

PROJECT PROFILE HYDROGEN POWER GENERATION & CO2 SEQUESTRATION



Client: **PRIVATE EQUITY DEVELOPER** | Location: **SOUTHWESTERN UNITED STATES**

Audubon was enlisted for hydrogen plant design services on a large-scale hydrogen and [carbon capture](#) plant, including [conceptual study](#), front-end [engineering](#) and design (FEED), facility modeling, and financial estimation.

The plant was designed to capture 600,000 million tons per annum (MTPA) of CO2 for sequestration and convert inlet methane gas to [blue hydrogen](#). The converted blue hydrogen would power a 150-megawatt (MW) combined-cycle power generator—replacing traditional carbon fuels.

Audubon's conceptual planning and FEED expertise for the hydrogen plant design enabled the private equity developer to finalize a project road map targeting [energy transition](#) goals to net zero emissions.

Project overview

- Hydrogen plant design
- Autothermal reformer
- Combined-cycle power generator
- Blue hydrogen production
- Water shift reactor
- 600,000-MTPA carbon capture & sequestration
- Power generation

Scope of work

- Conceptual study
- FEED
- Facility layout & modeling
- Technology selection
- Equipment specification
- Key engineering drawings
- Economic modeling
- Total installed cost (TIC) estimation
- Pro forma modeling

