

Southwest clean Hydrogen Innovation Network

SHINe

SHINe is a unique consortium of public, private, and tribal organizations working across Arizona and Nevada to produce, store, deliver, and use clean hydrogen (H₂), with connectivity to the Southwest and the broader U.S. clean H₂ ecosystem.



About SHINe

- Seeks federal assistance, as part of the larger Bipartisan infrastructure legislation passed in late 2021, to build and operate a regional clean hydrogen hub (H2Hub) in response to the Department of Energy's funding opportunity announcement issued in September 2022.
- Uses that assistance and private funding to make strategic investments across the clean H₂ value chain production, processing, delivery, storage, and use.
- Ensures accelerated deployment of clean H₂ technologies and infrastructure, positive economic and environmental benefit, and energy justice in the Southwest, combining enabling functions with sound leadership, governance, and management.

SHINe Assets

Strategic location

Both Arizona and Nevada enjoy outstanding solar and land resources making it inevitable that the region will become the #1 producer of clean H₂ using the sun's energy.

- **Unique energy ecosystem** - low-carbon electricity, vast investments in solar and nuclear
- **Covering the eastern CA border** - large H₂ market, primary gateway for trade between the U.S. and Asia
- **Transportation corridors** - mining, heavy-duty transport, fueling infrastructure
- **Geologic resources for large scale H₂ storage** - transport H₂ by road, rail, or pipeline

Exceptional team

SHINe brings together a diverse team, second to none—broad-based support ensures success.

- **Industry support** across many sectors - energy, gas production, transportation, manufacturing, mining, and engineering
- **State-level support** - governors, U.S. senators, and economic development offices
- **Stakeholder engagement** - utilities, universities, labor, and local communities

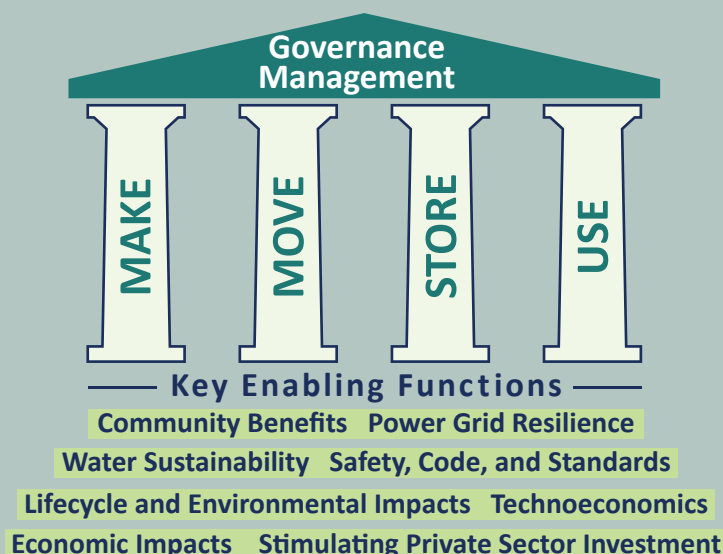
Social impact

Both Arizona and Nevada enjoy outstanding solar and land resources making it inevitable that the region will become the #1 producer of clean H₂ using the sun's energy.

- SHINe develops and disseminates a robust **Community Benefits Plan** committed to Justice 40; diversity, equity, inclusion and access; workforce development; and community engagement

SHINe Goals

- Use the outstanding solar resources and become the **#1 producer of clean H₂** using the sun's energy
- Enable **rapid scale-up**, combining federal and private funds and facilitating network access to investors and companies
- Establish a foundation for an equitable, **financially sustainable**, and interconnected network
- Lead the **development of a region-wide ecosystem**; unite the acumen of world-class companies and major energy infrastructure companies with major public universities
- Create clean **H₂ transportation corridors**, intermediary between several large markets
- Deliver responsible **energy infrastructure** and support efforts to decarbonize the region's fast growing **manufacturing** and established **mining** sectors
- Generate **economic opportunity, quality jobs, and tax revenue** in the region—along with cleaner air
- Sustain **strong community and tribal engagement** and participation throughout the region



SHINe Participants

SHINe emerges from the Center for an Arizona Carbon-Neutral Economy (AzCaNE) at Arizona State University whose founders are four major utilities—Arizona Public Service, Salt River Project, Southwest Gas, and Tucson Electric Power—and three public universities, Arizona State University, Northern Arizona University, and University of Arizona. AzCaNE has also welcomed the Arizona Commerce Authority and the Navajo Nation as permanent governing members and reserved three at-large seats for private industry. Linde Inc, NextEra Energy Resources, and Phoenix Hydrogen currently fill those seats. From its official launch in May 2022, AzCaNE has provided a collaborative, inclusive, and diverse organizational infrastructure to build and advance the clean H₂ ecosystem and continues to add participating entities.

Sampling of SHINe H2Hub Participating Organizations

