BETWEEN TWO CACTI

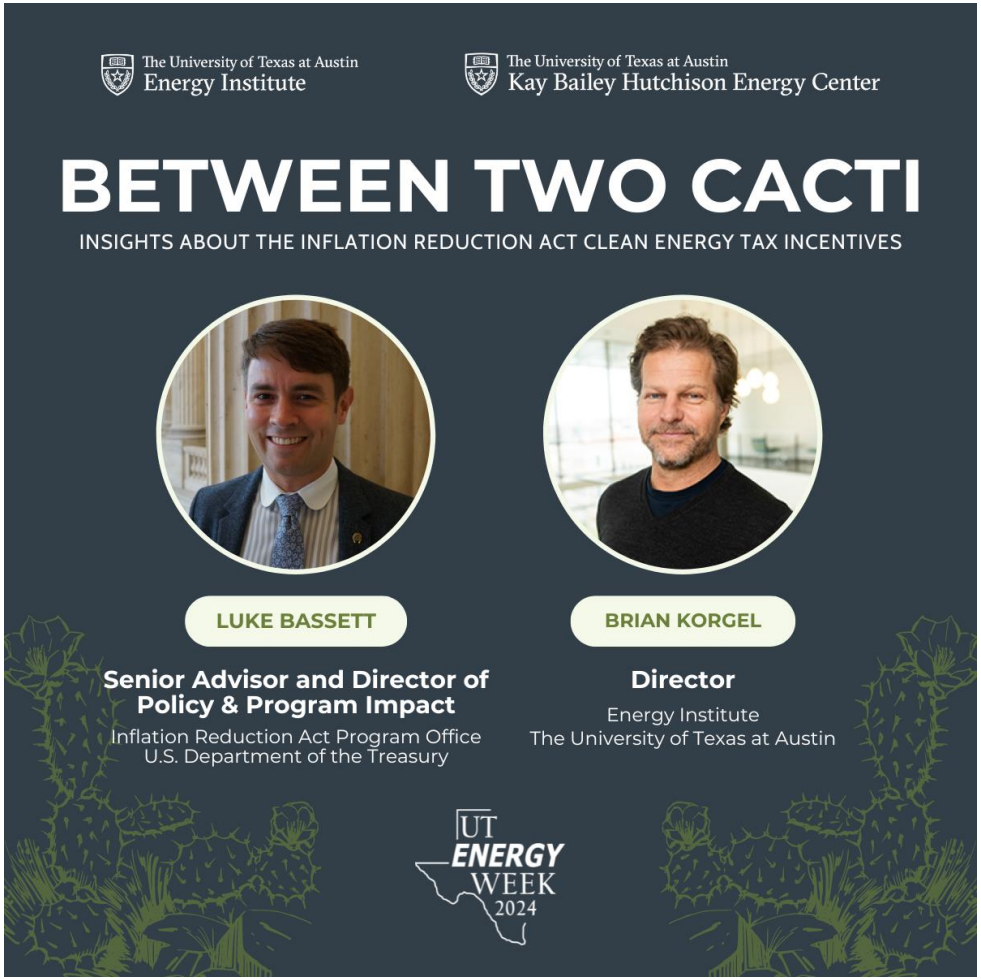
THE HYVELOCITY HYDROGEN HUB AND ENERGY VENTURES & INNOVATION

JUNE 2024

BRIAN A. KORGEL
Energy Institute Director, The University of Texas at Austin

The University of Texas at Austin
Energy Institute

Developing innovative, new approaches to solve the world's greatest energy and climate challenges.



- Policy to revitalize regional economies that have lost jobs during the energy transition.
- Example, West Virginia and the loss of the coal industry
- Models of Regional Innovation

- Under the Infrastructure Investment and Jobs Act, (IIJA), **$8 billion is being provided to support the development of at least four Regional Clean Hydrogen Hubs across the United States**.

- **Under the feedstock diversity requirement, there must be at least one hub that can produce hydrogen from fossil fuels, at least one hub for hydrogen produced from renewable energy,** and at least one hub for hydrogen produced from nuclear energy. **The geographic diversity requirement will result in the location of at least two hubs in regions of the US with the greatest natural gas resources.**

- From DOE FOA: Clean H_2 standard (at point of production): 2 kg CO_2/kg H_2 (vs. 10-13 kg CO_2/kg H_2)

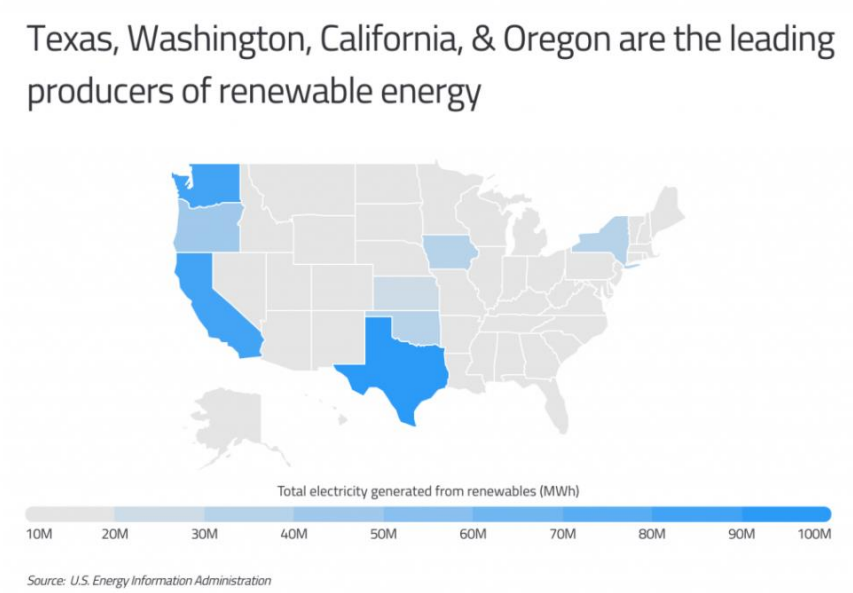
(Note: the definition of “clean hydrogen” continues to evolve with 45V, etc. and current terminology is evolving…”Low Carbon Intensity (LCI) hydrogen”)

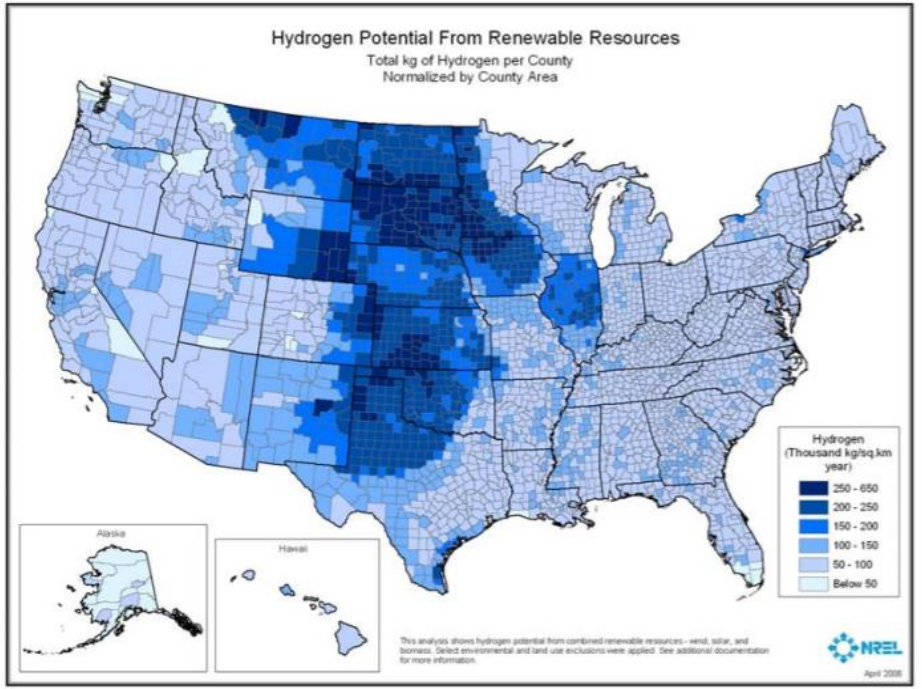
The top five natural gas-producing states and their share of total U.S. natural gas production in 2020 were:

23.9%	21.1%	9.5%	7.6%	7.1%
Texas	Pennsylvania	Louisiana	Oklahoma	West Virginia

Texas positioned well for a regional clean hydrogen hub

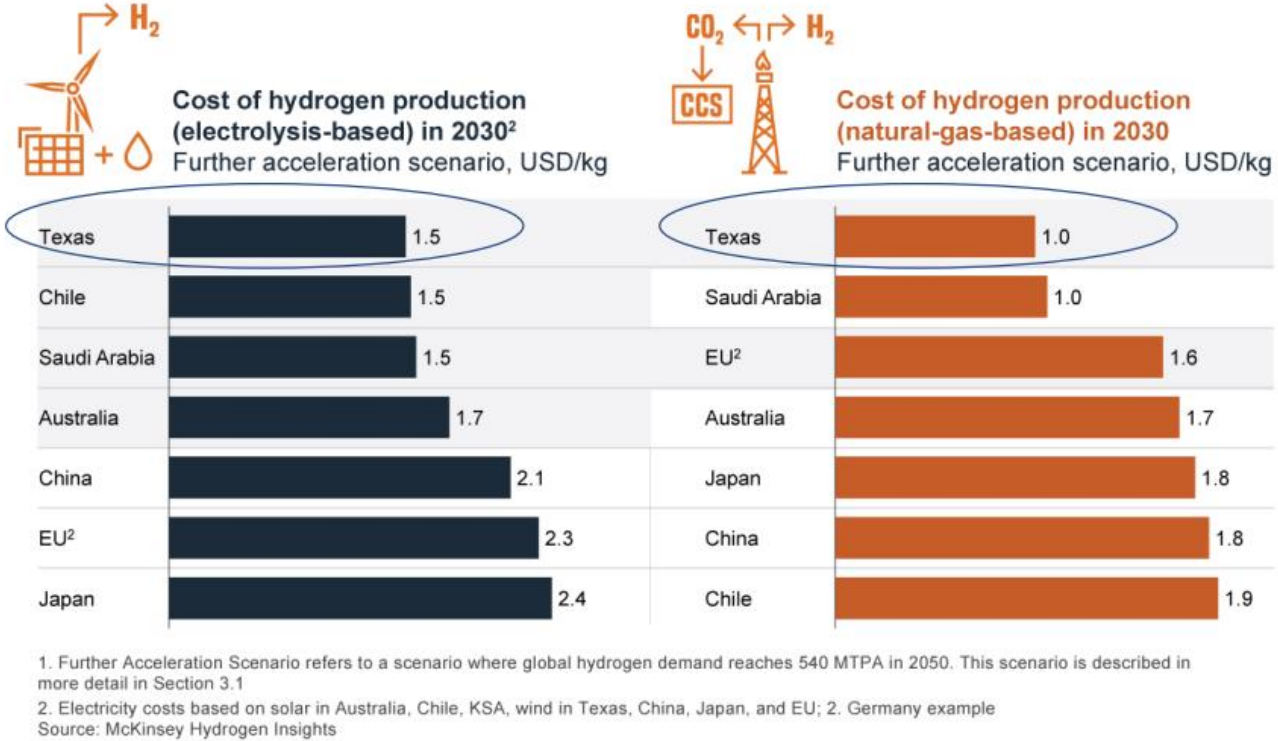
TX WA CA and OR are the leading producers of renewable energy





Texas natural gas producers are currently at a major advantage.

Hydrogen produced from natural gas and electrolysis in Texas could be the world's most cost-competitive hydrogen fuel sources.



1. Further Acceleration Scenario refers to a scenario where global hydrogen demand reaches 540 MTPA in 2050. This scenario is described in more detail in Section 3.1
2. Electricity costs based on solar in Australia, Chile, KSA, wind in Texas, China, Japan, and EU; 2. Germany example
Source: McKinsey Hydrogen Insights

Source: McKinsey & Company. (2022, June 8). Houston as the epicenter of a global clean-hydrogen hub. McKinsey & Company. Page 16. Retrieved September 21, 2022, from: https://www.mckinsey.com/capabilities/sustainability/our-insights/houston-as-the-epicenter-of-a-global-clean-hydrogen-hub

UT Austin as a key convener of a regional clean hydrogen hub

The University of Texas at Austin
Energy Institute

The University of Texas at Austin (UT) Energy Institute connects the resources of the university's top-ranked programs to lead high-impact research aimed at transforming the nation's energy future.

HYDROGEN PRODUCTION SOURCES

Hydrogen can be derived from a variety of sources and production processes abundant in Texas, including:

NATURAL GAS

Most hydrogen is obtained through the steam reformation of natural gas. Greenhouse gases created by this process can be captured and stored while simultaneously enhancing oil and gas production.

RENEWABLE ELECTRICITY

Hydrogen can be produced via electrolysis using surplus renewable electricity generated by Texas' vast wind and solar resources. Storing "extra" renewable electricity that is wasted today could help the state avoid energy shortages.

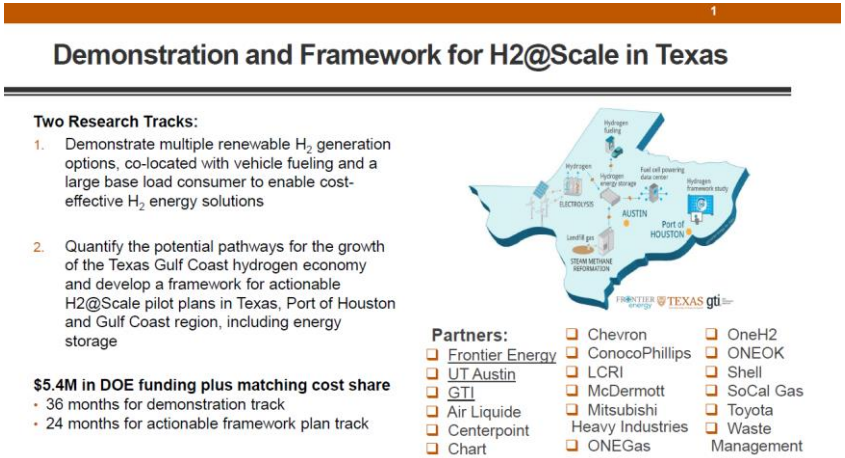
Texas is uniquely positioned to lead the development of the nation's clean hydrogen economy and become a hydrogen export superhub.

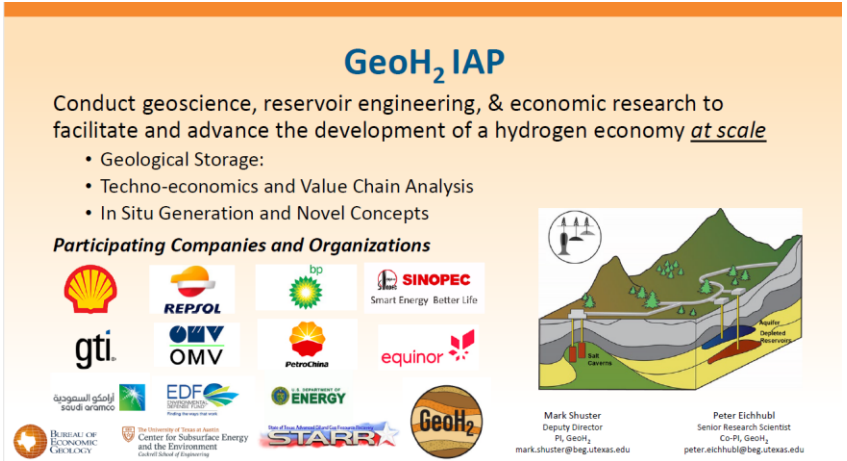
According to the Houston Energy Transition Initiative, by 2050 Texas could realize:

$100 BILLION
hydrogen economy

180,000
new jobs created

Under the Infrastructure Investment and Jobs Act, (IIJA), **$8 billion is being provided to support the development of at least four Regional Clean Hydrogen Hubs across the United States**.





UT Austin as a key convener of a regional clean hydrogen hub: major H2 research efforts & strong industry connections

HyVelocity Hub

Group vies for Gulf Coast hydrogen hub

10 Nov 2022 15:51 (-06:00 GMT)

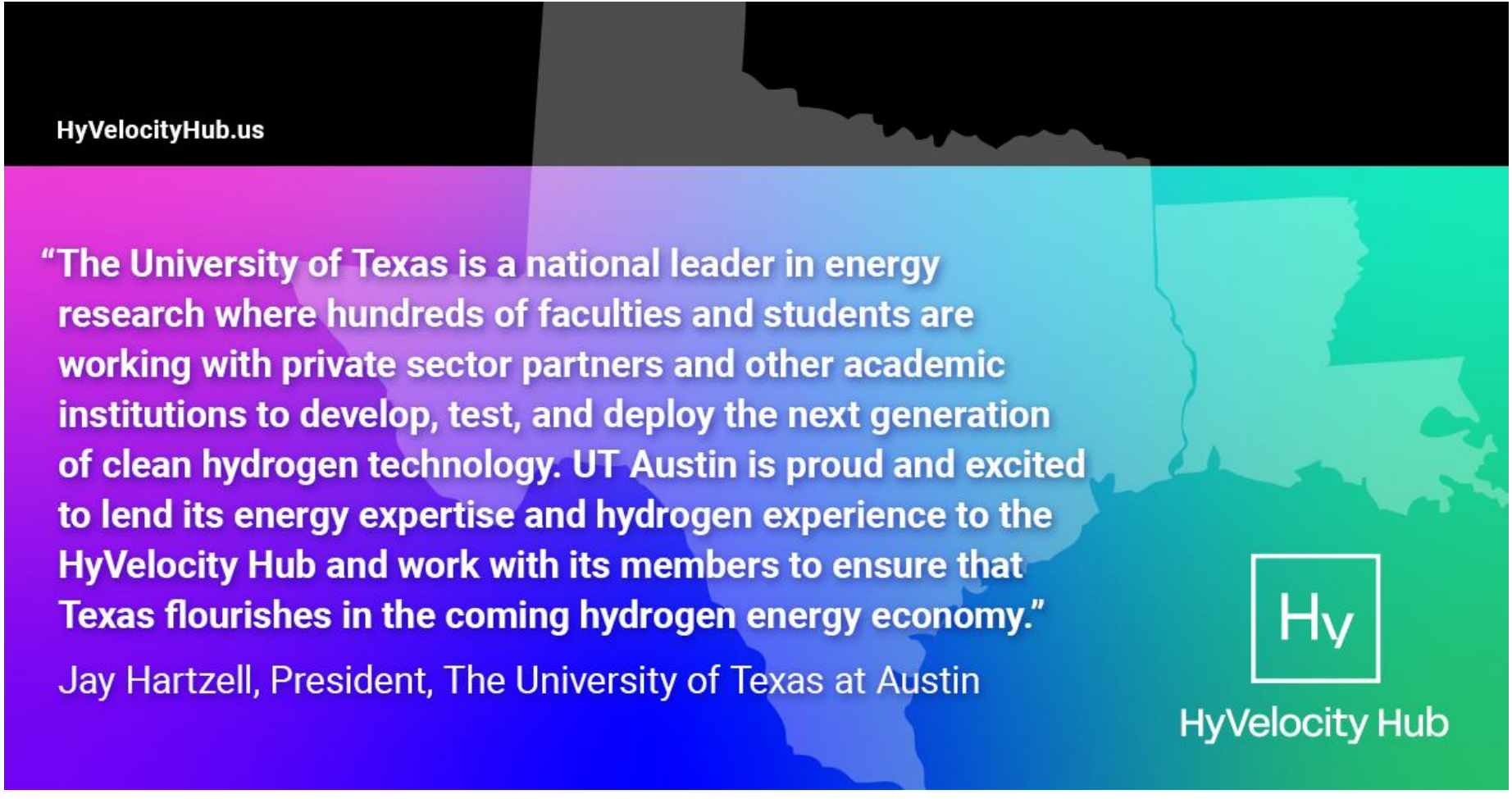
Washington, 10 November (Argus) — A group of research groups, energy companies and universities today proposed a Texas Gulf Coast hydrogen hub, which it will submit to the US Department of Energy (DOE) to be considered for a portion of its $7bn hydrogen hub funding program.

The "HyVelocity Hub" group is led by the University of Texas at Austin and non-profits GTI Energy and Center for Houston's Future, the latter of which released a report this year detailing how the state's hydrogen industry would be likely to rely on its natural gas resources, coupled with carbon capture technology.

The hub's sponsors include Shell, Chevron, ExxonMobil, Sempra, industrial gas supplier Air Liquide and Danish developer Orsted. The project also has a number of supporting partners including electrolyzer makers Cummins and Bloom Energy and zero-emissions aviation firm ZeroAvia, among others.

The DOE's deadline for initial applications closed on Monday this week, with today's announcement out of Texas following recent proposals from Hawaii and Alaska.

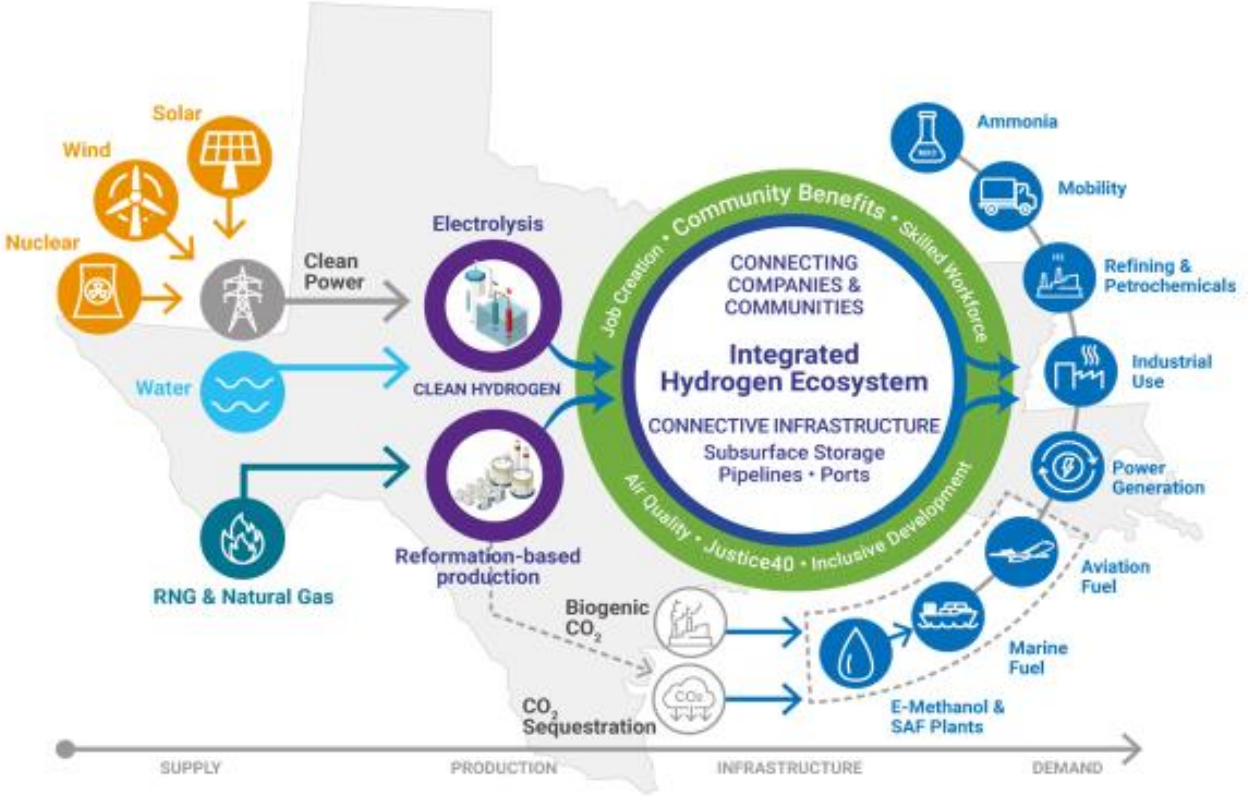
By Emmeline Willey


HyVelocityHub.us
“The University of Texas is a national leader in energy research where hundreds of faculties and students are working with private sector partners and other academic institutions to develop, test, and deploy the next generation of clean hydrogen technology. UT Austin is proud and excited to lend its energy expertise and hydrogen experience to the HyVelocity Hub and work with its members to ensure that Texas flourishes in the coming hydrogen energy economy.”
Jay Hartzell, President, The University of Texas at Austin
Hy
HyVelocity Hub

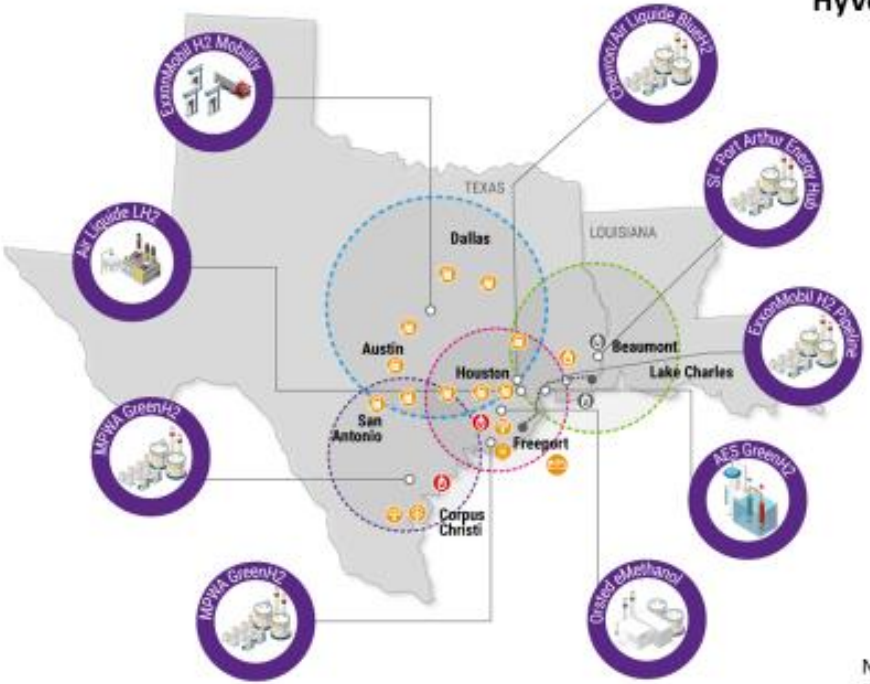
Negotiations with DOE underway ($1.2b in funding)…anticipated October 2024 start date

https://news.utexas.edu/2023/10/13/regional-energy-hub-will-expand-clean-hydrogen-production-and-provide-new-jobs/

HyVelocity: Envisioned Clean Hydrogen Ecosystem



HyVelocity Envisioned Projects



HyVelocity Clean H2 Production Capacity: >5,000 mtpd

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

HYVELOCITY HUB = INTEGRATED INFRASTRUCTURE

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

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

HyV Engagement and Support Network

HyV Community Engagement

HyVelocity Management Committee / Board of Directors

Community Advisory Board (CAB)
The CAB presents and makes decisions for hub-wide CBP funding opportunities and strategic initiatives with final approval from the HyV Board.

CBH Advisory Council (CBHAC)
CBHAC will bring community priorities to the CAB to inform decisions that reflect community interests including how local CBH funding should be allocated.

Workforce Advisory Council (WAC)
WAC will bring workforce priorities to the CAB to inform decisions related to developing quality jobs, workforce development strategies, and workforce agreements.

Community Benefits Hubs (CBH)
Navigation, Communication, and Information Exchanges – Comprised of community members and CBOs

DEIA Framework

Justice40 Tracker

The 11-member Texas Hydrogen Production Council

https://www.rrc.texas.gov/news/121423-rrc-begins-planning-and-oversight-with-newly-established-texas-hydrogen-production-policy-council/

TEXAS 2036

House Bill 2847 by Darby

Preserving Texas' Energy Leadership in Hydrogen Policy Development

Key Takeaways:

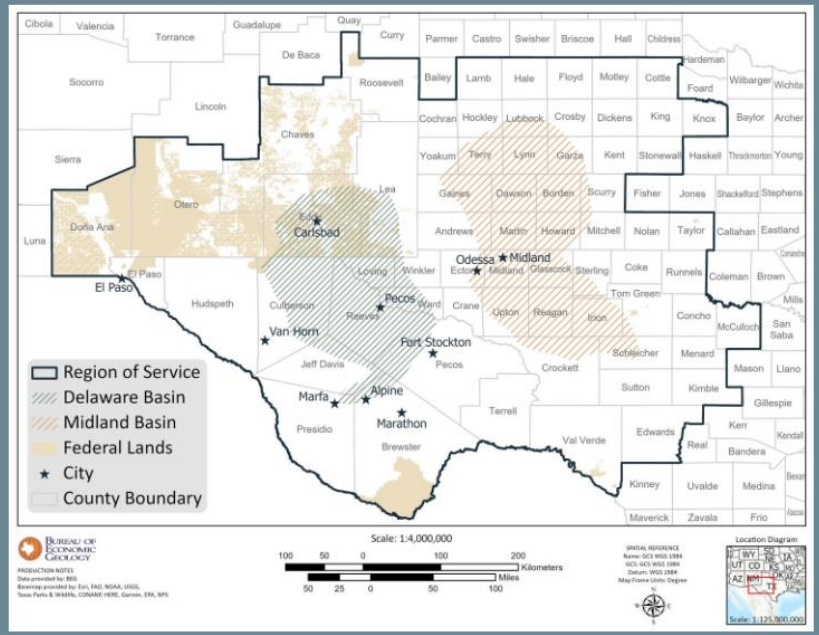
- Hydrogen is a critical component of Texas' energy expansion, where the state's energy sector is expanding to include new, cleaner sources of energy production. As part of this expansion, many energy companies in Texas are investing in new infrastructure and workforce development to address commercial opportunities for hydrogen production, distribution, and use.
- In order for Texas to retain the mantle as the nation's energy leader, the state needs to develop a policy framework regarding the production, transportation, and storage of hydrogen.
- House Bill 2847 proposes a critical, first step towards developing a Texas hydrogen policy framework through the creation of the Texas Hydrogen Production Policy Council at the Railroad Commission.

PERMIAN
Energy Development Lab

Projects Newsroom CONTACT US

The Permian Basin

This project focuses on a 66-county region encompassing eastern New Mexico and West Texas. The Permian Basin includes urban centers (e.g., Midland-Odessa, the region's "oil capital") and vast stretches of rural territory. Its economy is uniquely and deeply tied to the fossil fuel industry, yet its communities — while sharing many economic and environmental challenges and opportunities — are quite diverse, each with distinct cultural values and distinct specialties in energy production.



a regional energy innovation engine

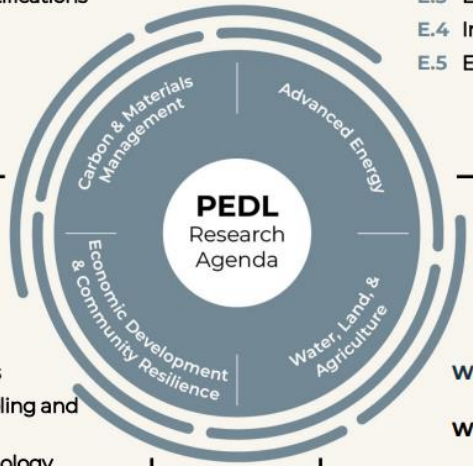
RESEARCH AGENDA

Carbon

- C.1 Carbon storage, capture, and beneficial reuse
- C.2 Methane and emissions management
- C.3 Carbon accounting and certifications
- C.4 Circular economy of energy technologies and materials

Energy

- E.1 Renewable power, storage, & integration
- E.2 Subsurface energy & long-term storage
- E.3 Low-carbon fuels, chemicals & energy carriers
- E.4 Industrial and energy systems infrastructure
- E.5 Energy industry policy, analysis & safety



Economics

- D.1 Equitable energy economics
- D.2 Community resilience modeling and integration
- D.3 Entrepreneurship and technology transfer
- D.4 Regional education and knowledge ecosystem development

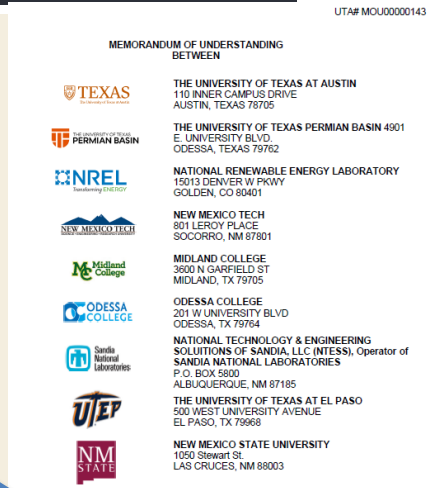
Water

- W.1 Water resource use, treatment and conservation
- W.2 Environmental monitoring and geographic information systems
- W.3 Regenerative agriculture, land restoration and conservation

Coalition of Energy Experts Wins NSF Engines Development Award to Lay the Foundation for an Innovation Hub in the Permian Basin

The National Science Foundation (NSF) has awarded $1M in seed funding to lay the groundwork for a new regional innovation engine in the Permian Basin of Texas and New Mexico. This two-year award, known as the **"NSF Engines Development Award: Advancing energy and resilience technologies in the Permian Basin (TX, NM),"** is the first step toward a possible ten-year, $160M NSF investment to implement the engine.

The Permian Basin based-program will leverage the region's considerable energy infrastructure and expertise — developed through decades of producing energy on a globally significant scale — to support research, development and commercialization of advanced energy solutions and technologies. Community engagement plays a critical role in this effort, fostering trust and inclusive growth.



UTA# MOU00000143

MEMORANDUM OF UNDERSTANDING
BETWEEN

THE UNIVERSITY OF TEXAS AT AUSTIN
110 INNER CAMPUS DRIVE
AUSTIN, TEXAS 78705

THE UNIVERSITY OF TEXAS PERMIAN BASIN 4901
E. UNIVERSITY BLVD.
ODESSA, TEXAS 79762

NATIONAL RENEWABLE ENERGY LABORATORY
15013 DENVER W PKWY
GOLDEN, CO 80401

NEW MEXICO TECH
801 LEROY PLACE
SOCORRO, NM 87801

MIDLAND COLLEGE
3600 N GARFIELD ST
MIDLAND, TX 79705

ODESSA COLLEGE
201 W UNIVERSITY BLVD
ODESSA, TX 79764

NATIONAL TECHNOLOGY & ENGINEERING SOLUITIONS OF SANDIA, LLC (NTESS), Operator of SANDIA NATIONAL LABORATORIES
P.O. BOX 5800
ALBUQUERQUE, NM 87185

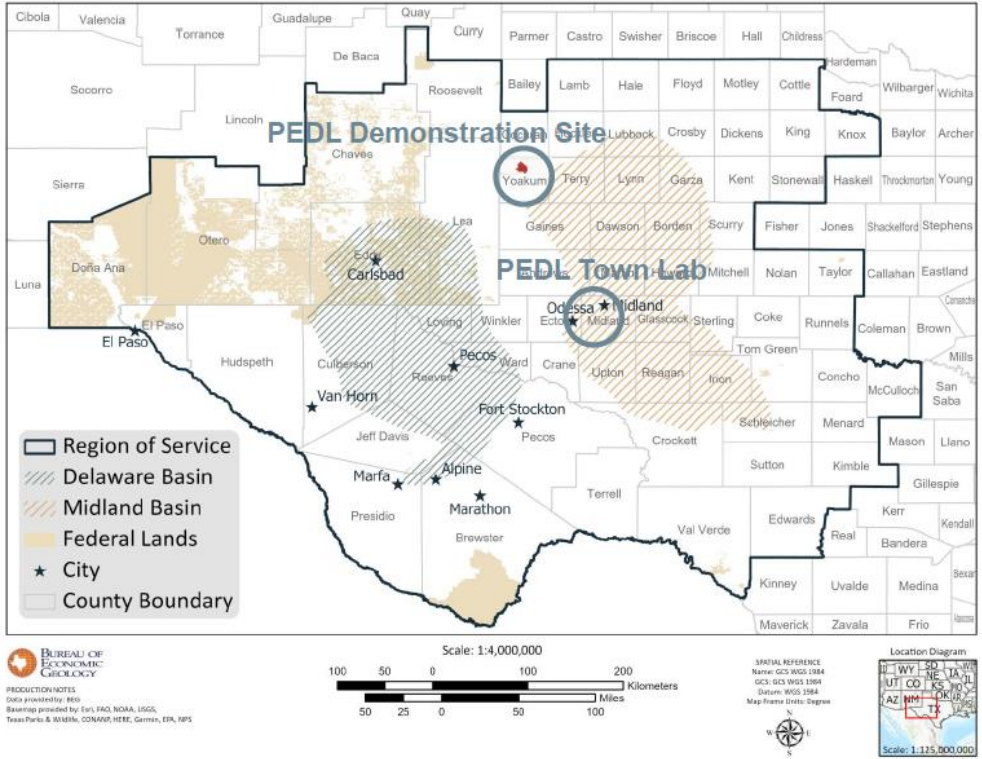
THE UNIVERSITY OF TEXAS AT EL PASO
500 WEST UNIVERSITY AVENUE
EL PASO, TX 79968

NEW MEXICO STATE UNIVERSITY
1050 Stewart St.
LAS CRUCES, NM 88003

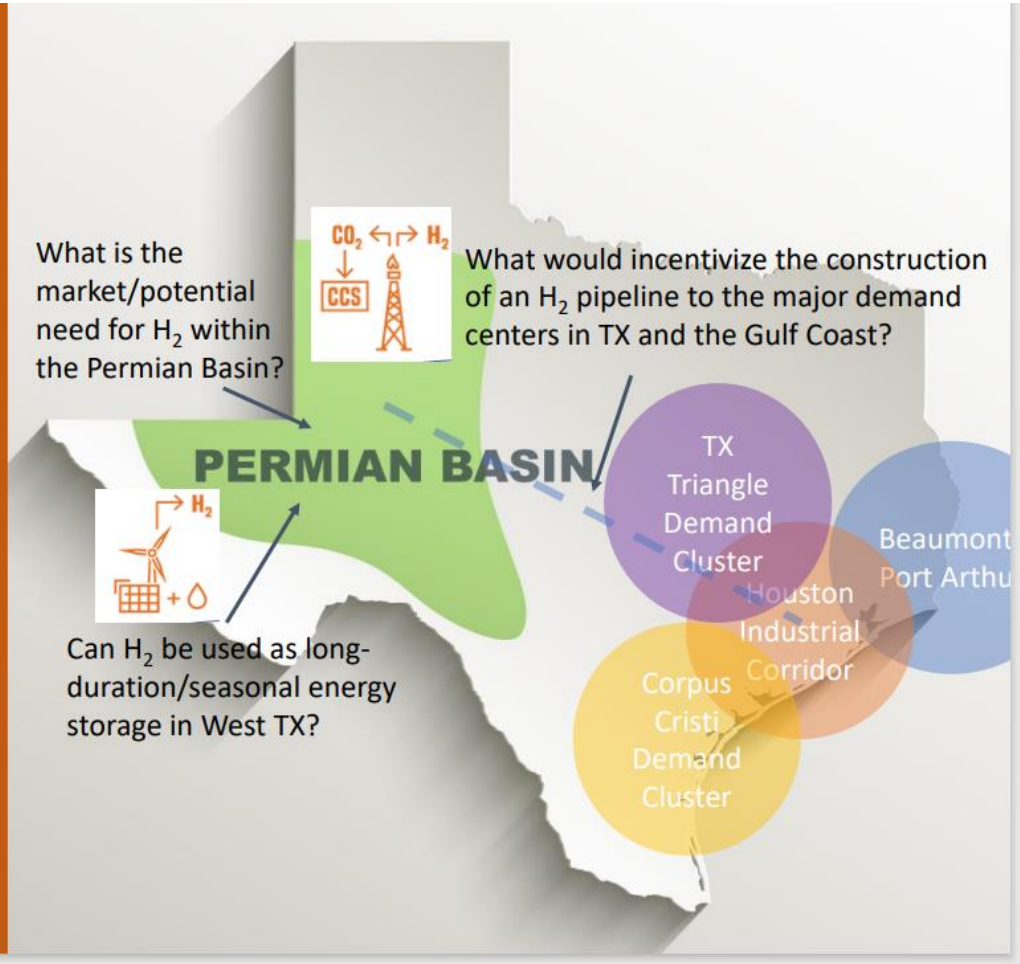
$1mm,
2 years

LOCATIONS AND VALUE OF PEDL FOR RESEARCH

- **Large land area** for full scale demonstrations of advanced energy technologies
- **Onsite regional infrastructure** including CO_2 and gas pipelines, power grid, and energy storage capacity
- **High-bay and flexible lab space** near regional industrial hub
- **Open access** user facilities with diverse energy resources
- **Community** economic and equity opportunities which align with national objectives



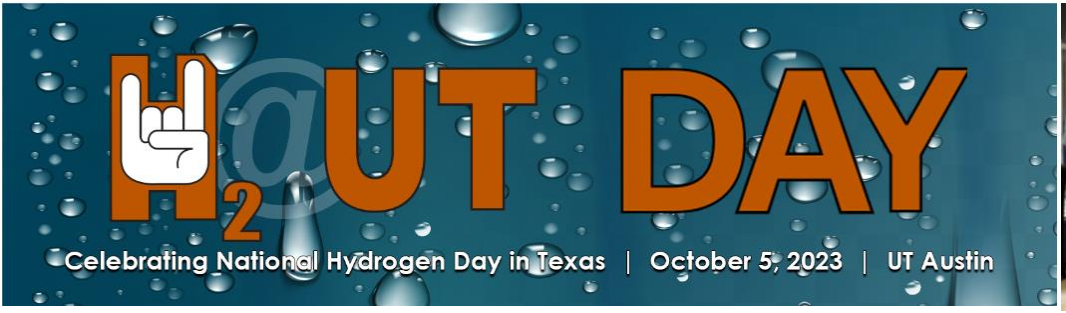
THE PERMIAN HYDROGEN RESEARCH CONSORTIUM (PH2RC)

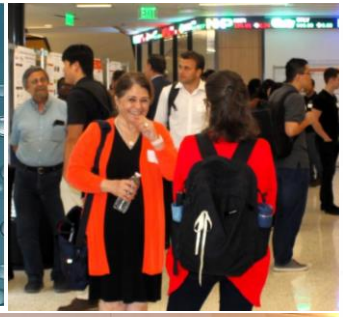


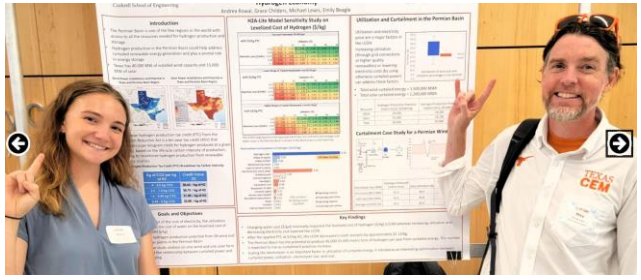
Energy Institute Pillars of Innovation:

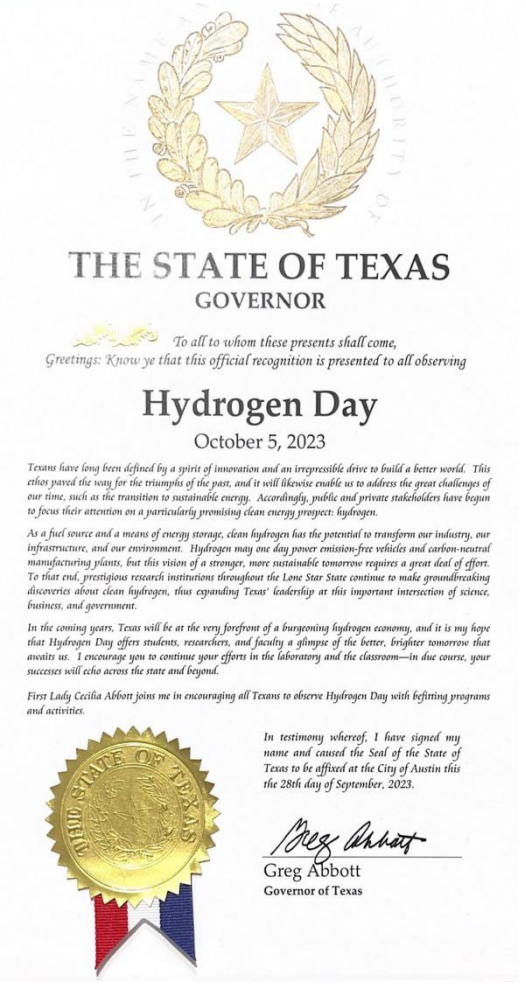
- Convening
- Strategic Seed Research
- Industry Engagement
- Student Entrepreneurship

Areas of Innovation: Hydrogen









THE STATE OF TEXAS
GOVERNOR

To all to whom these presents shall come,
Greetings: Know ye that this official recognition is presented to all observing

Hydrogen Day

October 5, 2023

Texans have long been defined by a spirit of innovation and an irrepressible drive to build a better world. This ethos paved the way for the triumphs of the past, and it will likewise enable us to address the great challenges of our time, such as the transition to sustainable energy. Accordingly, public and private stakeholders have begun to focus their attention on a particularly promising clean energy prospect: hydrogen.

As a fuel source and a means of energy storage, clean hydrogen has the potential to transform our industry, our infrastructure, and our environment. Hydrogen may one day power emission-free vehicles and carbon-neutral manufacturing plants, but this vision of a stronger, more sustainable tomorrow requires a great deal of effort. To that end, prestigious research institutions throughout the Lone Star State continue to make groundbreaking discoveries about clean hydrogen, thus expanding Texas' leadership at this important intersection of science, business, and government.

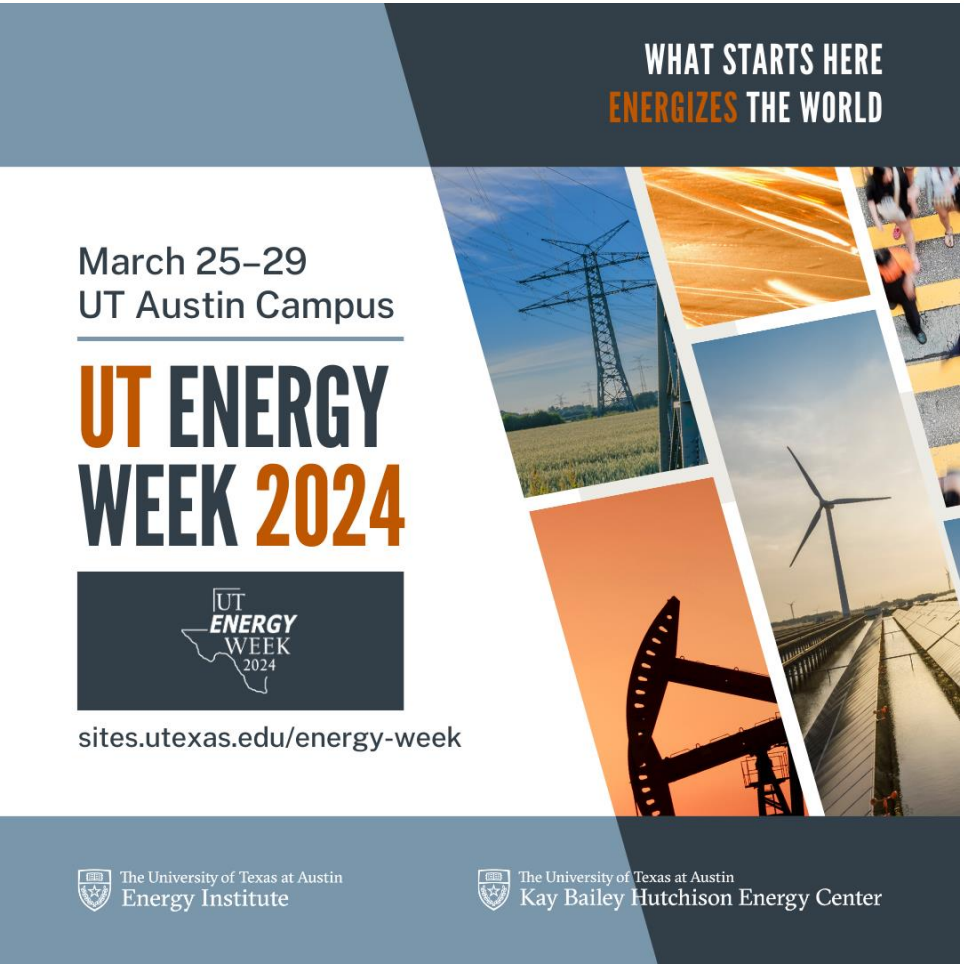
In the coming years, Texas will be at the very forefront of a burgeoning hydrogen economy, and it is my hope that Hydrogen Day offers students, researchers, and faculty a glimpse of the better, brighter tomorrow that awaits us. I encourage you to continue your efforts in the laboratory and the classroom—in due course, your successes will echo across the state and beyond.

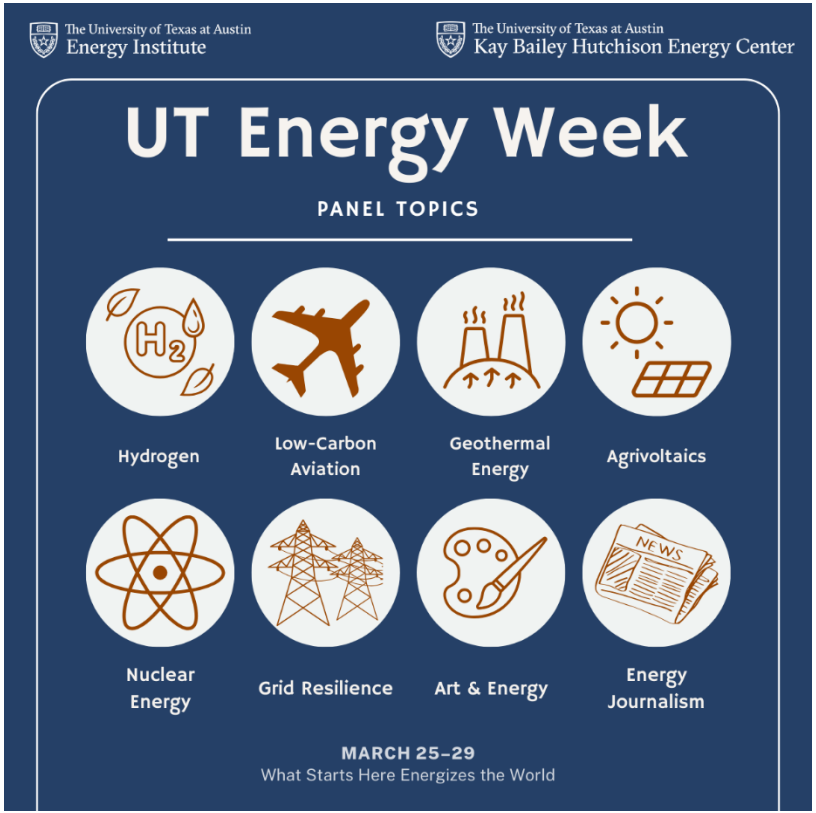
First Lady Cecilia Abbott joins me in encouraging all Texans to observe Hydrogen Day with befitting programs and activities.

In testimony whereof, I have signed my name and caused the Seal of the State of Texas to be affixed at the City of Austin this the 28th day of September, 2023.

Greg Abbott
Governor of Texas

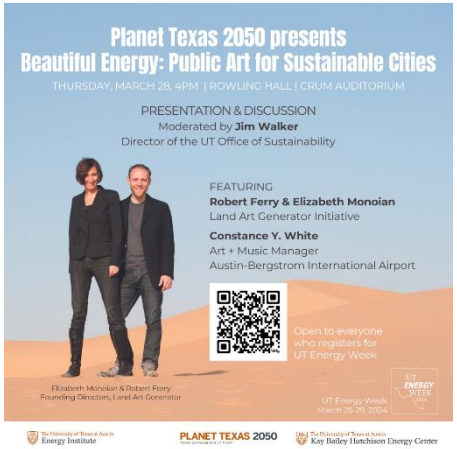
Public Events & Education

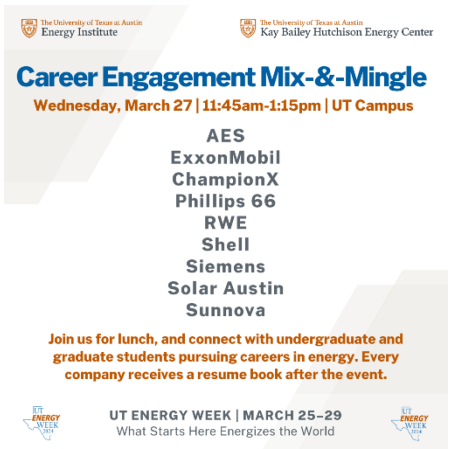


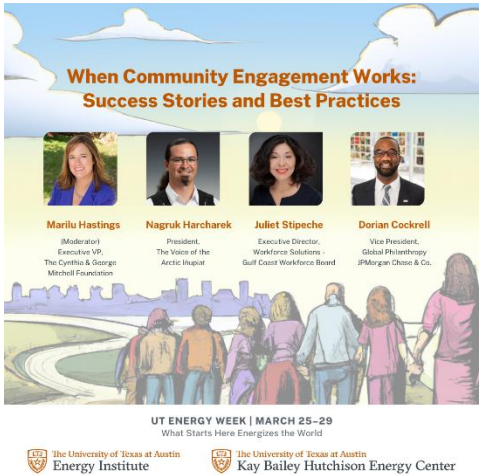


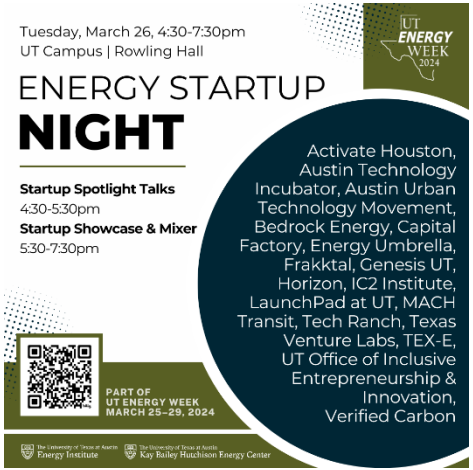
https://sites.utexas.edu/energy-week/

Public Events & Education

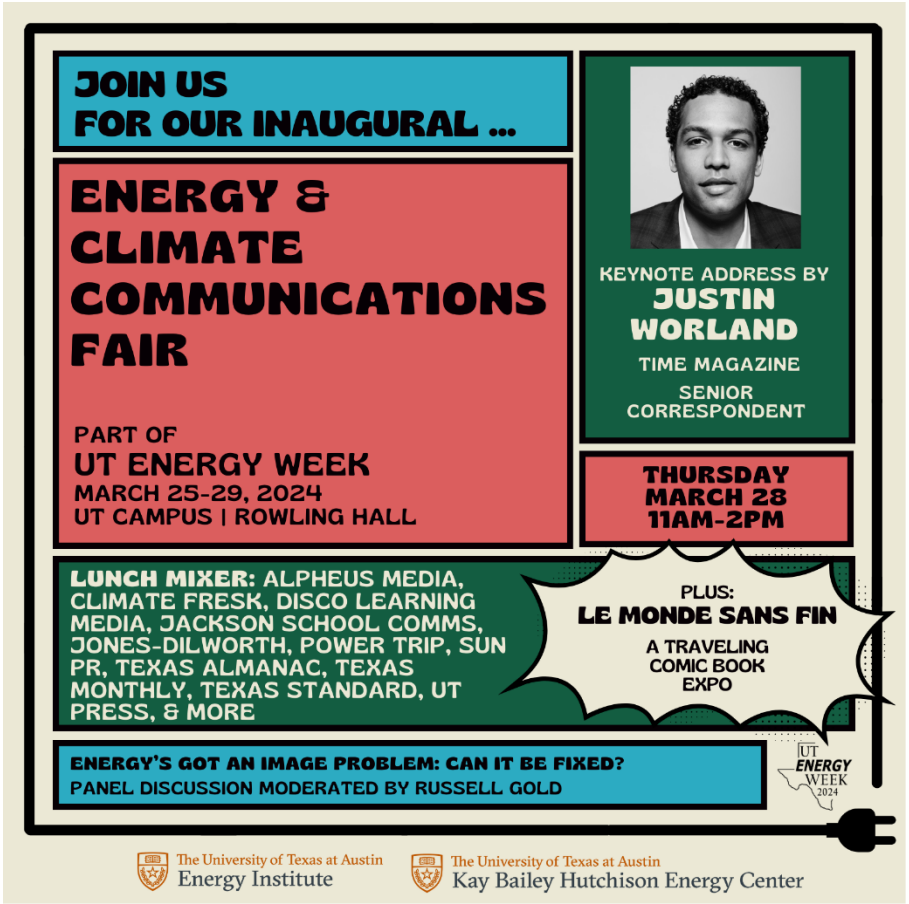


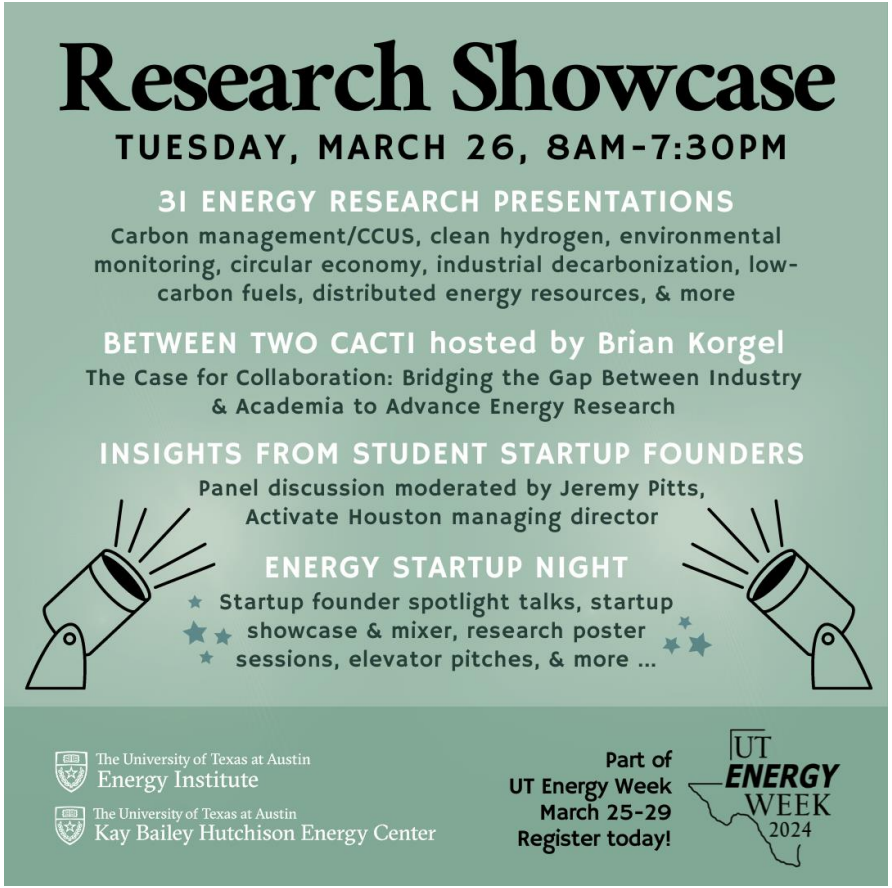






Public Events & Education





The University of Texas at Austin
Energy Institute

The University of Texas at Austin
Kay Bailey Hutchison Energy Center

BETWEEN TWO CACTI

THE CASE FOR COLLABORATION:
BRIDGING THE GAP BETWEEN INDUSTRY AND ACADEMIA TO ADVANCE ENERGY RESEARCH

DOMINIC CLAUSI
Vice President of Research, ExxonMobil

HAIBIN XU
General Manager, Shell Research Alliance

BRIAN KORGEL
Director, UT Energy Institute

UT ENERGY WEEK 2024

Haibin Xu • 1st
General Manager, Shell Research Alliance | passionate about...
2mo •

I had a thought provoking and enjoyable conversation in Brian Korgel 's "between two cacti" series this week on UT Austin campus - some of my thoughts here.
Brian Korgel Dominic Clausi

Dreams and Common Sense

Between two cacti - the case for industry-academia collaborations

Haibin Xu on LinkedIn • 5 min read

Seed Research

43 SEED PROJECTS

71 UT FACULTY & RESEARCHERS

RESEARCH AREAS

Clean hydrogen fuel & engine applications Magnetized chip technology Carbon Management Carbon capture utilization and storage (CCUS) Power grid Infrastructure, Resilience and e-mobility Environmental monitoring, supply chain, circular economy and policy Industrial Decarbonization Water Resource Use, Treatment, and Conservation Low and Zero-Carbon Fuels and Distributed Energy Resources (DERs) Greenhouse gas mitigation Solar-powered water purification Recovery of Rare Earth Elements Communicating the Energy transition

FUELING A SUSTAINABLE ENERGY TRANSITION

2020 - 2022

$2,500,000 (UT) funding 12 projects
fostering multidisciplinary teams to seed new approaches to all aspects of energy transition

ENERGY SEED GRANT

2022 - 2023

$1,020,000 (UT) funding 17 projects
sparking impactful and collaborative energy research for decarbonization and climate security

ENERGIZE

2022 - 2024

$720,000 (UT+SwRI) funding 5 projects
enhancing collaboration between the Southwest Research Institute (SwRI) and The University of Texas at Austin

STRATEGIC ENERGY SEED GRANT

2023 - 2024

$900,000 (industry) funding 9 projects
accelerating scientific, engineering, technological, techno-economic and policy innovations to meet climate goals

The University of Texas at Austin
Energy Institute

2024 Strategic Energy Seed Grant Program

Received 61 proposals.
12 projects funded by industry partners
https://energy.utexas.edu/2024-strategic-energy-seed-grant-program-project-announcement

Program Description

The 2024 Strategic Energy Seed Grant Program is a funding opportunity sponsored by The Energy Institute at The University of Texas at Austin to spark new, impactful and collaborative research in any field of energy, including business, law and policy, with an aim towards decarbonization and climate security.

Discipline/Subject Area: Energy Sciences, Engineering, Business, Law and/or Policy

Estimated Number of Awards: 12

Maximum Total Funding Per Project: $100,000

The following research projects were selected for funding in the 2024 Strategic Energy Seed Grant program:

Battery Production & Critical Minerals

- Discovery of modified phosphate solid electrolytes for all-solid-state sodium batteries, **David Mitlin**, Walker Department of Mechanical Engineering, Cockrell School of Engineering; **Donald Siegel**, Walker Department of Mechanical Engineering, Cockrell School of Engineering
- Scalable tissue-inspired lithium extraction electrochemical membranes, **Manish Kumar**, Maseeh Department of Civil, Architectural and Environmental Engineering, Cockrell School of Engineering; **Venkat Ganesan**, McKetta Department of Chemical Engineering, Cockrell School of Engineering; **Harekrushna Behera**, Maseeh Department of Civil, Architectural and Environmental Engineering, Cockrell School of Engineering

Carbon Capture & Storage

- De-risking carbon capture with amine solvents using high resolution mass spectrometer methods, **Fred Closmann**, McKetta Department of Chemical Engineering, Cockrell School of Engineering; **Pawel Misztal**, Maseeh Department of Civil, Architectural and Environmental Engineering, Cockrell School of Engineering; **Ian Riddington**, Department of Chemistry, College of Natural Sciences
- Increase carbon sequestration and storage by accumulation of plant root biomass and microbiomes, **Z. Jeffrey Chen**, Department of Molecular Biosciences, College of Natural Sciences; **Thomas E. Juenger**, Department of Integrative Biology, College of Natural Sciences
- Lab-to-field scale time-lapse seismic monitoring for carbon storage, **Shuvajit Bhattacharya**, Bureau of Economic Geology, Jackson School of Geosciences; **Hailun Ni**, Bureau of Economic Geology, Jackson School of Geosciences; **Nicola Tisato**, Department of Earth and Planetary Sciences, Jackson School of Geosciences

Clean Hydrogen

- Distributed and electrified green ammonia production using plasma-catalysis, **Charles B. Mullins**, McKetta Department of Chemical Engineering, Cockrell School of Engineering, Department of Chemistry, College of Natural Sciences; **Thomas Underwood**, Aerospace Engineering and Engineering Mechanics, Cockrell School of Engineering; **Michael Webber**, Walker Department of Mechanical Engineering, Cockrell School of Engineering
- Enhancing the durability of electrocatalysts for the oxygen evolution reaction through strong metal-support interactions, **Delia Milliron**, McKetta Department of Chemical Engineering, Cockrell School of Engineering; **Joaquin Resasco**, McKetta Department of Chemical Engineering, Cockrell School of Engineering
- Innovating green hydrogen production: synthesizing high entropy alloys via bubble printing for enhanced electrocatalytic performance, **Yuebing Zheng**, Texas Materials Institute and Walker Department of Mechanical Engineering, Cockrell School of Engineering; **Simon M. Humphrey**, Department of Chemistry, College of Natural Sciences

Industrial Decarbonization

- From solar panels to sustainable concrete: development of solar waste glass pozzolan (SWAGPozz), **Raissa Ferron**, Maseeh Department of Civil, Architectural and Environmental Engineering, Cockrell School of Engineering; **Christopher Rausch**, Maseeh Department of Civil, Architectural and Environmental Engineering, Cockrell School of Engineering
- Mitigating voltage sag disturbances for electrified industrial process loads, **Surya Santoso**, Chandra Department of Electrical and Computer Engineering, Cockrell School of Engineering; **Brian Johnson**, Chandra Department of Electrical and Computer Engineering, Cockrell School of Engineering

Produced Water Treatment & Reuse

- Evaluation of a novel integrated ceramic membrane/hollow fiber membrane contactor process for produced water reuse, **Lynn Katz**, Maseeh Department of Civil, Architectural and Environmental Engineering, Cockrell School of Engineering; **Frank Seibert**, Center for Energy and Environmental Resources, Cockrell School of Engineering
- Technical and techno-economic analysis of produced water treatment for green and blue hydrogen production in Texas, from **Vaibhav Bahadur**, McKetta Department of Chemical Engineering, Cockrell School of Engineering; **Michael Lewis**, Center for Electromechanics, Cockrell School of Engineering; **Michael Webber**, Walker Department of Mechanical Engineering, Cockrell

Public Events & Education

On CleanTech 2.0…Ira and I also had lunch with President Hartzell about UT's strategy on energy innovation

UT Student Energy Innovation Prize

GENESIS

Call For Innovation

Experience the excitement of driving your career and building technology that can revolutionize the world. The Call for Innovation brings industry experts, thousands of dollars in investment funding, and hands-on education to students across UT Austin. Come and see how you can be part of a team that is about to change the world forever.

For Longhorn Students Interested In:

- Hands on real world experience in science, engineering, and business
- Mentorship and guidance from industry professionals and leaders
- Thousands of dollars in startup funding

Taking place at UT Austin ***February 24th @ 5 PM (CST)***

Click here to learn more: **https://genesisut.com/c4i**

Affinity Engineering · Chevron · The University of Texas at Austin Energy Institute · ASME SETTING THE STANDARD · ESW · Student Engineering Council

$50,000 Student energy innovation prize

[first iteration]

UT Student Energy Innovation Prize

2024 c4i launched…

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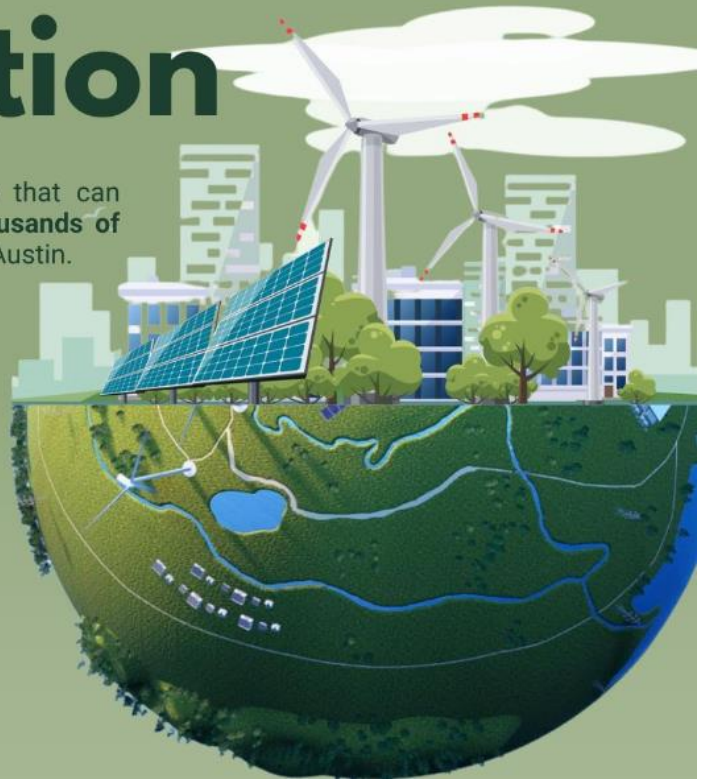

The University of Texas at Austin Energy Institute

Student Engineering Council

the human energy company Chevron

Tex-E Program

Texas Entrepreneurship Exchange for Energy (TEX-E)

TEX-E is a first-of-a-kind collaboration among The University of Texas at Austin, Texas A&M University, University of Houston, Rice University, and Prairie View A&M University—powered by Greentown Labs and MIT's Martin Trust Center for Entrepreneurship—to create a powerful student-driven entrepreneurship ecosystem in Texas.

TEX-E PRIZE FINALISTS

Gazelle Ecosolutions works with ranchers to restore ecologically vulnerable grasslands while accelerating nature-based carbon capture. Its co-founders are Amod Caherkar, Mihir Bendre, Siddarth Takur, and Thoralf Meyer from the University of Texas at Austin.

https://greentownlabs.com/tex-e/

The University of Texas at Austin
Energy Institute

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EDUCATION POLICY STUDIES UT ENERGY RESEARCH ABOUT MEMBERSHIP EVENTS

Home > Education > Energy Ventures Practicum

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TEXAS McCombs
The University of Texas at Austin
McCombs School of Business

https://energy.utexas.edu/education/energy-ventures-practicum

TEXE

Energy Ventures Practicum: Spring 2024

Commercialize innovations in the energy sector

Taught by UT's Jon Brumley Texas Venture Labs, the Energy Ventures Practicum brings together teams of business, law, policy, and technology students to develop essential skills, capabilities, and connections for creating ventures in the dynamic energy sector. The primary objectives of the class are to provide a robust framework for commercializing innovations in energy and to equip entrepreneurs with the necessary tools to frame and build businesses.

This graduate-level course goes beyond general entrepreneurial concepts to address special challenges faced in the energy industry and related sectors. The course is designed to educate students through hands-on, practical experience. In the first two weeks of the Spring semester, ideas for new technologies or services (from labs, companies, and fellow students) are pitched to the class. Student teams then choose the ideas they like and, over the course of the semester, they each develop a viable plan for commercializing the idea they've chosen.

Questions?

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Nora Ankrum, nora@energy.utexas.edu

Brian Korgel, korgel@che.utexas.edu

New McCombs Course Aims to Spur Energy Entrepreneurship

Collaboration between UT and MIT will catalyze Texas energy startups.

What's next?...hydrogen, innovation…**international partnership**

TEXAS

The University of Texas at Austin
Energy Institute

https://energy.utexas.edu/

The Japan-Texas Connection

Kawasaki Heavy Industry
Suiso Frontera
Kobe, Japan

The Japan-Texas Connection

Mitsubishi Heavy Industry
Takasago Hydrogen Park, Japan

The Japan-Texas Connection

Iwatani Central Research Institute
Amagasaki, Japan

- Japan could be a key import partner with Texas hydrogen producers
- How will it be shipped? (liq H_2, NH_3, MCH?)
- Can Japan learn from Texas lessons as the region scales electrolytic hydrogen production?
- Can Texas learn lessons from Japan as it scales hydrogen (and ammonia) use for power production?
- How can Japan and Texas (& US) innovate together in hydrogen technologies to speed global decarbonization goals? (combustion, electrolysis, fuel cells, mobility, industrial decarbonization, power generation)
- Can Japan and the US learn from each other in the policy arena for incentivizing the use of hydrogen as a decarbonization pathway?
- Shared learnings in new energy venture creation…?