

SIDEWINDER CLEAN HYDROGEN CENTER

Developer / Lead: Sidewinder (Focus Clean Energy / Acciona & Nordex Green Hydrogen partner)

Location: Niobrara County, WY

Status Category: Proposed / Early Stage

Prepared By: Carbon Solutions

OVERVIEW

The Sidewinder Clean Hydrogen Center is a proposed clean hydrogen production facility in Eastern Wyoming. It aims to generate hydrogen using electrolysis powered by renewable energy (wind and solar), with plans for clean/green hydrogen that may include CO₂ management or synthetic fuel production. Site selection, permitting, and early development work are in progress.

OBJECTIVES

- Produce clean hydrogen using electricity and water, sourcing renewable power from wind and solar resources in Niobrara County.
- Establish hydrogen production capacity sized to support industrial, transportation, or fuel-market applications as public materials define.
- Incorporate CO₂ management or utilization plans, potentially including synthetic fuels, to enhance environmental profile.
- Secure necessary land leases, zoning, and state regulatory approvals for renewable generation, hydrogen generation infrastructure, water use, and associated transmission or pipeline works.
- Advance community engagement, environmental studies, and infrastructure planning (water supply, power transmission, site preparation) to support early-stage development.

TECHNOLOGY & DESIGN

The project is expected to use electrolysis to split water into hydrogen, powered by renewable (wind + solar) energy. The developer is evaluating renewable energy infrastructure (solar farms, wind turbine arrays, transmission lines) to obtain sufficient power. Hydrogen generation equipment, supportive infrastructure (water supply, electrolyte systems, storage, pipelines) are proposed but not yet engineered publicly. CO₂ management or utilization (if applied) is in conceptual stage.

TIMELINE / MILESTONES

- **Early-2024 to 2025:** Land use planning, conversations with stakeholders, securing of preliminary leases and local interest.
- **April 2025:** State Board of Land Commissioners approved leases for state land portions associated with wind/solar components.
- **August 26, 2025:** Public materials from Sidewinder launched, announcing the project and development aspirations.
- **2025-2026 (Projected):** Environmental studies, power and transmission design, water sourcing planning, site engineering; expected submission of regulatory applications.

KEY FACTS

- The project publicly launched in August 2025 (August 26, 2025) when site interest and early planning documents were made available.
- Developer is working under private funding; state or federal funding has been mentioned as potential but not yet secured or confirmed.
- Niobrara County land use documents and focus groups indicate developer has presented two sub-projects: "Sidewinder" and "Pronghorn" centers, both targeting clean hydrogen production.
- The proposal includes wind and solar generation build-out (size and capacity TBD), along with hydrogen production via electrolysis and possible synthetic fuel pathways.
- Key unresolved items include water sourcing, electricity transmission, location of hydrogen generation facility, CO₂ management plans, and full permitting.

ASSOCIATED PROJECTS / CONSIDERATIONS

Sidewinder is part of a broader wave of clean hydrogen proposals in Wyoming, including Pronghorn Clean Hydrogen. These projects share common needs for renewable power generation, transmission and water infrastructure, and face similar permitting, environmental, and community engagement challenges. Permitting decisions for wind and solar components, state land leases, transmission rights, and water use will strongly affect Sidewinder's feasibility.

