



HyVelocity H2Hub

Frequently Asked Questions

Why hydrogen?

Hydrogen (H₂) is a versatile energy carrier that offers a path to a clean and sustainable energy future. Hydrogen can:

- Add value to multiple sectors of the U.S. economy
- Serve as a sustainable and zero- or low-carbon fuel for transportation and to produce electricity and heat for homes
- Serve as energy storage, allowing higher penetration of renewables and providing ancillary benefits to the grid
- Be exported to markets that are looking for carbon-free energy

Why “blue hydrogen” and how is it different from “green hydrogen?”

Hydrogen is an abundant energy source, often referred to as “the Swiss Army Knife of energy.” Although there are no official definitions, many people color-categorize the sources of hydrogen. “Blue hydrogen” refers to hydrogen sourced from natural gas, where carbon capture techniques are used to remove carbon during the process, thereby reducing the carbon footprint of the hydrogen. “Green hydrogen” generally refers to hydrogen produced from electrolysis that is powered by renewable sources like wind, water, or solar. The HyVelocity H2Hub team anticipates that about 60% of the hydrogen produced by the hub will be “blue,” and 40% will be “green.”

Why are hydrogen hubs important?

Hydrogen hubs are the foundation of a national clean hydrogen network that will play a significant role in decarbonizing multiple sectors of the economy. Matching the scale up of clean hydrogen production to a growing regional demand is a key pathway to achieving large-scale, commercially viable hydrogen ecosystems. Hydrogen hubs enable this pathway by demonstrating low-carbon intensity and economically feasible hydrogen-based energy ecosystems that can replace carbon-intensive processes.

Why the Gulf Coast?

The world’s largest concentration of existing hydrogen production assets, infrastructure, and customers are in the region encompassing Texas and the Gulf Coast. Through an existing energy infrastructure network of 48 hydrogen production plants and over 1,000 miles of dedicated hydrogen pipelines, the Texas Gulf Coast produces 3.5 million metric tons per annum of hydrogen, which is one third of annual U.S. hydrogen production. The Gulf Coast region’s geology is well-suited for carbon capture and sequestration, as well



as the development of salt caverns for bulk underground storage of hydrogen. Finally, the region is anchored by the largest U.S. port in terms of tonnage in Houston, with six additional international ports nearby.

What will be done with the hydrogen produced at the HyVelocity H2Hub?

In addition to existing hydrogen uses, such as industrial and chemical processes, the clean hydrogen produced at the HyVelocity H2Hub will be used to decarbonize process heat, chemical manufacturing, power generation (both from fuel cell power and from turbine power), and for marine and on-road vehicle applications.

Will the HyVelocity H2Hub hydrogen production come from renewables?

The State of Texas has the highest renewable power generation capacity of any U.S. state. Much of that capacity will experience curtailment without the availability of grid-scale, long-duration energy storage capacity. An important part of that energy storage solution will be the conversion of that renewable energy to hydrogen so that it can be transported to where the energy is needed, when it is needed. About 40% of the hydrogen produced for the HyVelocity H2Hub is anticipated to come from renewable energy sources.

What's unique about the HyVelocity H2Hub?

The HyVelocity H2 Hub team expects to collaborate with other regional hubs to share models for building infrastructure and to facilitate an interconnected, national framework for hydrogen production and end-use application. The HyVelocity H2Hub is built upon the largest hydrogen infrastructure network in the world. The Gulf Coast's existing infrastructure will be expanded, modified, and in some cases, repurposed to create region-wide cost efficiencies that support sustainable, growing demand for clean hydrogen in Texas and Louisiana, as well as a national hydrogen framework.

What kind of experience does the HyVelocity H2Hub team have?

The HyVelocity H2Hub team comprises some of the most successful, experienced, leading energy companies in the world. The hub will be administered by GTI Energy which has decades of experience in leading public-private partnerships, with support from Center for Houston's Future, a well-established thought leader and regional planning organization in Texas. Leading academia partners in Texas will also support the administration of the hub. More than 60 organizations (and growing) support the hub and are lending resources, guidance, and leadership for reaching the U.S. Department of Energy's (DOE) clean hydrogen goals as well as regional goals for environmental, societal, and economic impact.



Are there competing proposals for federal funding for hydrogen in the Gulf Coast?

DOE anticipates receiving applications for funding for multiple regional hydrogen hubs throughout the nation. The HyVelocity H2Hub team is focused on making its initiative the best regional representation of a public-private partnership between DOE and regional industry leadership. The HyVelocity team welcomes feedback from DOE on clean hydrogen hub optimization whereby HyVelocity could accept and incorporate other regional concepts in the Gulf Coast region.

How will the project and supporting partners be involved in the hub?

The core of the HyVelocity H2Hub team's success is the industry participants whose proposed projects, resources, and community benefits plans represent a network of infrastructure projects that include clean hydrogen production at 9,000 metric tons of hydrogen supply per day. The hub encompasses a variety of projects, including end-use applications, connective infrastructure, pipelines, shipping, and trucked hydrogen delivery. Additional projects from prospective regional partners will be evaluated for inclusion in a full proposal to DOE.

What are the benefits of including conventional energy companies in the hub?

HyVelocity is especially proud of its strong mix of supporting partners, which includes global energy companies, leaders in renewable energy production, new technology companies, advanced vehicle technology providers, pipeline operators, industrial gas companies, Ports, Universities, leading nonprofits, community organizations, DOE national laboratories, and U.S. Clean Cities organizations. This impressive mix of participants demonstrates the broad applications and benefits of hydrogen in today's energy economy. Each of these organizations bring important resources, technology, and market access that will help accelerate clean hydrogen use.

Is the hub supported by state and/or local governments?

The HyVelocity H2Hub is led by commercial-focused organizations, keeping with DOE's goals to deploy high-impact infrastructure that can rapidly support the deployment of clean, commercially viable hydrogen applications. The hub's projects will bring a significant economic benefit to the region, and as such, the team anticipates receiving state and local government support for its plan. We believe that commercial activities do not stop at city, county, or state lines but should focus on regional economic, societal, and environmental benefits that are not limited to specific government jurisdictions.

How will you engage with and benefit the surrounding communities?



The HyVelocity H2Hub team will support the Justice40 initiative by ensuring that at least 40% of the project benefits are directed to disadvantaged communities through such programs as workforce training and hiring, community college upskilling, higher education curriculums, and community-based grants. Furthermore, the HyVelocity H2Hub team is developing a broad-focused community benefits plan to address workforce training and opportunities, benefits to disadvantaged communities, environmental benefits and outreach, and diversity, equity, inclusion, and accessibility.

Are environmental groups supportive of hydrogen?

The driving focus of the regional HyVelocity H2Hub is to reduce the overall carbon footprint of the energy industry in Texas, Louisiana, and Gulf Coast region, providing a model for broader decarbonization. Hydrogen is scalable and is already in broad use. The key is to reduce its carbon footprint, reduce its cost and to expand the number of end-use applications. There is growing recognition that hydrogen presents the only viable decarbonization solution for many applications. An active education and outreach program for stakeholders to understand the benefits of hydrogen is a key part of the HyVelocity H2Hub mission.