

Salt River Project (SRP) Integrated System Plan Advisory Group Meeting #11- Summary

Prepared by Kearns & West

Advisory Group – Meeting #11 Overview

Meeting Objectives

- Share and discuss key findings from Integrated System Plan (ISP) analysis for Forecasting, Customer Programs, Distribution Planning, Transmission Planning and ISP long-term capacity expansion
- Share and discuss initial strategy themes

Topic: ISP Analysis Key Findings

Date: April 21, 2023

Time: 8:30 a.m. – 12:30 p.m.

Location: Project Administration Building (PAB) – Mohave East and West

Please see Appendix A for the Advisory Group member roster and attendance information. The [meeting agenda](#) and [presentation](#) are available at the [Integrated System Plan portal](#).

Welcome, Opening Remarks and Meeting Orientation

Advisory Group members began convening in person at 8:30 a.m. for breakfast and networking with the agenda content beginning at 9:00 a.m.

Bobby Olsen, Senior Director of Corporate Planning, Environmental Services and Innovation at SRP, welcomed Advisory Group members and thanked them for their attendance. He acknowledged the SRP Board and Council observers, commenting that they attend meetings to directly hear feedback from the Advisory Group during the ISP process. Olsen shared updates, including Jim Pratt’s selection as the new General Manager and CEO for SRP, proactive water releases on the Salt River system, and the timeline for the 2026-27 all-source request for proposals (RFP). He noted that SRP will review bids for the RFP this summer and bring them before the SRP Board in fall 2023.

Joan Isaacson, facilitator from Kearns & West, greeted the Advisory Group members and then reviewed the meeting objectives, agenda, and guides for productive meetings ([slides 6-9](#)). She explained that the optional Modeling Subgroup in the afternoon would focus on technical Q&A with the project team from SRP and E3.

Recap of March 10th ISP Advisory Group Meeting

Maria Naff, Manager of Integrated Planning at SRP, recapped the March 10th Advisory Group meeting, beginning with a review of takeaways from the February 24, 2023, Technical Working Session on inverter-based resource integration facilitated by Arne Olson of E3. She then highlighted major discussion themes from the Advisory Group meeting and informed members that the summary is available on the ISP web portal ([slide 11](#)). She noted the postponement of the Technical Working Session on Time-of-Day programs to July 2023.

Integrated System Plan Roadmap

Angie Bond-Simpson, Director of Integrated System Planning & Support at SRP, reported on the team's progress working through the ISP roadmap ([slide 13](#)) and thanked Advisory Group members for their commitment during this extended process. She explained that in today's meeting they would see the results for the end-to-end power system and begin the *Synthesize* phase. She asked Advisory Group members to start thinking about new SRP system strategies as they listened to the presentations on key findings. Bond-Simpson described how early ideas for strategies would be brought back to the Advisory Group at the May 2023 meeting.

As project team members distributed handouts with the key findings from the ISP, Isaacson explained that Advisory Group members were invited to pose clarifying questions during the morning's presentations and write down any technical questions on index cards for that afternoon's Modeling Subgroup meeting.

Load Forecasting Key Findings: Scenario Forecasts

Jed Cohen, Manager of Forecasting and Load Research at SRP, began by reviewing the fundamental factors in the scenario forecasts for the ISP ([slide 16](#)). He described how the fundamental factors either indicate an increase to load (e.g., economic growth) or a decrease (e.g., energy efficiency) and vary based on scenario. He then showed the peak load forecasts ([slide 17](#)), noting that growth in the Current Trends and Strong Climate Policy scenarios is about three times the national average for utilities. Cohen explained that the scenarios represent a wide range with Desert Boom having 13% higher demand, and Desert Contraction having 22% lower demand than Current Trends by 2035.

Question: In the graph for peak load forecasts ([slide 17](#)), what is happening with the kink in the line in 2029?

Response: We are projecting large customer growth on a project-by-project basis and are aware of specific developments through 2030. After that date we use a linear growth assumption.

Question: Does SRP hope for the Desert Contraction scenario to catch its breath? This doesn't seem a viable reality. The strain must be profound.

Response: We try not to assume that any scenario is more likely than another. We are building understanding through this exercise rather than aiming to select a scenario. We want to set ourselves up to support our customers through the ISP.

Comment: This is no judgment on the scenarios, but caution is warranted on talking about growth as always favorable since there are limits moving forward. Using the positive and negative signs for the fundamental factors is another caution ([slide 16](#)).

Response: The positives and negatives are purely quantitative. The plus is to show a factor that increases load.

Comment: If someone just sees the slide, it might be misleading.

Comment: Economic theory is at the crux. It's a myth that growth is the only way to achieve economic opportunity. There are other ways to achieve growth and opportunity.

Comment: There are consequences of failing to meet ground ozone attainment, which could have significant impacts on economic development and large manufacturing and may impact the scenarios.

Integrated System Plan Long-Term Capacity Expansion Results

Arne Olson, Senior Partner at E3, introduced Nathan Lee, Managing Consultant at E3, who has been working with the modeling for long-term capacity expansion. Olson began by identifying the question the modeling tries to answer, which is what generation sources SRP needs to add to its system to maintain reliability and achieve its 2035 sustainability goals ([slide 19](#)).

Olson briefly reviewed key findings for long-term capacity expansion needs, highlighting that SRP will need to build seven times as many resources in the next decade as in the last decade ([slide 20](#)). The key findings presented today are for the 12 core cases and four sensitivities in the study plan matrix ([slide 21](#)). He next reviewed the sustainability metrics findings, noting the early finding that all scenarios achieve the 2035 Sustainability Goals for SRP ([slide 22](#)). Olson commented on emerging technology additions and explained that the only scenario that considered green hydrogen by 2035 was Strong Climate Policy.

Question: For long-term capacity expansion, are the assumptions in the updated document on the portal the ones used in this modeling?

Response: Yes.

Question: Firm resources serve reliability at lowest cost, but hydrogen is extremely expensive. SRP shouldn't put "all the eggs in one basket" on green hydrogen. On [slide 23](#), 850 MW seems like a lot. Green hydrogen can play a role, but it's a limited role compared to other resources.

Response: The slide indicates green hydrogen identified for 2035. As a modeling team we would think of 200 MW as not a big bet. At 850 MW that's a lot of capacity, comparable to two large natural gas plants. That's a big role and an appropriate caution flag to throw. The model did select it as a least-cost option. Hydrogen fuel is expensive, but the capacity is cheap.

Comment: Part of the concern is the language and then the practicality. Hydrogen may not come online until 2035, but there's a lot of planning and cost involved. It's important to recognize a choice that's being made over another choice.

Response: It will take a lot of work to get to where even 200 MW is available.

Question: As emerging technologies are considered ([slide 23](#)) and the question of a federal mandate come up, are SRP or energy companies seeing the government heading in that direction? If so, it will be expensive.

Response: All utilities have to look at this possibility. It's a transformative scenario and important to understand the implications for SRP.

Response: The value of scenario planning is for SRP to be prepared. The purpose is not to pick a scenario or strategic approach or even an individual plan seen here. It's to understand how SRP prepares. Should the growth happen, should the policy change, we have to be prepared on behalf of customers.

Olson continued by presenting planning reserve margin results ([slide 24](#)) and indicating how they explain in part why green hydrogen might be selected by the model. He described the gaps of 500 MW and 930 MW under the Desert Boom scenario as comparable to the capacity of two and three big natural gas plants, respectively. He then reviewed potential options to mitigate reliability challenges in the Desert Boom scenario and why they currently could not resolve the reliability challenge ([slide 25](#)), noting that because the No New Fossil and Minimum Coal strategic approaches do not meet reliability standards in the Desert Boom scenario, the associated system plans for this specific scenario will not be compared to remaining cases.

Nathan Lee continued the presentation by illustrating the modeled capacity additions from 2025-2035, beginning with the Current Trends scenario ([slide 26](#)). He paused to clarify that the 5,000 MW of added capacity is for 2025, with Bobby Olsen underscoring that these resources are under construction right now. Lee continued by describing the modeled capacity additions for the Desert Contraction ([slide 27](#)) and Desert Boom scenarios ([slide 28](#)). Lee highlighted that in the Desert Boom Scenario without new natural gas, the system fails to meet reliability requirements. This is despite ambitious additions of solar, battery, wind and other renewables.

Lee then presented capacity additions for the Strong Climate Policy scenario ([slide 29](#)). Next, Olson showed the modeled capacity additions over the next 12 years, alongside existing and planned projects through 2026 ([slide 30](#)).

Lee concluded by sharing key findings from sensitivities for gas prices and technology costs ([slide 31-32](#)). He explained that higher natural gas prices and lower technology costs lead to capacity increases for both renewable energy and battery storage. In each sensitivity, the model continues to select natural gas as a firm resource to back up the variation in wind and solar generation and limits on storage duration.

Question: On [slide 23](#), the emerging technologies listed are carbon capture and storage, green hydrogen and small nuclear reactors. Are there others being considered?

Response: On the supply side, those are the three considered.

Question: As green hydrogen is not considered available until 2035, is hydrogen before then not green hydrogen?

Response: Only the Strong Climate Policy scenario has hydrogen, and it is only green hydrogen.

Question: This discussion needs to consider the costs to consumers in 2035. What will be the impact to the average bill?

Response: The results for capacity expansion are the most inclusive for capital costs. Justin Lee will talk about transmission and Melissa Martinez about distribution. More detailed modeling is underway to identify costs for fuel, and operations and maintenance. The amount and pace of growth is unprecedented, and we want the Advisory Group to understand the significance of this situation. The team will provide more information about costs in future meetings, including how to reduce the cost and burden for customers.

Question: Under different scenarios, what are the general costs?

Response: It's tens of billions of dollars in investment. There will be new sales to help pay for growth, so it doesn't all fall on existing customers. Some resources are potentially less costly to operate, such as solar and wind since you don't have fuel costs.

Comment: When SRP factors in those costs, factor in racial and socioeconomic disparities as well.

Question: What about the possibility of deregulation? Should the ISP consider that?

Response: The model assumes that SRP serves the load and growth in its service area. There are no assumptions in the model about deregulation.

Response: Deregulation is a state policy issue, not an SRP issue. We do consider scenarios for deregulation, but regardless of deregulation, we look at whether there is going to be the labor, the support system to construct everything. I'm not sure the regulation status affects that.

Comment: Hitting the goals is a priority. The market can drive down prices.

Response: We can talk about the market context, and we are developing resources to make this happen.

Comment: Community choice aggregators help to reduce costs in California.

Response: I disagree, but don't have details with me to debate that.

Question: Will SRP have sufficient capacity to generate green hydrogen??

Response: We assume that fuel is purchased from a third party.

Question: For total system costs, all of these assets have a lifetime beyond 2035. How do you compare a new solar facility to a new natural gas plant that could become a stranded asset after 2035? How does that build into total system cost?

Response: We can discuss this more in the Modeling Subgroup meeting this afternoon.

Response: We actually do model after 2035 out to 2050, but for the ISP we are focused on the 2035 timeline.

Question: On [slide 26](#), solar and wind are shown as part of a least-cost portfolio. How does this impact costs in the future with the push-pull of reliability?

Response: All of the portfolios use least-cost optimization and have a planning reserve margin constraint. They all make the same tradeoffs. In cases where new gas and other firm resources are not available, more renewables such as wind and solar plus storage are required to ensure reliability or the planning reserve margin of 16%. We are not presenting cost results today.

Response: The Strong Climate Policy scenario has a 13% planning reserve margin due to a federal policy assumption modeled in that scenario. It's the only set of cases with that planning reserve margin, except for the regional diversity sensitivity, which we are not presenting today. All of the other cases have a planning reserve margin of 16%.

Comment: The cost of not meeting the reliability standard is equal to or greater than going into production and transmission. Companies invest billions to come here. Even a momentary blip in reliability can cost millions.

Response: The cost discussion will happen at the next Advisory Group meeting.

Question: To what degree have you looked at regional market nuances and impacts to scenarios?

Response: Those are built into the scenarios. A lower planning reserve margin in the Strong Climate Policy scenario factors that in and regional diversity is a sensitivity for the study plan.

Transmission Planning Early Findings

Justin Lee, Manager of Transmission System Planning at SRP, first described transmission infrastructure elements ([slides 36-42](#)), noting the timeline of over three years for production and delivery of components like transformers. He then identified the question his team is trying to answer ([slide 43](#)): What new transmission infrastructure is needed to deliver energy reliably to SRP’s service territory? Lee shared early findings from transmission planning, including the importance of generation location, impacts to the 230 kV system, and the need to continue analysis ([slide 44](#)), noting that discussion would be limited to the Technology Neutral strategic approach under the Current Trends and Desert Boom scenarios ([slide 45](#)).

First, Lee outlined two methods for modeling new local generation resources: pro-rata distribution across the system based on the interconnection queue and a hub system that centralizes resources ([slide 46](#)). He then reviewed findings related to the two methods, describing how pro-rata generation requires more 230 kV lines, whereas the hub system requires a greater number of transformers and 500 kV transmission lines ([slides 47-49](#)). He stated that the solution likely lies somewhere between these two methods.

Question: On the pro-rata as compared to the hub systems, are there greater or lesser energy losses on the system? It seems like the pro-rata method is focused on the location of upgrades relative to the existing infrastructure. Are the hubs planned for greater distances?

Response: I can provide loss differences in the Modeling Subgroup meeting. The intent of the pro-rata method is to get an indication for how the transmission upgrades differ based on these extremes. A downside of pro-rata is that the stations are already congested. We have to figure out if they can actually connect. The hub assumes the resource is located far away and is, thus, easier to build.

Question: Many transmission projects are joint ventures. How much can partners help to offset costs?

Response: For some transmission projects we split costs 50/50, but we only get 50% of the benefit. Partnering depends on our needs. Sometimes we only need a little of the capacity, and it works out well. Sometimes we need the full capacity ourselves. The modeling for the ISP doesn’t address the joint ownership aspect.

Distribution Planning Key Findings

Melissa Martinez, Manager of Distribution Planning at SRP, first explained the guiding question for her planning area, which is to determine the new distribution infrastructure needed to deliver reliable energy to customer homes and businesses ([slide 53](#)). She then spoke on the key findings of distribution planning for each of the four scenarios – Current Trends, Desert Boom, Desert Contraction, and Strong Climate Policy – indicating on maps where new infrastructure is needed to deliver reliable energy ([slides 55-58](#)).

From a system impact perspective, Martinez presented the total number of substation bay additions through 2035 and then showed the additions by year ([slides 59- 60](#)). These additions align with load forecasting, including the spike in 2024 for the Desert Boom scenario to address potential overloads and meet reliability requirements. Key takeaways ([slide 61](#)) include the importance of partnerships between Distribution Planning, Customer Programs and Pricing teams.

Question: How much land does a substation require?

Response: About 5 acres. [Follow up answer after confirming with our substation standards: On average, a standard distribution substation requires 2 acres, not including additional land requirements for easements or ensuring square parcels are obtained.]

Question: Does it take more infrastructure to power an acre or 10 acres in current [undeveloped] desert than in the center of the city?

Response: No.

Question: With “sprawl” growth patterns, is building the facility in the middle of the city similar in cost?

Response: It depends. We use a wide range of costs. In dense areas, it might be more expensive, but it depends on negotiations with the developers and the City. Siting new facilities in the Southeast Valley might be cheaper. Land costing is a different process.

Comment: Do any of the scenarios assume greater infill development?

Response: Our models do show infill as more likely in some situations. For the Desert Contraction map ([slide 57](#)), where growth is manageable, we expect infill as the strategy [developers will take]. It’s likely to be more economic. When growth is faster, then infill is less likely as far as magnitude [of costs].

Question: What type of NIMBYism (not in my backyard) is SRP currently experiencing in the placement of substations?

Response: Infrastructure is not popular in anyone's backyard.

Question: Customer programs and pricing seem to intersect. On the maps for Desert Boom and Strong Climate Policy, in terms of load growth at a high level they look similar. What trends are you seeing?

Response: The load didn't decrease. Energy efficiency is leveraged to manage load.

Question: On the system, what falls between 12 kV distribution and the transmission lines? Who looks at that?

Response: We didn't perform analysis on the 69 kV system. It's too big for us to do in the ISP. We can approximate for that network and then model for 100 kV and above.

Question: What about the non-wires alternatives? What are the impacts of delaying investment?

Response: We evaluated non-wires alternatives as a temporary solution to delay infrastructure installation and found it was not an advantageous solution because we would still require a transformer within two years to meet capacity needs. The Strong Climate Policy and Current Trends scenarios results indicated the possibility of delaying a couple of years. We haven't been able to flesh out the immediate value in the modeling.

Customer Programs Key Findings

Nathan Morey, Manager of Product Development at SRP, spoke to the question of how customer programs at SRP need to evolve during the study period ([slide 63](#)). In sharing key findings ([slide 64](#)), he explained the concept of net load and how programs will target different times of day for opportunities to build or shift the load to mid-day ([slide 65](#)). Using a series of graphs, he illustrated the potential for later on-peak and mid-day super off-peak hours ([slide 66](#)) and load reduction and load building programs ([slides 67-68](#)). Morey commented that customers are sensitive to price plans, offering electric vehicle charging as an example, and that what works today may be more difficult for the system to handle in 2035, requiring changes in customer behavior.

Question: It’s interesting to think about the shift in terms of communication to customers, and we look forward to working with SRP on that. On time-of-use, did you also look at impacts if there were a shorter window for on-peak hours?

Response: We intend to go into deeper detail on that in a future pricing-focused session. Our strategy, however, has been to put forward a diversified mix of time-of-use rates for our customers to choose from. On the residential side we see increased demand during pre-cooling and snapback periods around the on-peak hours. So, the more we can diversify our time-of-use plans, the better we can avoid creating unmanageable situations on the system.

Comment: Arizona Public Service (APS) is finding more customers take up the shorter timeframe. What are potential impacts if SRP moves in that direction?

Response: Because we're forecasting a relatively short peak, we are not calling for five-to-six-hour on-peak windows across the plans, but rather a diversified mix of options.

Comment: A downward pressure of 1,000 MW on load [[slide 65](#)] is significant. The ISP should consider the tradeoffs that offer cumulative impacts over time, in addition to peaking.

Response: Our approach with the program portfolio isn’t limited to addressing peaking needs to help operation of the system. We design the portfolio to hit our 2035 goals, to help customers achieve their goals, engage customers from an equity perspective and there is certainly a customer satisfaction component as well.

Comment: Critical care facilities can’t adjust for time-of-use. As SRP looks at future programs, having tariff rates for facilities would be important.

Response: Our philosophy is to provide customer choice. We want to offer options.

Question: Has the impact of work-from-home affected the findings?

Response: Our customer programs saw increased activity during the pandemic, as customers tackled home improvement projects while working from home. As more people return to the office, we might see a bigger challenge with electric vehicle charging than we see today. People may have to charge more during the late evening or overnight after their daily commutes. We are trying to get as many workplace chargers in place as possible so we can to shift some of that charging load to mid-day hours.

Turn & Talk: Important Findings

Isaacson asked Advisory Group members to write down a response to the question: “What’s a key finding that you see as important for the ISP?” Responses were written down on index cards and transcribed (see Appendix B). Ten Advisory Group members submitted responses. Multiple responses cited the amount of generating capacity that SRP needs to add by 2035 and cited concerns about cost, especially for vulnerable communities. Other topics included modeling constraints (e.g., assumptions for energy efficiency), SRP’s 2035 Sustainability Goals, economic impacts and new technologies.

Initial System Strategy Themes: Roundtable Discussion

During the working lunch, Bond-Simpson introduced the topic of system strategy themes by reviewing the ISP roadmap ([slide 73](#)) and describing the draft products of the ISP ([slide 74](#)). Although SRP does not yet have all the information (e.g., costs), SRP wants to begin considering system strategies. Bond-Simpson briefly explained what system strategies are, their importance and how they will be used ([slide 75](#)). She then reviewed five draft system strategy themes which are grounded in the ISP analysis results and ISP Guiding System Principles, which incorporate the 2035 Sustainability Goals ([slide 76](#)):

- Evolve Customer Programs & Price Plans
- Develop and Preserve Optionality
- Build and Leverage Partnerships
- Proactive Siting for System Investments/Additional Infrastructure
- Prepare and Equip the Workforce

Isaacson reminded Advisory Group members about their previous responses about planning for transformational change ([slide 78](#)) and offered guides for brainstorming ([slide 80](#)) before asking members to respond to the question: “Based on these five themes, what are potential strategies SRP could consider for the ISP?” Advisory Group member comments and questions were captured in both written responses and flipchart notes (see Appendix C).

Discussion Themes

Affordability – Strategies around affordability appeared in multiple responses. Some Advisory Group members simply stated “prioritize affordability,” whereas others talked about adjusting time-of-use programs and incentivizing distributed resources in a more flexible business model. Disproportionate impacts on low-income customers were cited by some as a concern.

Communication and Education – Many Advisory Group members suggested system strategies related to communication and the need to educate customers about the ISP. One member shared an example of how early communication facilitated siting of transmission lines in the community and another member recommended expansion of pilot programs. Other suggestions were to communicate the vision of the ISP to customers and inform them of coming changes.

Partnerships – Another theme emerged around leveraging relationships with customers, state and local municipalities, and rural utility co-ops to inform about the ISP and the planning challenges. A related recommendation was for SRP to leverage federal funding and to also educate residential customers about how to take advantage of federal dollars. Other suggested partnerships were with small multicultural businesses and credit unions that could provide

microloans for equipment upgrades. One response noted the importance of strengthening partnerships with regulatory agencies.

Taking the Lead – Multiple responses suggested that SRP take the lead by pursuing emerging technologies, being proactive in land acquisition for solar and transmission projects and exploring regional markets. A few Advisory Group members encouraged a “trailblazer” mindset for SRP employees.

Wrap Up & Next Steps

Bond-Simpson concluded the meeting by sharing next steps for the ISP and the engagement calendar ([slides 84-86](#)), noting that the Technical Working Session on Time-of-Day programs will be rescheduled for July 2023. She highlighted the upcoming Advisory Group meetings in May and August and said that the Integrated Planning teams intends to forward recommendations to the SRP Board in August 2023. Bond-Simpson thanked Advisory Group members for their attendance and invited them to attend the Modeling Subgroup meeting following a short break.

Appendix A

Meeting Attendance

Advisory Group Member Organizations (members in attendance on 4/21 are indicated in **bold**)

Arizona Hispanic Chamber of Commerce

A New Leaf

American Association of Retired Persons (AARP)

Arizona State University (ASU)

Arizona Public Interest Research Group (PIRG)

Building Owners and Managers Association (BOMA)

Chicanos Por La Causa

City of Phoenix

Common Spirit Health

CMC Steel Arizona

CyrusOne

Environmental Defense Fund (EDF)

Intel

Kroger

Local First

Mesa Public Schools

Pinal County

Profile Precision Extrusions

SRP Customer Utility Panel (CUP)

Salt River Pima-Maricopa Indian Community (SRPMIC)

Southwest Energy Efficiency Project (SWEEP)

United Dairymen of Arizona

Western Resource Advocates (WRA)

Wildfire

Key SRP Staff

Angie Bond-Simpson, Director of Integrated System Planning & Support

Bobby Olsen, Senior Director of Corporate Planning, Environmental Services, and Innovation

Domonique Cohen, Senior Strategic Planner for Integrated Planning and ISP Communications

Lead

Jed Cohen, Manager of Forecasting and Load Research

Justin Lee, Manager of Transmission Planning

Kyle Heckel, Senior Engineer for Integrated Planning and ISP Project Manager

Maria Naff, Manager of Integrated Planning

Melissa Martinez, Manager of Distribution Planning

Nathan Morey, Manager of Product Development

Key Facilitation Team

Arne Olson, E3

Nathan Lee, E3

Brisa Aviles, Kearns & West

Karen Lafferty, Kearns & West

Joan Isaacson, Kearns & West

SRP Board and Council Observers

Chris Dobson, SRP District Vice President

Anda McAfee, SRP Board Member

Larry Rovey, SRP Board Member

Rocky Shelton, SRP Council Member

Suzanne Naylor, SRP Council Member

Appendix B

Advisory Group Member Responses

Below are transcribed responses to the question: “What’s a key finding that you see as important for the ISP?”

- Seven times as many resources needed across all scenarios; appreciate the conversation about both costs of the undertaking and the costs of not undertaking; low-income and vulnerable communities are disproportionately affected by both.
- How will SRP address costs of adding an additional 25,000 MW to the system without overly burdening the customer’s cost per kWh?
- Capacity expansion: Building seven times what SRP did over the last decade.
- Energy efficiency appears to be capped at one level throughout the scenarios. I believe this needs to be relaxed so the model can choose as much energy efficiency as available.
- Generally, having a better understanding of the costs associated with meeting demand and the structures/systems that can be implemented to mitigate impacts to at-risk populations.
- That the need and challenge for energy availability is very real and must be understood by all stakeholders.
- SRP is well-positioned to surpass 2035 sustainability goals.
- Renewable generating projects are about 200 MW, and we need thousands of MW by 2035.
- The difference in outcomes between Desert Boom and Strong Climate Policy illustrate that SRP needs to be an industry leader working to test and develop the technologies of the future and stop relying on antiquated obsolete fossil fuels.
- Scenarios that are beyond capacity need to be plainly stated as unlivable. We need to be able to project loss of life and impact to economy.

Appendix C

Advisory Group Member Brainstorming Responses

Based on these five themes, what are potential strategies SRP could consider for the ISP?

- Evolve Customer Programs & Price Plans
- Develop and Preserve Optionality
- Build and Leverage Partnerships
- Proactive Siting for System Investments/Additional Infrastructure
- Prepare and Equip the Workforce

Advisory Group member comments and questions were captured in both written responses and flipchart notes, some of which are duplicates of each other. Below are transcribed responses to the above question:

- Customer Programs & Price Plans: Expand pilot programs that show energy and capacity savings that are cost-effective.
- Develop and Preserve Optionality: Evolving distribution system emerging technologies in order to get projects approved in the face of long lead times for transmission projects.
- Build and Leverage Partnerships: Prioritize marketing and education of federal program funding that can be expanded through SRP's trade allies network.
- Take advantage of federal dollars and encourage customers to do so (+ customer communication/education).
- Enhanced communication of all aspects of the vision and implementation of the long-term strategy.
- Prioritize affordability.
- Additional Theme: Develop and strengthen regulatory agencies.
- Business model flexibility and partner with customers.
- Modeling uncentralized generation.
- Be an industry leader on emerging technologies and energy strategies.
- More land reserved for future use.
- Bigger differences in time-of-use.

- What role could rural utility co-ops play in the partnership bucket?
- How can we be more inclusive with multicultural small businesses?
- Form a partnership with a bank or credit union to fund small business upgrades.
- Don't just [illegible] the market. Dictate where electric vehicles or incentives go.
- Low-income communities are perhaps disproportionately impacted by the events of these scenarios but also least likely [illegible] advancements. How is this considered?

Below are the flipchart notes taken during roundtable discussion:

- What role do the rural utility co-ops play in the partnership bucket?
- SRP developing and strengthening their partnerships to work with the regulatory commission to ease implementation since there is a lot of red tape to get through.
- If you see the scenarios, you perceive the central business model SRP plans to keep, and it leaves customers out of the equation of generation in distribution planning. A strategy can be to implement a more flexible business model instead of a generalized one. How can we partner with customers and incentivize distributed resources?
- Continuing to evolve any emerging technologies on the distributed resource front. Any emerging strategies will be critical for the future.
- Conversation around cost of doing this and cost of not undertaking changes. Low-income people are disproportionately impacted.
- Strengthen the relationship with the state and local municipalities. They don't know the in-depth challenges we are facing.
- Prioritize affordability.
- Thinking about challenges with small business. Be more inclusive to multicultural small businesses. They are paying higher electricity bills because of outdated equipment.
- Utility partnership with credit unions to provide microloans so these businesses can purchase equipment upgrades. Couldn't we purpose those deposits at the SRP credit union for small business loans?
- Communicate vision with customers and build the case for the next steps. Thinking about strategies for communication.

- Re: 230kV lines in my community. Recommend more reservations of land now, so people are informed well ahead of time. More land reserved for solar projects since we are building faster than ever. Bigger differences in time-of-use programs so customers realize more incentives.
- Utilities in general are pretty conservative and risk averse, but we all understand the technology of yesterday will not get us to tomorrow. We need to be more forward thinking by taking on some new risks to try out new things like exploring regional markets and new battery technologies.
- Being less risk averse. Something SRP pushed in Coolidge was that it was comfortable with that technology when there could have been different avenues.
- Continuing to prioritize customer education on programs and developing a relationship with local entities.
- Mitigating the need to build more and idea of let's just build and build. It is really important that SRP can prepare. Letting people know about those changes and getting out there early to help with those messages, all the better.
- SRP has a lot of innovation and a workforce that is really brought into the culture. SRP's workforce can become more of a trailblazer mentality as opposed to the pathfinders. The leaders and the go-to, not only regionally but nationally.