



HyVelocity – Gulf Coast Regional H2Hub

Ted Barnes, P.E. – Principal Investigator
GTI Energy
May 9, 2024

DOE Hydrogen Program
2024 Annual Merit Review
Project ID# OCED007



This presentation does not contain any proprietary, confidential, or otherwise restricted information

The Gulf Coast's Regional Hydrogen Advantages

Gulf Coast's Energy Assets



Broad base of industrial energy customers across multiple demand segments



Welcoming environment for infrastructure development



33% of U.S. hydrogen production capacity



Highly skilled energy workforce (11% of U.S. energy jobs)



Large concentration of academic and industry-driven energy innovation: major research universities and a new innovation campus



Largest energy manufacturing cluster (7000+ establishments)

Production capacity



Largest renewable energy market in the nation (36 GW wind, 15 GW solar)

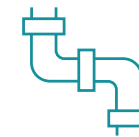


2.4 billion tons of CO₂ storage capacity (10,000x Houston's current CO₂ emissions)



Access to abundant low-cost natural gas (11.2 Tcf natural gas produced in 2022)

Transportation and storage



1000+ miles of hydrogen pipeline – largest networks in the nation

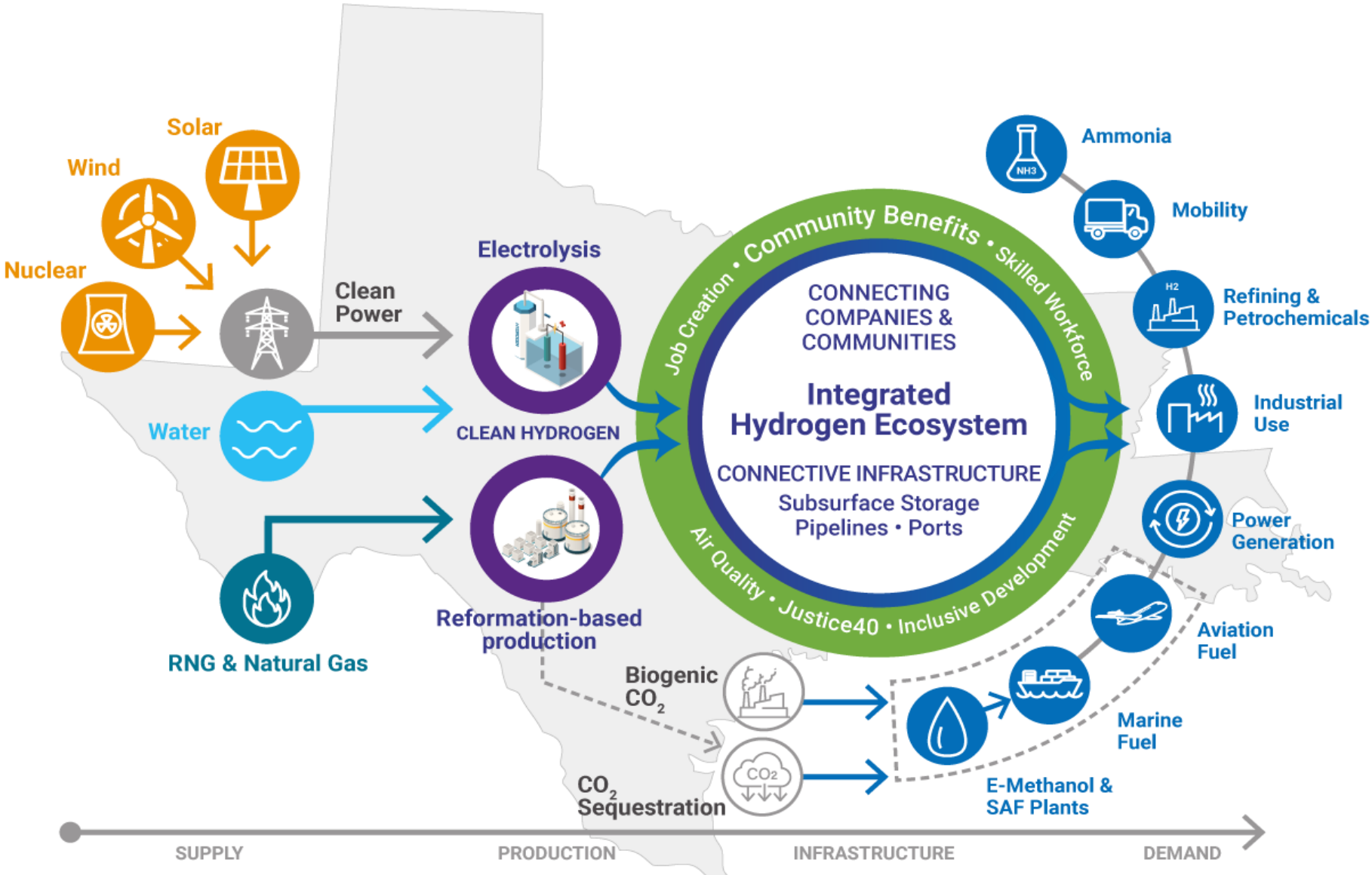


3 of the 6 hydrogen storage caverns in the world

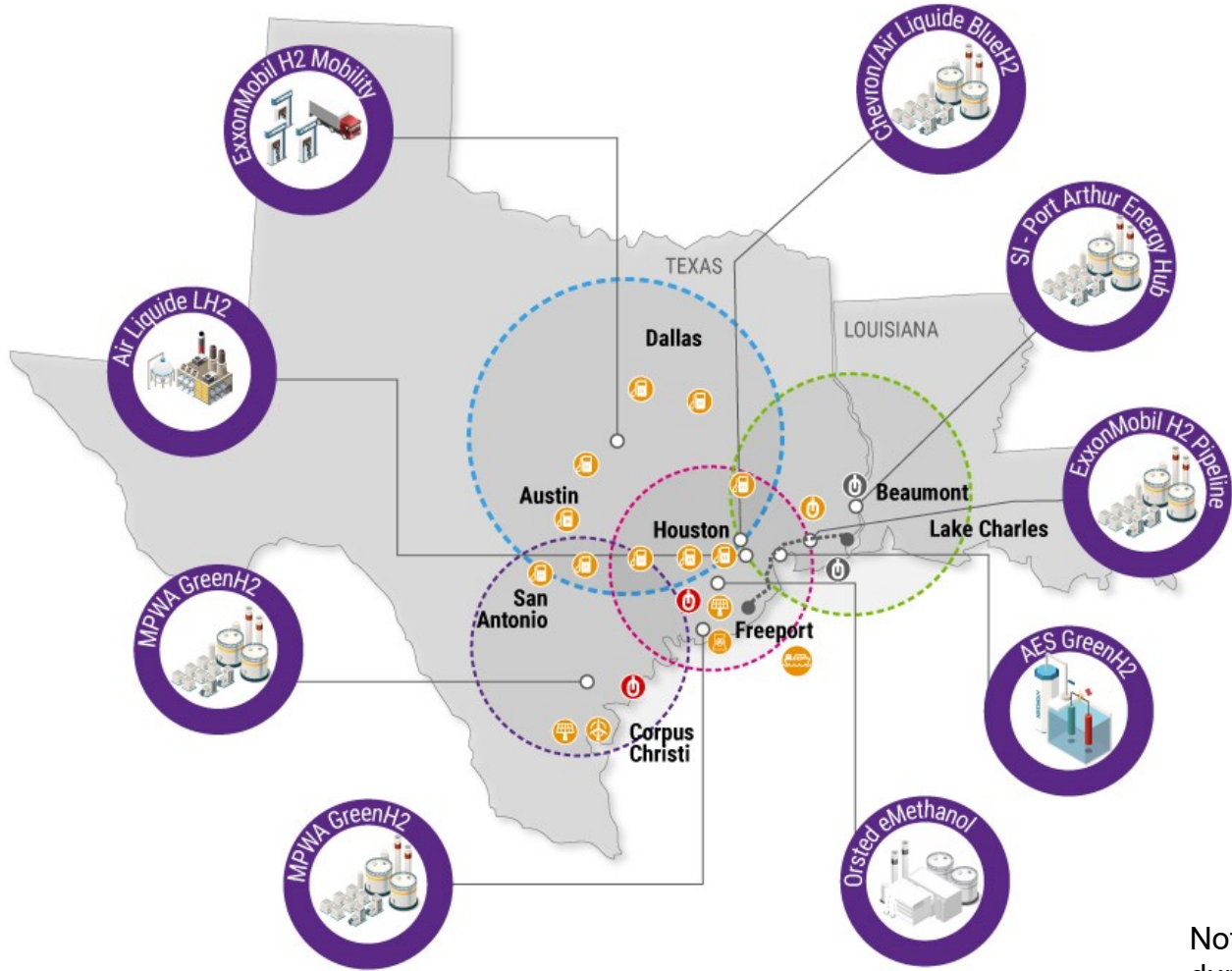
HyVelocity's Clean Hydrogen Ecosystem

- 7 Project Sponsors (AES, Air Liquide, Chevron, ExxonMobil, Mitsubishi, Orsted and Sempra Infrastructure)
- 3 Hub Organizers (GTI Energy, Center for Houston's Future, The University of Texas at Austin)
- 6 Special Advisors (HARC, EPRI, NETL, NREL, Port Houston, Upskill Houston)
- 8 Major academic institutions (including 3 HBCUs and MSIs)
- 20+ Community, workforce, and economic development organizations
- 17 Clean Hydrogen Off-takers Identified
- 100+ Energy and Industrial Gas Industry Supporters

HyVelocity: Envisioned Clean Hydrogen Ecosystem



HyVelocity Envisioned Projects



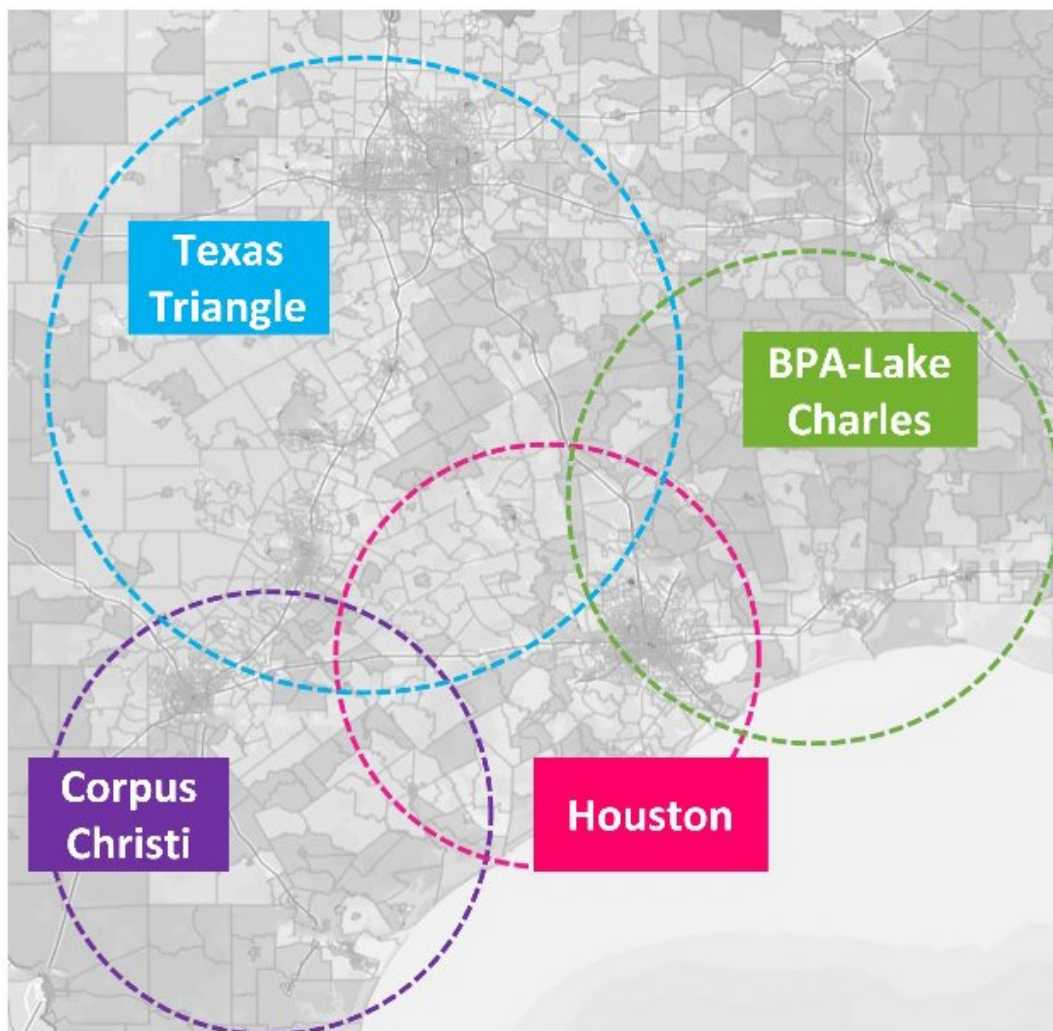
- Corpus Christi Demand Cluster
- Houston Demand Cluster
- BPA-Lake Charles Demand Cluster
- TX Triangle Demand Cluster

HYVELOCITY HUB > INTEGRATED INFRASTRUCTURE

- Solar Farms
- Wind Farms
- CO2 Storage Cavern
- H2 Storage Cavern
- Future H2 Pipelines
- Future H2 Storage Cavern
- Maritime
- H2 Fueling Stations
- Nuclear
- HyVelocity Infrastructure Elements

Note: Map shows general preliminary project locations and are subject to change during future negotiations and site planning

HyV Community Engagement

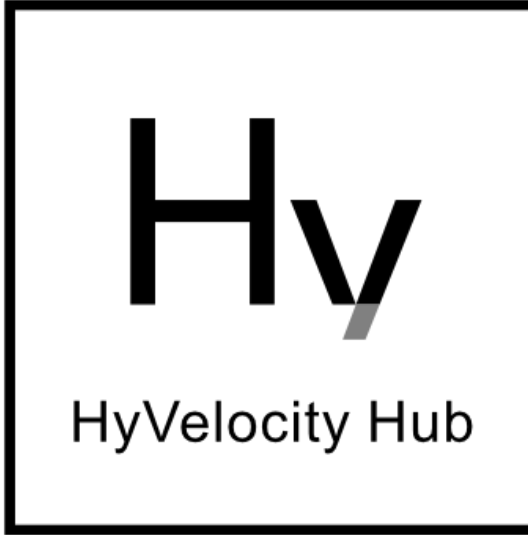


Community Benefits:

- Anticipated Community Benefits Plan Funding – \$120 million.
- Meaningful engagement with stakeholder organizations to ensure disadvantaged and impacted communities benefit from this hub.
- Potential for reductions in Scope 3 emissions for industries purchasing hydrogen.
- Reduction in local air pollution for parts of the region most impacted, including disadvantaged communities.

Job Creation:

- Potential for **up to** 45,000 direct jobs
 - Up to 35,000 construction jobs
 - Up to 10,000 permanent jobs



www.hyvelocityhub.com/contact

