




ELECTROLYZER SYSTEMS SERVICES FOR GREEN HYDROGEN



Exponential Scaling Comes with Challenges

The demand for green hydrogen has surged due to the global push for renewable energy, and recent developments, such as the US Inflation Reduction Act, have accelerated the energy transition and incentivized the development of green hydrogen capacity. However, challenges have emerged with the exponential scaling of global electrolyzer shipments.

	<p>INDUSTRY SCALE</p> <ul style="list-style-type: none"> • Availability of large scale electrolyzer manufacturing facilities is uncertain • Unproven scaling of electrolyzer technologies
	<p>COST</p> <ul style="list-style-type: none"> • Equipment and electricity cost • Rare metals availability for PEM electrolyzers • Growth of renewable energy production needs to match the rapid expansion of electrolyzers
	<p>LONG TERM PERFORMANCE</p> <ul style="list-style-type: none"> • Technology is mature but scale is untested • No existing benchmarks on the durability of electrolysis cells and their components

What Are the Consequences When There Are Missteps?



Downtime & Lost production



Maintenance & Repair



Safety Risks



Reputation Damage



Regulatory Non-Compliance



Strategies for Success:



1. Understanding Market Dynamics

Understanding the market dynamics helps facilitate demand forecasting, supply chain optimization, competitive analysis, and drive technological advancements, leading to more efficient operations and competitive advantages for companies.



2. Global Supply Chain Insights

Familiarity with the global supply chain of electrolyzers is necessary to evaluate a supplier's scaling potential, bankability, credibility, maturity of their production and assembly capabilities, etc.



3. Technology & Quality expertise

Proficient knowledge of electrolyzer technologies (PEM vs Alkaline), including understanding of quality risks related to component failures, along with environmental, health, and safety risks.

CEA Is Uniquely Qualified to Solve These Problems

Team In China

100+
Team Members



10+
Electrolyzer factory engagements

In-factory Experience

2000+
Solar PV and Battery Energy Storage System **factory audits**

350+
Engagements with global factories and strong **credibility** with C-level decision makers

Supply chain insights

Supply Chain Consultant to dozens of global developers, EPCs, and utilities

Leading Market Intelligence Analyst for technology, supply chain, cost/pricing trends, and policy developments

Project experience in **70+** countries

How We Help Our Customers Make Informed Decisions



2806 N. Speer Boulevard Denver, CO 80211 | www.cea3.com | Email: info@cea3.com

Clean Energy Associates, LLC