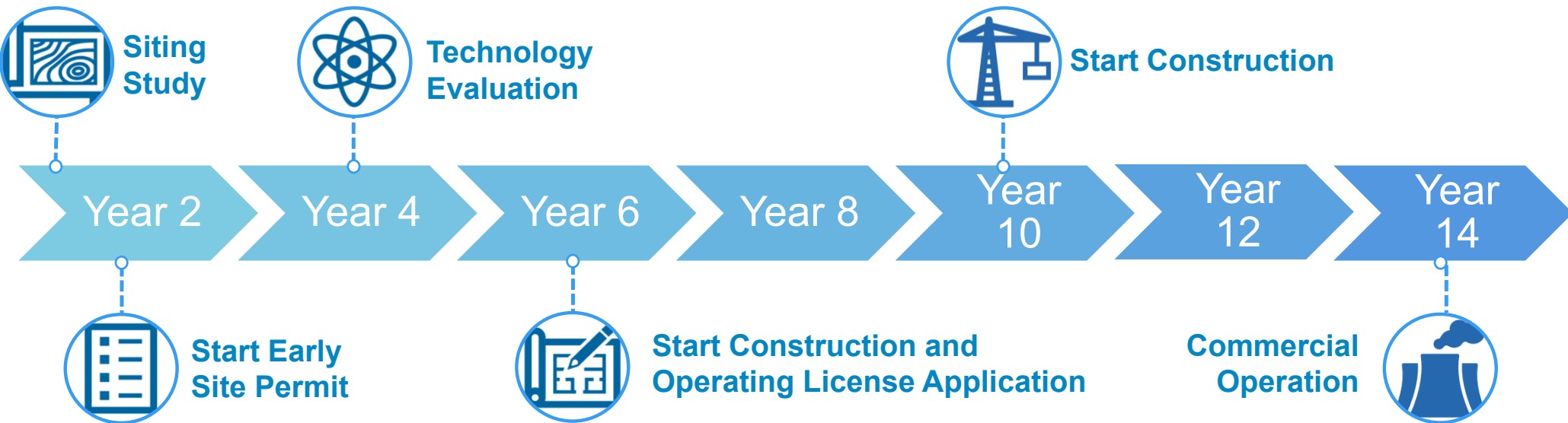
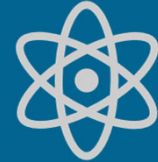
**Commercial  
Maturity**



**Government  
Support**

*“The obstacle is the path.” – Zen Proverb*

# Advanced Nuclear

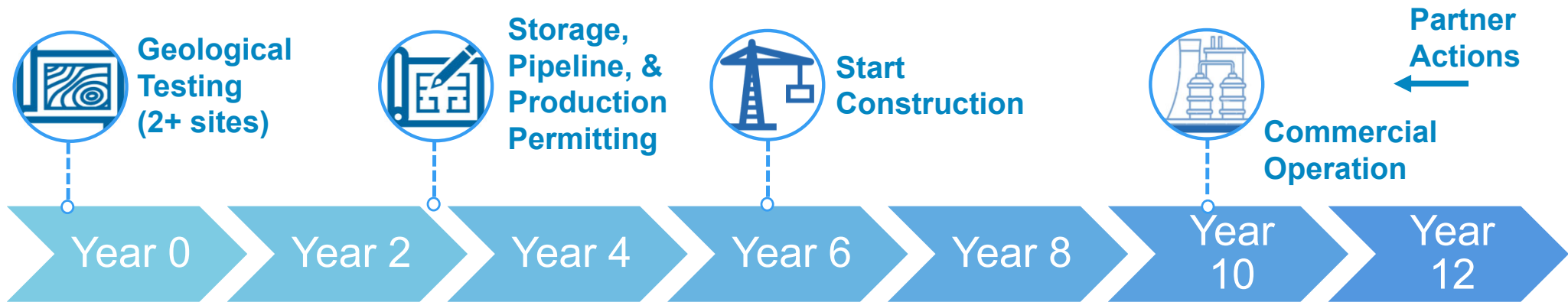


**2018:** Analysis of potential sites

**2023:** Feasibility study for nuclear at Coronado

**2025:** Recommendation on whether to initiate pre-early site permit work

# Hydrogen

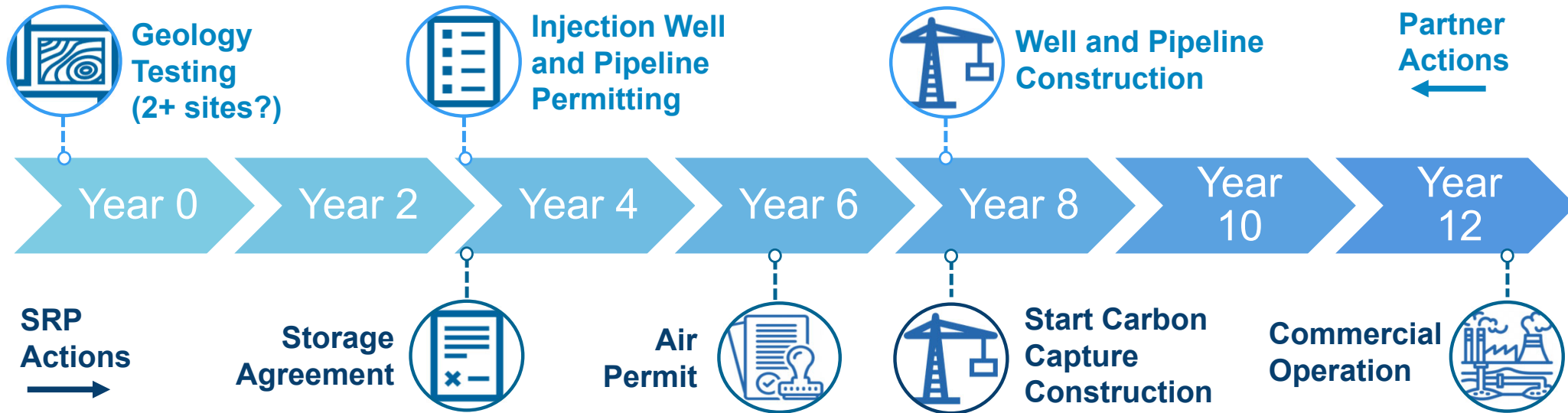
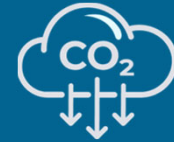


**2020-2027:** Electric Power Research Institute (EPRI) Low Carbon Resources Initiative

**2023:** Arizona/Nevada Department of Energy (DOE) hydrogen hub proposal

**2024:** Harquahala Basin DOE test well proposal

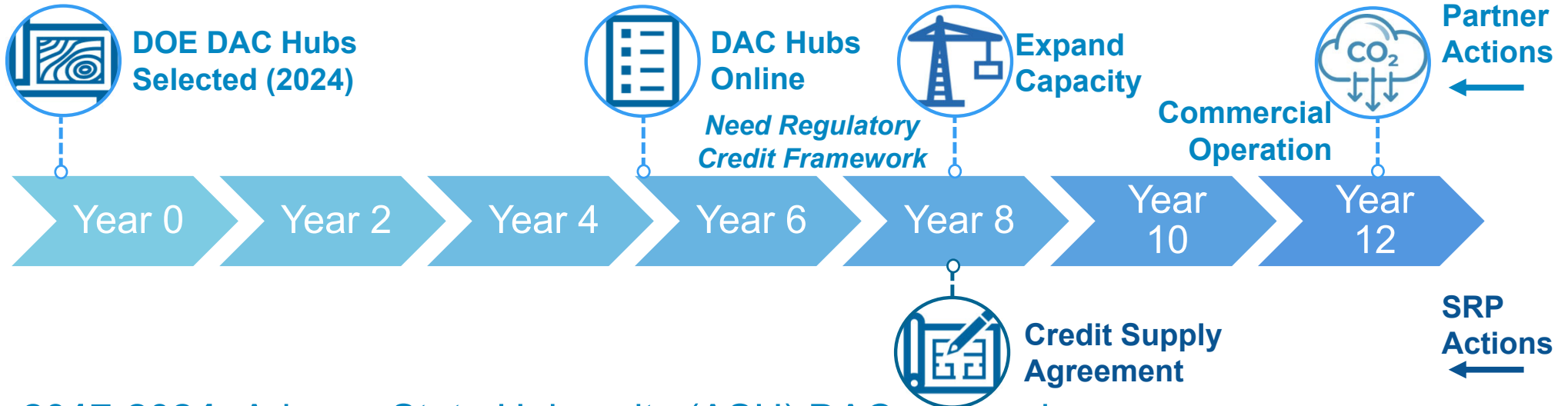
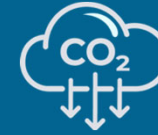
# Carbon Capture & Storage



**2020-2027:** EPRI Low Carbon Resources Initiative

**2024:** Harquahala Basin DOE test well proposal

# Direct Air Capture (DAC)



**2017-2024:** Arizona State University (ASU) DAC research sponsor

**2020-2024:** Carbon Collect Advisory Board member

**2020-2027:** EPRI Low Carbon Resources Initiative

**2023:** ASU DAC Hub proposal advisor



## Key Takeaways

- Achieving net-zero reliably requires **new, actionable options and partners**
- These new options face **significant challenges and long development timelines**
- **SRP is actively and appropriately engaged in overcoming the challenges**

**thank you!**

