

Climate Change and SRP

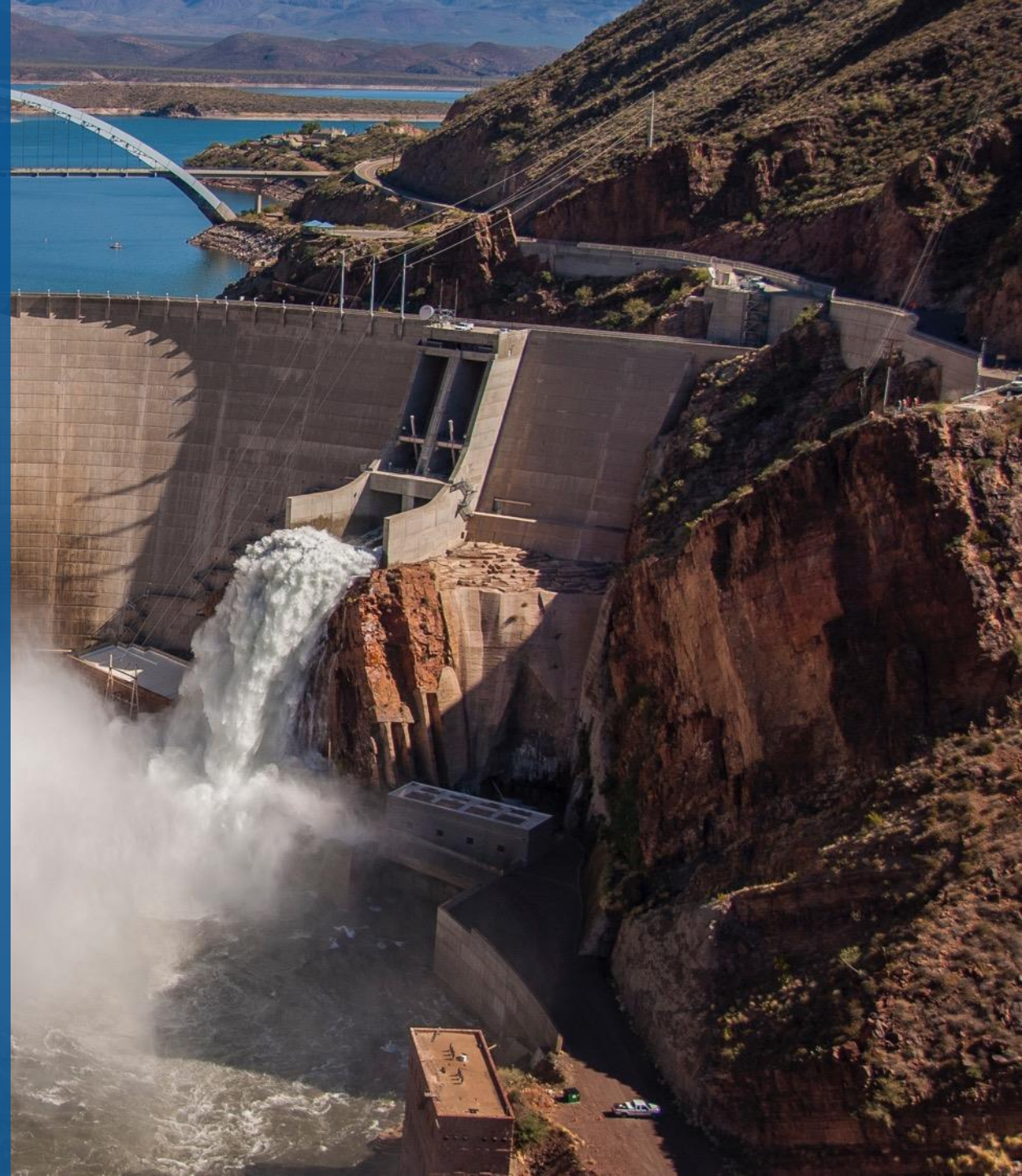
Tom Cooper

Director, Corporate Strategy, Sustainability, and Economic Services

March 9, 2023

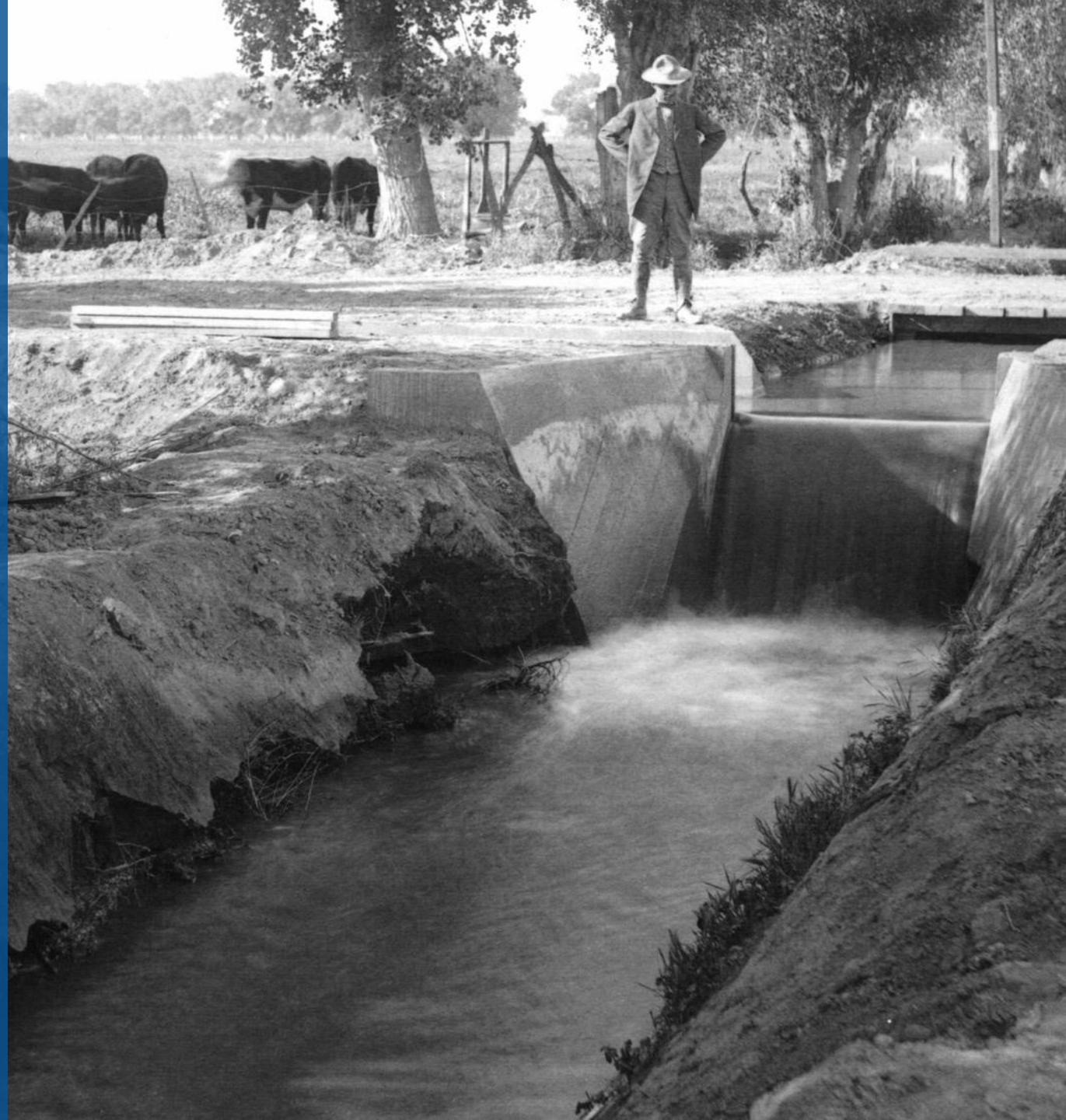
What is SRP?

- One of the nation's largest public power utilities
- Provide reliable, affordable water and power to more than **2 Million** people
- The largest raw-water supplier in Arizona, delivering about **800,000** acre-feet of water annually (About 1 cubic kilometer)
- Managing a **13,000** square-mile (33,670 km²) watershed



History

- Serving the Valley since 1903
- Operates a Federal Reclamation Project (one of the first five in the United States) that includes storage reservoirs on the Salt and Verde Rivers and a water delivery system in the Valley
- SRP's first power service to the Valley was 1909



Strong Economic Growth

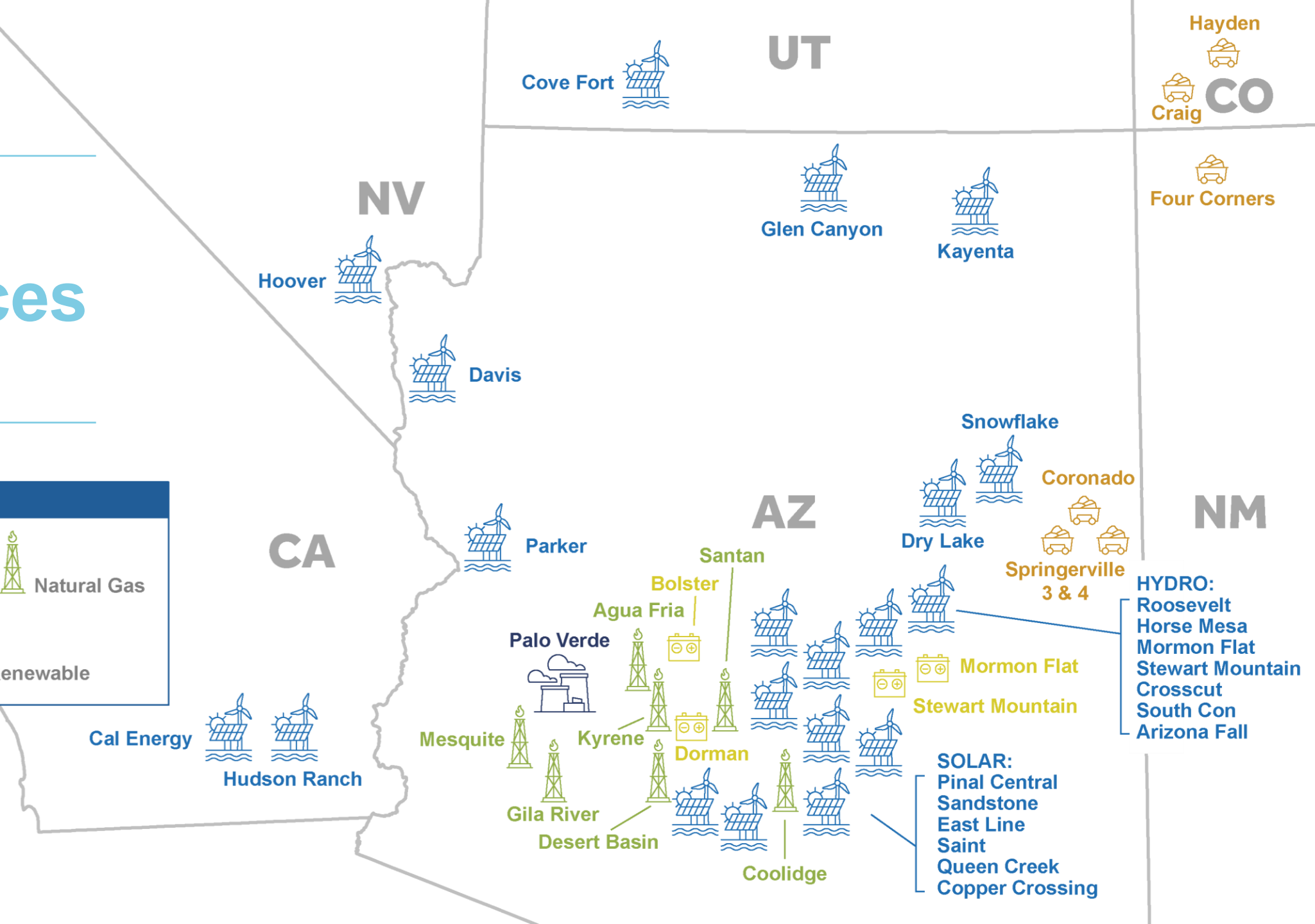
- Maricopa is the **#1** fastest growing county in the U.S.
- The Southwest is becoming America's advanced manufacturing hub
- Housing permits are at the highest since mid-2000's: an average of 140 every day



SRP Resources Today

LEGEND

- Storage
- Coal
- Natural Gas
- Nuclear
- Renewable



HYDRO:
 Roosevelt
 Horse Mesa
 Mormon Flat
 Stewart Mountain
 Crosscut
 South Con
 Arizona Fall

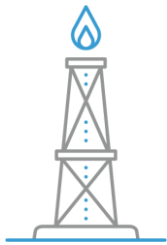
SOLAR:
 Pinal Central
 Sandstone
 East Line
 Saint
 Queen Creek
 Copper Crossing

SRP Watersheds and Facilities

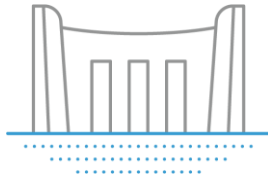


- Water comes from snowmelt in **8.3 million acres** (33,589 km²) of forested watershed
- We deliver about **260 billion gallons** (984 billion liters) of water each year to a water service area that is **240,000 acres** (971 km²).

SRP 2035 Sustainability Goals



Carbon
Footprint



Water
Resiliency



Supply Chain
& Waste Reduction



Customer &
Grid Enablement

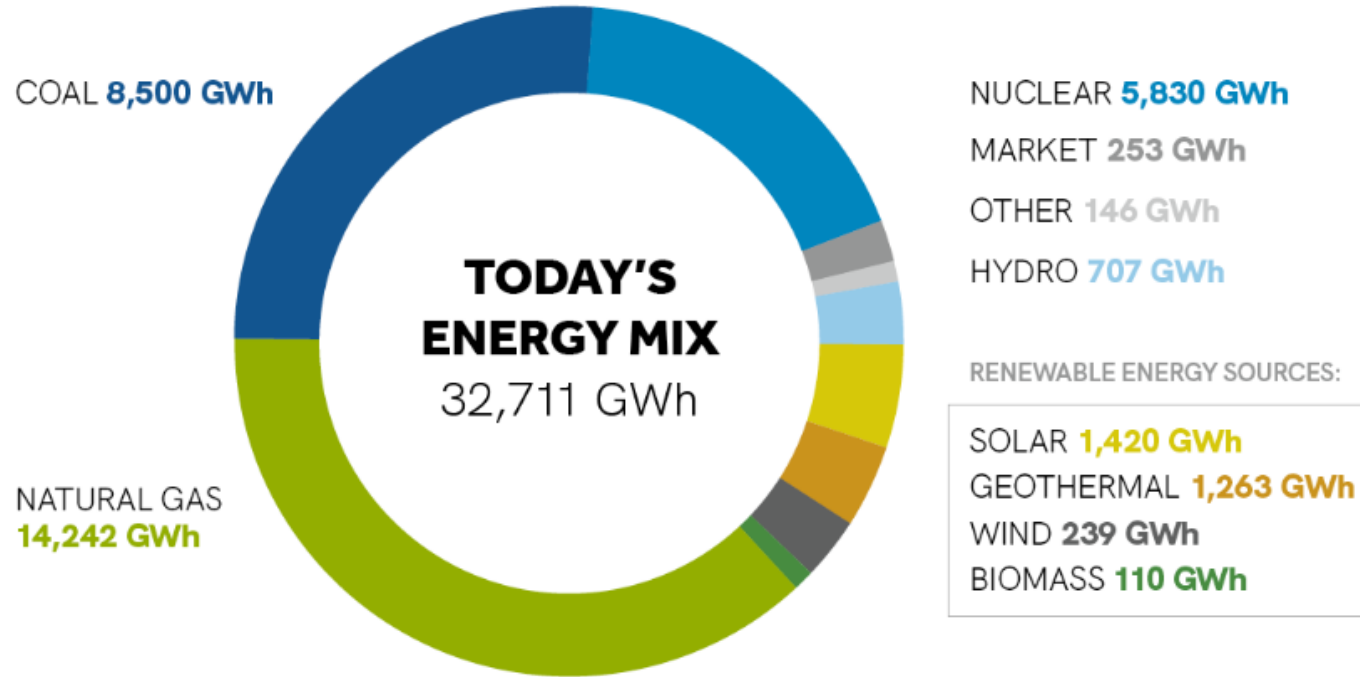


Customer Community
& Employee Engagement

Key Elements of SRP 2035 Resource Planning

- Reduce the amount of CO₂ emitted by generation (per MWh) by **65% from 2005 levels**.
- In addition, SRP has committed to reducing carbon intensity by 2050 by **90% from 2005 levels**.
- Achieve **20% reduction** in generation-related water use intensity across all water types.
- Eliminate or offset power generation groundwater use in Active Management Areas (AMAs).

SRP's Energy Sources



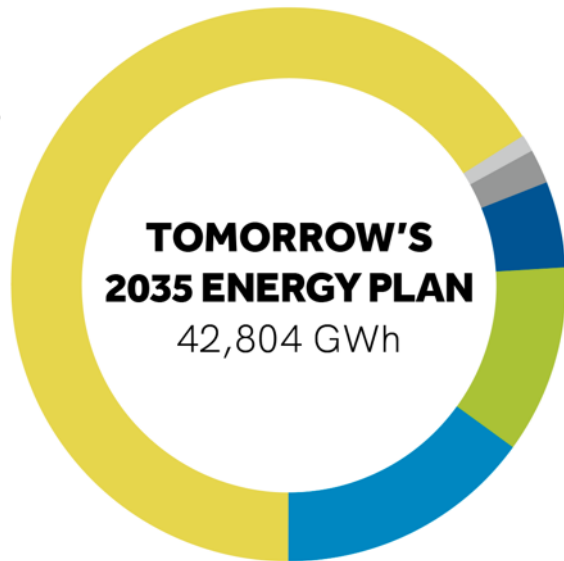
All projections are gigawatt hours (GWh) as of Feb. 22, 2022.



Cleaner Energy Sources for the Future

Each year, SRP steadily adds more clean and renewable energy sources that improve the air quality and help preserve the natural beauty of Arizona.

RENEWABLES
28,637 GWh



OTHER **138 GWh**
MARKET **476 GWh**

COAL **2,112 GWh**

NATURAL GAS **4,955 GWh**

NUCLEAR **6,486 GWh**

All projections are gigawatt hours (GWh) as of April 30, 2021.

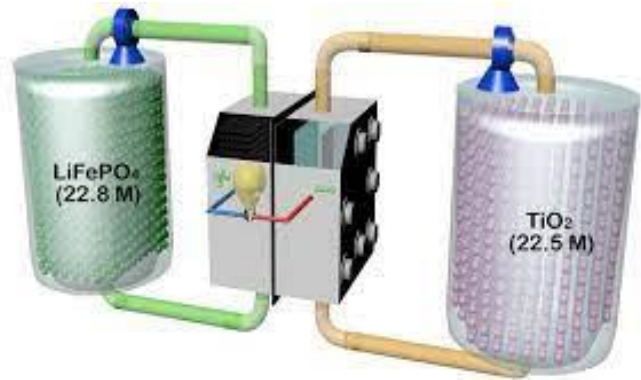


SRP's Healthy Forest Initiative

- Partnered with the U.S. Forest Service to strategically thin **500,000 acres** (202,343 hectares) of overgrown forests by 2035
- Most of the state's forests in northern and eastern Arizona are unhealthy and overgrown and are at high risk of catastrophic wildfires which endanger wildlife, erode soil, degrade water quality
- We've teamed up with state and federal agencies, businesses and others to support this effort



New Technology Research and Development



Long-Duration
Energy Storage



Hydrogen
Technologies



Direct-Air Carbon
Capture

Climate Risk Assessment and Management



Spatial downscaling

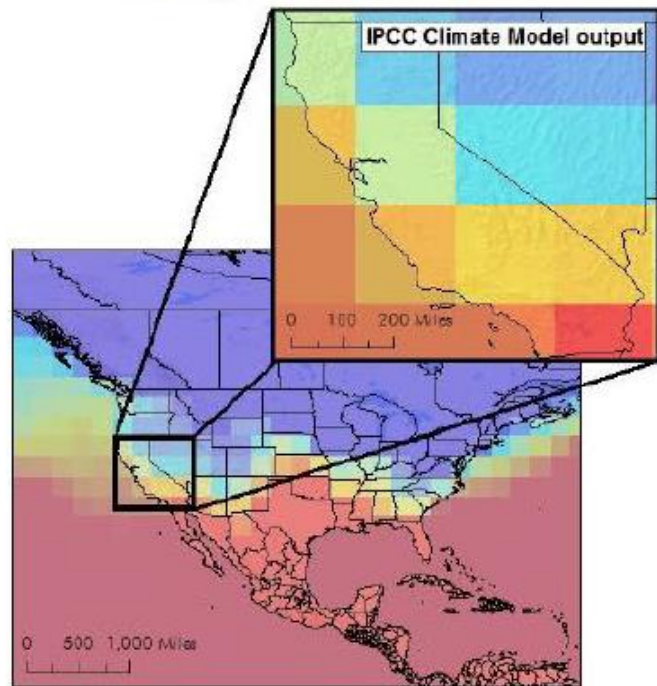


Need information at a specific location?
Downscale coarse climate model
data to local or regional scale

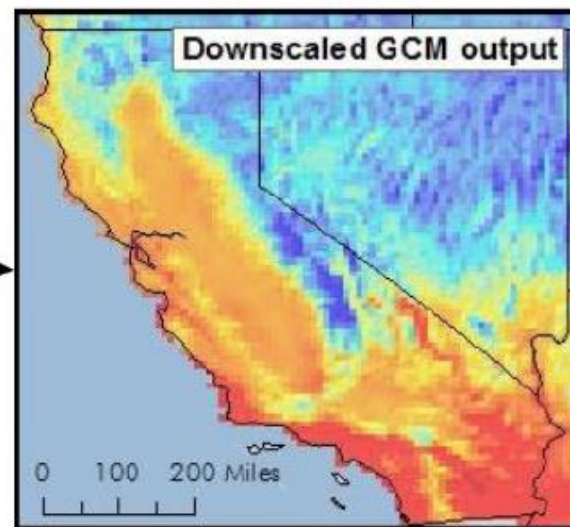


Only gets you halfway to the input data needed
for locationally specific impact assessments
Often need to bias correct the
downscaled data to observations

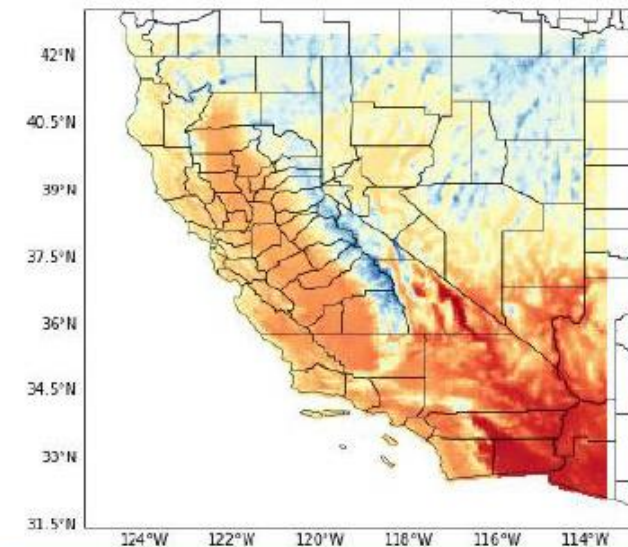
Global Climate Model



Downscaled Data



Reality



Still a lot of information missing from downscaled data