



Summary Study Plan for SRP's Integrated System Plan

Revised February 2023

BUILDING A SHARED VISION TOGETHER

The electric power industry is going through a rapid transformation and Salt River Project (SRP) faces unprecedented opportunities and uncertainties for the future. SRP strives to provide high quality electricity services to its customers and work closely with them to respond to their needs, advance their priorities and goals and collaboratively adapt to changes. SRP has established ambitious 2035 Corporate Goals to improve sustainability while maintaining a high standard of service and keeping costs low. The Integrated System Plan will serve as an important tool to guide SRP to achieve or outperform these goals in a manner that considers uncertainties, risks and tradeoffs.

An Integrated System Plan is the blueprint for the power system of the future that includes all major power system pieces of meeting future customer demand: power generation, transmission, distribution and customer programs. The Integrated System Plan will help SRP plan for a future power system that balances reliability, affordability and sustainability while maintaining a high standard of customer service.

SRP considers customers and community stakeholders to be important partners in building a sustainable, reliable and affordable future power system. During the Integrated System Planning process, SRP strives to build a study plan that considers customers' needs and interests and allows SRP to explore a shared vision for the future of the power system together.

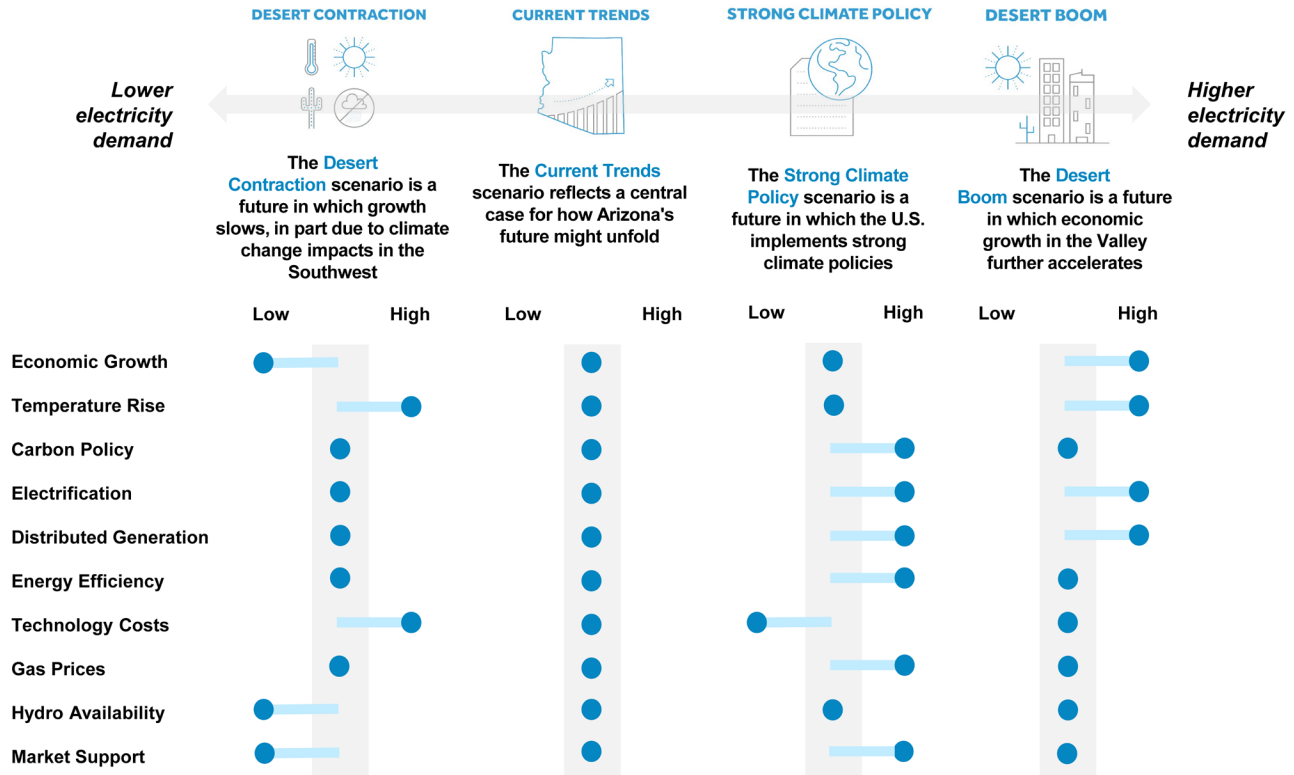
PLANNING AMIDST CHANGE

The Integrated System Plan will use scenario planning methods to help SRP better understand future uncertainties and better take advantage of the opportunities presented by the rapidly changing industry. Scenario planning will help SRP to develop an Integrated System Plan that guides SRP's development of the future power system in a way that can flexibly adapt to the changing industry and result in affordable, reliable and sustainable power delivery to the communities and customers that SRP serves.

The scenario planning framework for the Integrated System Plan includes four key, distinct elements: scenarios, sensitivities, strategic approaches and metrics. A **scenario** defines a plausible future state of the world around us, reflecting societal, technological, economic, environmental, and political trends and conditions. These factors are outside of SRP's control and reflect the unpredictable nature of the future that needs to be accounted for in SRP's planning activities. A **sensitivity** varies a single assumption in a scenario, allowing SRP to understand the impact of this assumption on the overall system plan. A **strategic approach** represents a possible decision, or set of decisions, that SRP could make in planning the future power system. These decisions are fully within SRP's direct control. Finally, **metrics** are outputs from the Integrated System Plan modeling ecosystem that allow SRP, customers and other stakeholders to measure the performance of different system plans across a range of future scenarios and sensitivities. These elements of the study plan were defined through a collaborative and transparent process involving the Integrated System Plan Advisory Group, who represent a diverse set of stakeholder perspectives relating to the power sector. The elements combine to form a modeling ecosystem that allows SRP to test strategies for building the future power system across a wide range of possible futures.

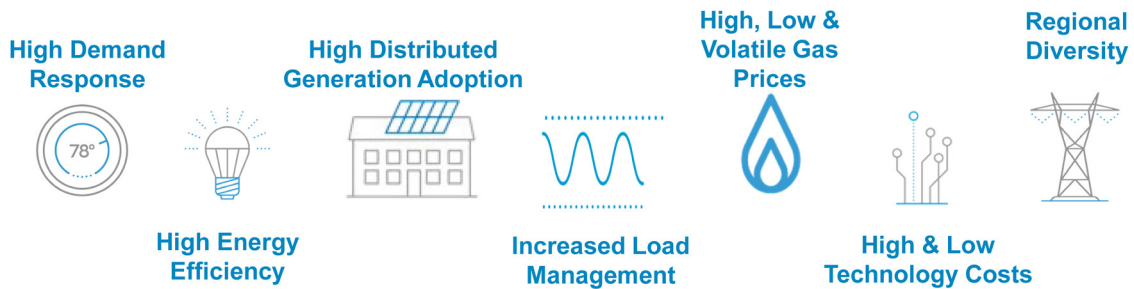
Scenarios

SRP has developed four scenarios to analyze in the first Integrated System Plan based on Advisory Group input. The four scenarios reflect a diverse set of possible futures and consider uncertainties across a broad set of parameters. The figure below shows the four scenarios, including how each assumption changes across the scenarios. The narratives that depict each scenario are provided in an accompanying document.



Sensitivities

In addition to the scenarios, SRP developed ten sensitivities¹ to analyze under the Current Trends scenario based on Advisory Group input. Sensitivities are analyzed under the Current Trends scenario to assess the impact of varying individual assumptions on the system plan at a central, or middle, case of potential future load growth.

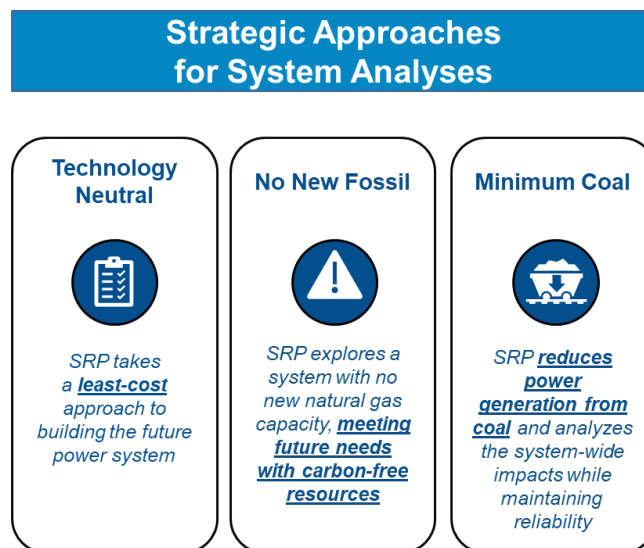


¹ In the graphic the "High, Low, Volatile Gas Prices" icon encompasses three sensitivities, including High Gas Prices, Low Gas Prices, and Volatile Gas Prices. The "High & Low Technology Costs" icon encompasses two sensitivities, including High Technology Cost and Low Technology Costs.

Strategic Approaches

SRP has developed three strategic approaches to analyze in the Integrated System Plan. These strategic approaches are intended to explore clearly delineated key decisions that may impact the future power system and to understand how these strategies perform across the scenarios and sensitivities described above. SRP strategy decisions resulting from the Integrated System Plan are not restricted to only those analyzed in the strategic approaches and may include paths that combine the strategies described below.

- The *Technology Neutral* strategic approach aims to develop future system plans on a technology-neutral and least-cost basis.
- In the *No New Fossil* strategic approach, SRP explores a system with no new natural gas capacity, meeting future needs with carbon-free resources. Existing and developing natural gas units may still be used to meet customer needs under this strategic approach.
- The *Minimum Coal* strategic approach aims to reduce power generation from coal in SRP's system by testing operational changes to SRP's coal resources, including seasonal operations and SRP coal exit by the end of the study period.



In addition to the three strategic approaches, SRP will conduct exploratory studies to build foundational knowledge around key aspects of the future power system that subsequent Integrated System Plans may analyze further.

- The *Next Generation of Time of Use* exploratory study will assess how pricing signals may evolve as the system changes.
- The *High Regional Interaction* exploratory study will assess drivers influencing value of increased regional cooperation through new markets.
- The *Flexible Coal Operations* exploratory study will explore the system impacts and value of flexible operation of the coal generation fleet.
- The *SRP Storage on Distribution System* exploratory study will identify data and analysis needs for locating battery storage on SRP's distribution system to meet local system needs.
- The *Inverter-based Resource Integration* exploratory study will seek to better understand the operational opportunities and challenges associated with integrating significant amounts of inverter-based resources onto SRP's power system and transitioning away from a system based on rotating mass.

These exploratory studies will be used to assess the drivers of value under these topics and the modeling enhancements needed to fully assess these topics in future Integrated System Plans. SRP will not perform analyses across scenarios and sensitivities for the exploratory studies due to current modeling limitations but will develop a foundation to analyze these approaches in future Integrated System Plans.

Exploratory Studies

Studies to enhance system planning

Next Generation Time of Use



High Regional Interaction



Flexible Coal Operations



SRP Storage on Distribution System



Inverter-based Resource Integration



Metrics

Metrics will be used to provide information to customers and other stakeholders, evaluate the performance of each strategic approach across scenarios and sensitivities and design customer preference research. SRP proposes the following metrics, based on Advisory Group input. This is a draft metrics proposal that will be amended based on further Advisory Group comments.



Affordability

- Total Costs
- Average System Rate Impact
- Average Residential Bill Impact (absolute and relative to inflation)



Sustainability

- CO2 Reductions Over Time
- Water Use
- Carbon-Free Generation
- Capacity Factor for Gas Fleet
- Direct Air Emissions (NOx, SO2, PM10, PM2.5, VOC)



Reliability

- Resource Contribution to Reliability
- Reliance on Emerging Technologies
- Qualitative Risk Ratings (Development Risk and Operational Risk)
- Planning Reserve Margin



Customer Focus

- Customer Preference Rating
- CO2 Reductions from EE, DR, DG and Electrification

SYSTEM MODELING

SRP's planning groups will evaluate the strategic approaches across scenarios and sensitivities using a rigorous analytical process. For each combination of a strategic approach and a scenario or sensitivity, SRP will develop a system plan for 2025-2035 that seeks an affordable way to meet customer needs while ensuring reliability and meeting or outperforming SRP's sustainability goals. Each modeled system plan will include a plan for customer programs, distribution investments, transmission investments and resource additions.



As an example, SRP will test the Technology Neutral strategic approach against each of the four scenarios and each of the ten sensitivities. In total, SRP will develop fourteen different system plans that follow the Technology Neutral strategic approach. These plans will differ based on the specifics of each scenario and sensitivity. For example, the Desert Boom scenario envisions more economic growth in the Valley and thus will result in more system investments than a scenario of lower growth. By testing the Technology Neutral strategic approach under different scenarios and sensitivities, SRP will assess how the future system buildout under this strategic approach changes across a wide range of futures. SRP will repeat this same process for the other two strategic approaches to develop 42 system plans in total. SRP will evaluate and compare these 42 plans through the metrics to understand how each strategic approach performs across different futures and to identify the system components that help SRP deliver a reliable, affordable and sustainable future power system. While SRP can't know what the future will hold, assessing system plans across a variety of futures allows SRP to identify strategies that help to mitigate future risks and take advantage of potential opportunities.

THE COLLABORATIVE PROCESS FOR STUDY PLAN DEVELOPMENT

Since November 2021, SRP has collaborated closely with stakeholder representatives through the Integrated System Plan Advisory Group to develop the study plan summarized above. SRP hosted Advisory Group meetings and used feedback from those meetings to develop the scenarios, sensitivities, strategic approaches and metrics. SRP took a three-step approach for the development of each of these components:

1. Conduct a *brainstorming exercise* to gather ideas from the Advisory Group
2. Develop a *proposal* and share the proposal with the Advisory Group for feedback
3. Develop a *final proposal* and review this with the Advisory Group for final comments

Whenever possible, SRP strives to incorporate stakeholder feedback into the study plan. After some members of the Advisory Group expressed a desire to explore more technical topics, including detailed modeling assumptions, SRP formed a Modeling Subgroup to discuss and gather feedback on technical inputs into the modeling ecosystem. SRP has met with the Modeling Subgroup three times to review the modeling ecosystem and detailed input assumptions.

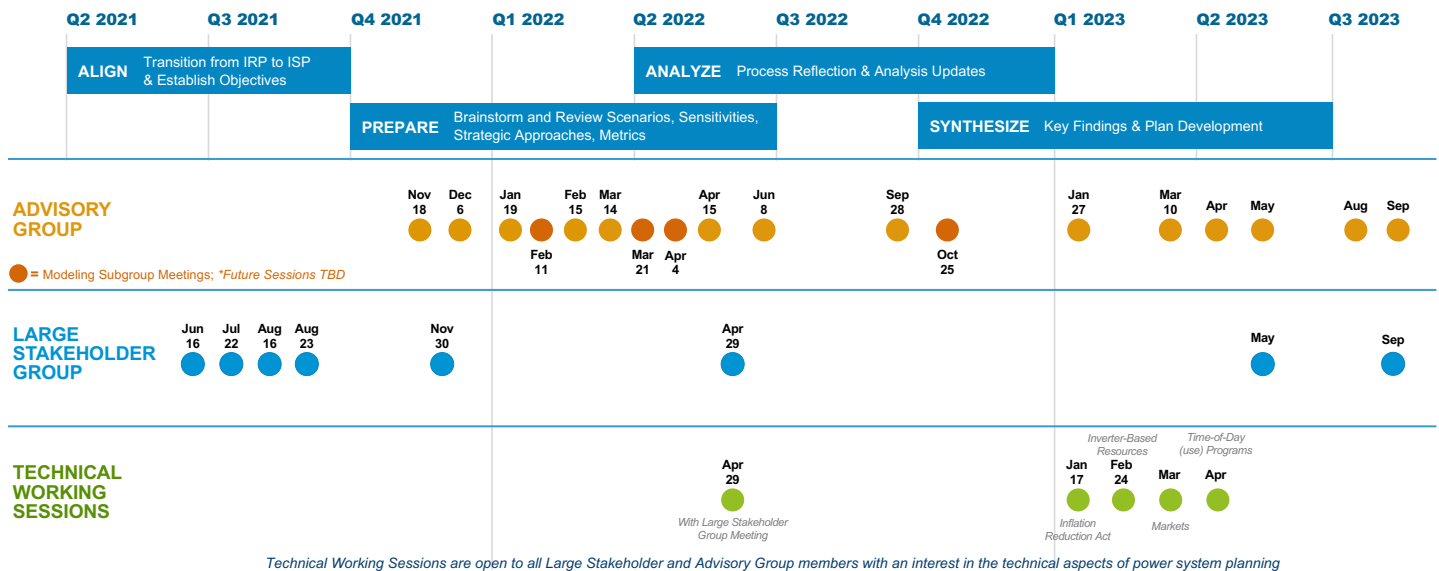
In addition, the voice of SRP’s residential customers is an important consideration in building the future power system. Residential customers are consulted through a three-phase customer research approach that includes focus groups and quantitative surveys. The results of this effort have been, and will be, shared with SRP stakeholders throughout the Integrated System Planning process.

SRP presented the co-created study plan for SRP’s first-ever Integrated System Plan to a large group of SRP stakeholders on April 29th, 2022. SRP subsequently updated the study plan assumptions in February 2023 to incorporate impacts from the Inflation Reduction Act of 2022 and adapted the study schedule to accommodate additional time needed for analysis.

STUDY SCHEDULE

SRP kicked off the **Prepare** phase of the Integrated System Plan in November 2021. Through a series of meetings with stakeholders through April 2022, SRP gathered input to build the study plan. At the end of April 2022, SRP kicked off the **Analyze** phase of the Integrated System Plan to conduct modeling through March 2023. In the second quarter of 2023, SRP will review the full set of modeling results with stakeholders and gather feedback. In September 2023, SRP will publish the Integrated System Plan report to summarize the planning process, assumptions, results and conclusions.

Integrated System Plan Stakeholder Engagement & Study Schedule



Other Engagement Opportunities:

- **Advisory Modeling Subgroup**, composed of self-selected Advisory Group members who have a strong interest in diving into specific Integrated System Plan topics, will have sessions around various topics of interest throughout the project.