

How to design, build, finance and operate profitable zero-carbon hydrogen projects in the US

- Understand how the Inflation Reduction Act (IRA) and other relevant regulations can dramatically improve your H2 project financials
- Learn how to lower your LCOH significantly through technology and design so your zero-carbon hydrogen is competitive
- Discover the keys to successfully developing and financing bankable renewable hydrogen projects
- Find customers for your zero-carbon hydrogen and HPAs for your production with both established and new users of hydrogen
- Compare PEM, Alkaline, SOEC and AIM electrolyzer technologies so you can procure the right technology for your project
- Explore the zero-carbon H2 projects being developed in the US and learn how to maximize the profitability of your project
- Consider the latest developments in hydrogen storage and transport that will allow you to supply industrial quantities of H2 to your customers throughout the country
- Identify the business opportunities in manufacturing green ammonia, methanol and synthetic fuels from renewable H2



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WELCOME TO NEVADA

Nevada is positioned to be ground zero for the energy transition and to play a key role in securing the energy independence and security of the United States, considering its clean tech industry but specially its complete lithium supply chain.

According to the Public Utilities Commission of Nevada, approximately 20% of power is currently generated by renewable resources. Las Vegas is the first large city to run on 100% renewable energy, which generates solar power at 40 different parks, community centers and facilities across the city as well as receiving hydropower from Hoover Dam.

In 2022 Air Liquide made North Las Vegas the place where to produce zero-emissions H2 using methane from landfills. The plant's objective is to power fuel cell cars and trucks and will have a capacity as high as 30 tons of liquid hydrogen per day.

So, despite of the advantages, why is Nevada still not on everyone's agenda?

- Hear about the opportunities in the development in Nevada's clean tech industry as Nevada is positioning itself as ground zero for energy independence and security of the United Sates
- Understand how Nevada's lithium mining and investment in EVs and energy storage will be key to opening numerous opportunities in the state to lead the clean energy transition
- Consider the expected fast growth for zero-carbon hydrogen consumption in Nevada, lead by the long-haul trucking sector; as state regulations are rapidly decarbonizing vehicles as part of the plan to decarbonize the whole economy by 2045

Hydrogen market development analysis – where are the growth opportunities?

The IRA has quickly positioned the US market in the pole position with clear subsidies to produce zero-carbon H2. However, other markets such as the European Union, Chile and markets in the Middle East have also entered the international race.

In this session we analyze the international context of zero-carbon hydrogen, the lessons learnt and best practice from these experiences as we examine supply chain bottlenecks and their effect in the growth of the US market.

- Study the zero-carbon LCOH international project map and see how different markets are setting objectives to decarbonize their industries
- Compare the global demand for electrolyzers with the production capacities of the main companies and consider whether their availability can affect the timing and costs of your projects in the US

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- Estimate the impact on your project of increased global raw material and logistics costs and how to counteract them
- Evaluate plans for renewable hydrogen development in other markets, and consider to what extent could they affect the development of your projects
- Assess bottlenecks in procurement of electrolyzers and other key equipment and hear strategies to counter act these issues

Regulatory panel - The challenges and opportunities of zero-carbon hydrogen in the US

The hydrogen industry in the US was gearing up to focus on blue hydrogen until the Inflation Reduction Act (IRA) announced specific subsidies for producing low to zero carbon hydrogen. This small shift has made a huge difference, positioning the US renewable hydrogen industry in the international pole position; and unleashing a once in a lifetime opportunity to grow an innovative business whilst decarbonizing the economy.

This session will delve into the zero-carbon hydrogen industry, it's market opportunities and the new policies that affect your projects by incentivizing and supporting the production of zero-carbon hydrogen such as the Infrastructure and Investment Jobs Act, the Inflation Reduction Act, and the Buy Clean Initiative.

- Discover the impact of recent policies in the American hydrogen economy and the opportunity for decades of exponential growth it unlocks
- Navigate the new regulatory landscape, to design and position your business to get ahead of your competition by mastering the standard permits and authorizations your project will need
- Translate government support and incentives to value propositions for your business by lowering your costs and increasing the efficiency of your operations

Zero-carbon H2 producers panel

The competitiveness of renewable hydrogen vs gray hydrogen has improved thanks to the rising price of natural gas. However, there is still a long way to go to reduce the production costs of renewable hydrogen so that it can displace fossil hydrogen in all uses. An important part of this cost reduction involves optimizing projects at all stages: from initial conception to delivery of the hydrogen, to the end customer. In this session, experts will discuss how to ensure abundant and affordable renewable electricity, and electrolyzer operation strategies to obtain renewable hydrogen at the lowest possible price.

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- Compare the merits of different renewable hydrogen generation plant designs, such as those operating with direct-connected renewable plants to plants with grid-connected virtual renewable PPAs
- Analyze the business case for up-scaling and down-scaling electrolyzer operating hours vs. 24/7 operation to determine which best suits your project
- Understand how to size an electrolyzer correctly depending on the intended use of the project and the specific hydrogen quality and pressure required by the off-taker
- Examine the optimized way to operate electrolyzers to ensure longer life while maintaining high performance and minimizing down times

Key component analysis: Electrolyzers panel

H2 USA

Electrolyzers are essential in the process of obtaining green hydrogen from water and renewable energy. In this session we will discuss the different kinds of electrolyzer technology available and their potential commercial use including the cost.

- Compare the commercial maturity, track record, cost and growth potential of the main commercial electrolyzer technologies for your projects
- Understand the advantages and disadvantages of alkaline, PEM and SOEC electrolyzers and innovative AEM and photoelectrocatalysis for renewable hydrogen production
- Hear directly from electrolyzer manufacturers and technologists about the current state of the art technology and how they will reduce costs and scale up in the coming years
- Consider the bottlenecks to scaling up quickly and effectively: electrolyzer size, material availability, manufacturing capabilities, life cycle, etc.
- Learn about electrolyzer design and sizing, starting with basic components such as compressors and power electronics

Case studies of real American projects currently in development

Across the US there are many low to zero-carbon hydrogen projects in different stages of development; but not all projects are the same. In this session, those responsible for the most cutting-edge projects, share their experiences to help your own green hydrogen project take off.

- Discover the business models of each renewable hydrogen project and how projects are structured to minimize commercial, technological, and financial risks
- Consider how other companies have navigated the regulatory uncertainty and other challenges that are present in all large projects
- Explore the characteristics of valley and injection-type projects, and what solutions they have put in place to ensure hydrogen supply to the purchaser

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Tax equity financing and its impact on the zero-carbon hydrogen industry

The mechanism of tax equity financing in the United States is critical to projects in a nascent industry such as hydrogen, particularly with the boost from the IRA to the ITCs for renewable technologies and storage. In this session we analyze in depth how to leverage tax equity financing for zero-carbon projects and getting your deal through the financing phase.

- From ITCs for renewables to other tax credits make sense of the structure and functioning of tax equity arrangements that your zero-carbon hydrogen project requires to thrive
- Learn to engage in a practical assessment of the delivery of federal financial support using the tax equity financing mechanism
- Explore policy options related to tax credits that rely on tax equity and how they can mean lower LCOH for your zero-carbon hydrogen

Financing panel: How to structure and wrap the financing for your zero-carbon hydrogen project

Since there is very limited track record in structuring financial deals for zero-carbon hydrogen, structuring, and wrapping a project will take; getting your lender or investor in line and ready to design the deal. This module is about the basic features and structuring of a Hydrogen Project. Whether you're looking to participate in a Hydrogen hub, a Hydrogen production or delivery facility, there are certain common features to a Hydrogen project deal that industry players need to be aware of.

- Learn how to structure your project finance to minimize weighted average cost of capital (WACC) across debt financing, equity financing and corporate financing
- Get top proven financial advice from experts in the field so your renewable hydrogen project gets ahead of the competition for funds
- Understand how to negotiate your hydrogen purchase agreements (HPAs) with different off-takers, and how the HPA affects the wrapping of your project

Utilities & hydrogen – Analyzing the H2 plans of the leading utilities

In order to hit decarbonization targets, it is clear that most of the applications that can be electrified need to be; taking full advantage of the huge renewable potential in the US. However, there are areas where H2 could be a key vector for utilities to decarbonize fossil fuel energy consumption, from key industrial areas to long term energy storage. In this session we will focus on how utilities plan to invest in hydrogen.



- Hydrogen for storage: understand how hydrogen plays a role as an energy storage vector for utilities and what opportunity does this represents for producers and technologists
- Hydrogen combined cycles: listen to the plans to blend H2 with natural gas to decarbonize electricity production and the key milestones to competitive hydrogen combined cycles
- Transportation and distribution of hydrogen to end users: from industries to households, is zero-carbon hydrogen transported by pipeline the key to decarbonize thermal energy requirements?

Commercial & Industrial (C&I)

Today, around 10 million metric tons of hydrogen are consumed annually in the United States, mainly in oil refining, fertilizer production and the chemical industry. In the short term, these industries are very likely to be the largest purchasers of renewable hydrogen, but in the medium term there are other industries, such as land mobility, air and sea transport, and metallurgy, which could be major consumers of green H2.

- Listen to key consumers of renewable hydrogen in North America what they use it for, how much they need, and at what price
- Explore the industries that need hydrogen to understand exactly what they need and for what uses
- Consider contractual structures between consumers and hydrogen buyers such as Hydrogen Purchase Agreements (HPAs)
- •Analyze which industries and at what price, are looking to buy renewable H2 in the US and where they are located

Design, construction and operation of hydrogen projects to maximize efficiency and profitability

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Opportunities for growth in hydrogen hubs

US

Across the US there are many hydrogen hubs in different stages of development. Hydrogen hubs create networks of producers, consumers, through local infrastructure to accelerate the use of hydrogen as a clean energy carrier that can deliver or store large amounts of energy. In this session we explore the value of the hubs to accelerate the development of hydrogen in the US.

- Hear the latest on the Regional Clean Hydrogen Hubs, DoE program which is investing up to \$7 bn to establish 6 to 10 regional clean hydrogen hubs across America
- Discover the strategies of hydrogen hubs to accelerate the growth by streamlining permitting process and decrease project and development costs
- Hear how hubs are working to attract lenders and investors to invest in the projects in their hydrogen hubs

H2 Logistics Storage & Transport

Large-scale hydrogen storage, transportation and distribution is essential to the competitiveness of renewable hydrogen because many of the industries that consume H2 on a large scale are not located in locations suitable for on-site production of renewable hydrogen.

To maximize the competitiveness of renewable hydrogen, large-scale production at locations with access to cheap and abundant renewable electricity is ideal, then the hydrogen is transported to consumption centers. In this session you will have access to practical information on the different options for large-scale storage and transportation of renewable hydrogen.



- Get to know more about injecting H2 into the gas grid, how much can be injected and how
- Learn about the feasibility of building dedicated hydrogen-only networks and when they could be operational
- Find out what modifications need to be made to pipelines, compressors and other equipment to enable them to safely transport hydrogen
- Discuss different options for storing hydrogen, such as subway storage in salt caves, compression vessels, liquefaction, or liquid organic hydrogen carriers (LOHCs)
- Understand the implications of large-scale storage, transportation and distribution of hydrogen to the competitiveness of renewable hydrogen

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We offer a wide variety of sponsorship packages and possibilities, which **depending on your objective and budget, we can mold and design a tailor-made proposal.** Below, we show you the recommended sponsorship packages.

	Diamond Sponsorship	Platinum Sponsorship	Golden Sponsorship	Silver Sponsorship	Bronze Sponsorship
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Super Branding Activities*	1	1	1	-	-
Basic Branding Activities **	3	2	1	2	1

Super Branding Activities*

- Lanyards
- Pens and notebooks
- Bags

H2 USA

- USBs
- Launch
- Cocktail
- Gala dinner

Branding Basic Activities**

- Welcome coffee
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- Panel presentation
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