

Texas Industrial Energy Efficiency Network TIEEN Webinar, October 17, 2023

Legislative and Regulatory Developments in Texas
Impacting Energy Production, Efficiency, and Use



We Are About to Start Recording

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Legislative and Regulatory Developments in Texas
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Housekeeping

Please stay muted and keep video off

Speaker Bios & Webinar Details:

<https://uh.edu/uh-energy-innovation/uh-energy/educational-programs/industrial-energy/teen/webinar-legislative.php>

Q&A: Please use the chat box

PDH Certificates will be available at the end of the webinar

Please complete our **survey** after the webinar

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Introducing the TIEEN Team

The [Texas Industrial Energy Efficiency Network \(TIEEN\)](#) is a network of publicly supported industrial energy-efficiency organizations. TIEEN is funded through a grant from the State Energy Conservation Office (SECO), and it is operated through UH Energy at the University of Houston.

SPEER – The South-central Partnership for Energy Efficiency as a Resource – Austin, TX based

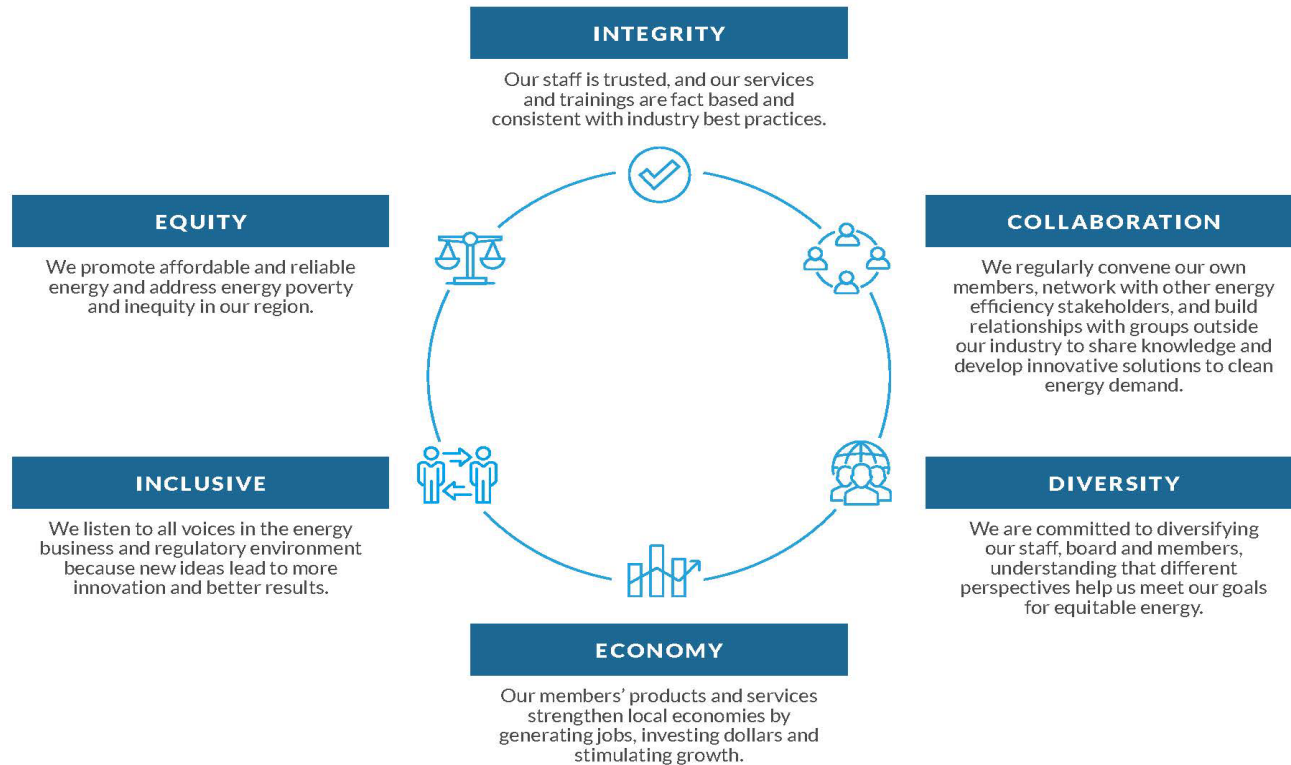
SPEER'S MISSION IS TO ACCELERATE THE ADOPTION OF ENERGY EFFICIENCY PRODUCTS AND SERVICES IN TEXAS AND OKLAHOMA. WE WILL ACCOMPLISH OUR MISSION BY:

- ✓ • BUILDING AND LEADING DIVERSE PARTNERSHIPS AMONG ALL STAKEHOLDERS;
- ✓ • PROVIDING SCIENCE-BASED RESOURCES AND TRAININGS FOR OUR MEMBERSHIP AND PARTNERS; AND
- ✓ • PROMOTING POLICIES THAT ADVANCE ENERGY EFFICIENCY TECHNOLOGY, RESEARCH AND OTHER INNOVATIONS.

SPEER – The South-central Partnership for Energy Efficiency as a Resource

OUR VALUES

SPEER integrates the following values into everything we do to meet the needs of our members, local communities, staff and board.



Our vision is to position SPEER as the regional leader in the education and promotion of energy efficient building systems and distributed energy resources that strengthen local economies, improve health and quality of life, and protect the environment.

Our Focus:

- Building Tech Optimization
- Local Governments
- Code Enhancements
- Heat Pump Adoption
- Workshops/Trainings

Our Mission

TMAC's mission is to accelerate profitable growth and competitiveness of Texas manufacturers by developing and improving profit, products, processes, technologies and people.



Kurt Middelkoop
kurt.middelkoop@tmac.org
817-307-0613
www.tmac.org

Houston Advanced Research Center (HARC)

HARCresearch.org

HARC applies science to drive energy, air, water, and resilience solutions for a sustainable and equitable future.

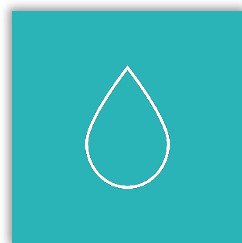
Program Areas



Energy



Air



Water



Climate



Geospatial





HARC

Carlos Gamarra, PhD, PE, CEM

Sr. Research Scientist and Program Director, Clean Energy

cgamarra@harcresearch.org

HARCresearch.org

Introduction to IAC Program



- *TAMU IAC Info*

- ✓ No-cost energy conservation studies
- ✓ Quantify savings and implementation costs
- ✓ Staff professional assisted by 4 – 6 students
- ✓ DOE criteria for manufacturing plants
 - Sites less than:
 - 500 employees, annual sales \$100MM
 - Energy costs between \$100 K ~ \$3.5 MM/year
 - No on-site staff energy manager

James Eggebrecht
TAMU IAC Asst. Director

979-862-2176

jegge@tamu.edu

PACE

A new financing
option for industrial
energy, water and
environmental
projects



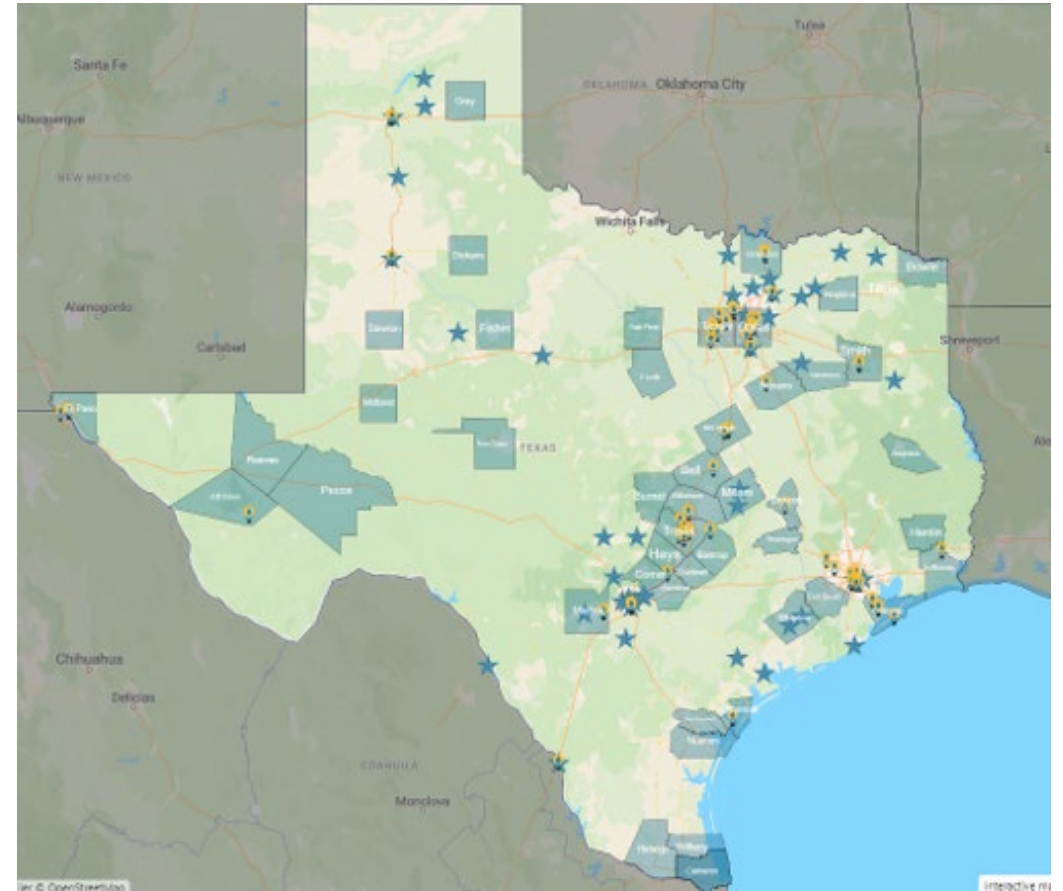
TEXAS PACE AUTHORITY

Who is TPA?

- 8-year-old Texas non-profit
- Administer 92 local PACE programs
- \$450 million invested via PACE in Texas

What is PACE?

- Property Assessed Clean Energy (financing)
- Energy efficiency, water conservation and distributed generation projects
- Financing structure: long term, low cost, budget neutral, 100% private financing
- Secured by local property assessment



PACE-ELIGIBLE PROJECTS

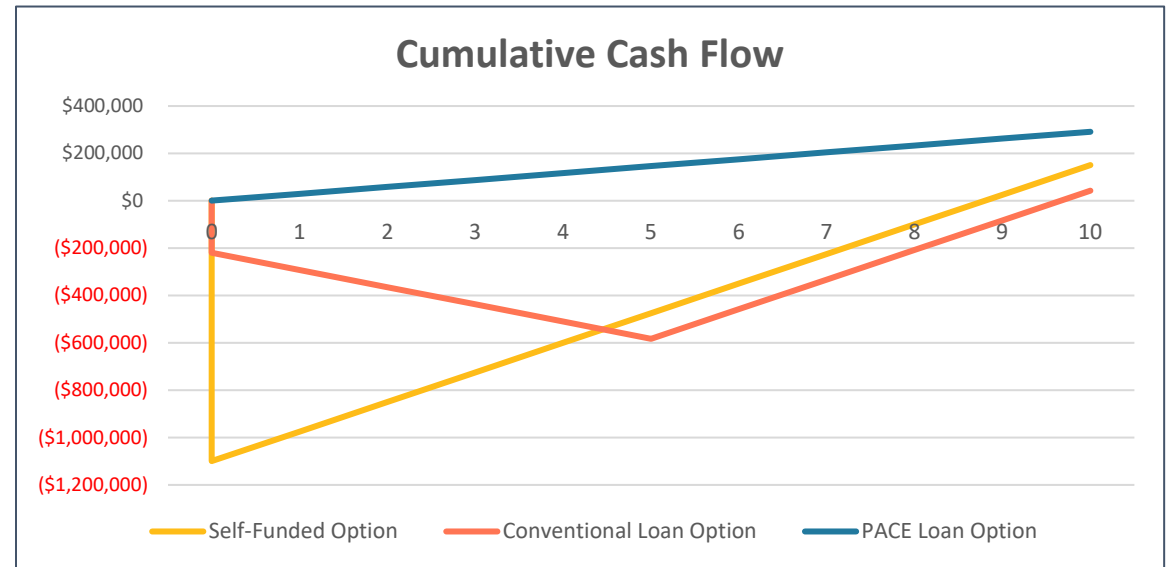
Projects that reduce energy or water usage or generate energy onsite

Energy

- High efficiency heating/cooling (chillers, cooling towers, boilers, furnaces)
- Energy management systems and controls
- Mechanical insulation
- Combustion and burner upgrades
- Heat recovery and steam traps
- Renewable/CHP/DG energy systems

Water

- High efficiency water heating systems
- Water conservation systems
- Reclaimed water use
- Wastewater recovery and reuse systems



- Increases property value with no capital investment by owner
- Generates positive cash flow immediately – $SIR \geq 1$

Moderator



Doug Lewin

Founder, Stoic Energy

Executive Director, Texas Energy Summit

Bills in 88th Session of the TX Legislature

Legislative intent:

- ▶ Enhance reliability of the Texas electricity system
- ▶ Responses to unexpected disruptions including equipment failures, extreme weather

Main instruments:

- ▶ Demand response programs
- ▶ Provide incentives for dispatchable power generation
- ▶ Promote energy storage
- ▶ Mandate ERCOT to develop reliability standards

Bills in 88th Session of the TX Legislature

Senate Bill 6: Relating to the establishment of the Texas Energy Insurance Program and other funding mechanisms to support the construction and operation of electric generating facilities

- ▶ Develop an insurance fund for electricity generators
- ▶ Create an investment fund for transmission and distribution projects

Senate Bill 7: Relating to the reliability of the ERCOT power grid

- ▶ Compel ERCOT to devise reliability standards
- ▶ Maintain reserve power capacity plans

Senate Bill 2627: Relating to funding mechanisms to support the construction, maintenance, modernization, and operation of electric generating facilities

- ▶ Enhance reliability post Winter Storm Uri
- ▶ Finance construction, maintenance, and modernization of electric generating facilities by increasing dispatchable electricity during extreme events

Bills in 88th Session of the TX Legislature

Senate Bill 258 (under consideration in the House): Relating to energy efficiency goals for electric utilities

- ▶ Set energy-saving targets for electric utilities, ensuring a more energy-efficient approach to power distribution in Texas by 2030
- ▶ Creates a commission to establish an energy savings goal of 1% by 2030 for each electric utility (shift from 0.4% of peak demand target to 1% of the annual electric use)
- ▶ Set cost caps and provide exceptions if utility can't meet the goal cost-effectively.

Senate Bill 1287 (under consideration in the House): Relating to the cost of interconnecting certain electric generation facilities with the ERCOT transmission system

- ▶ Decrease interconnection costs but might raise concerns on reliability and increase costs for some renewable operators

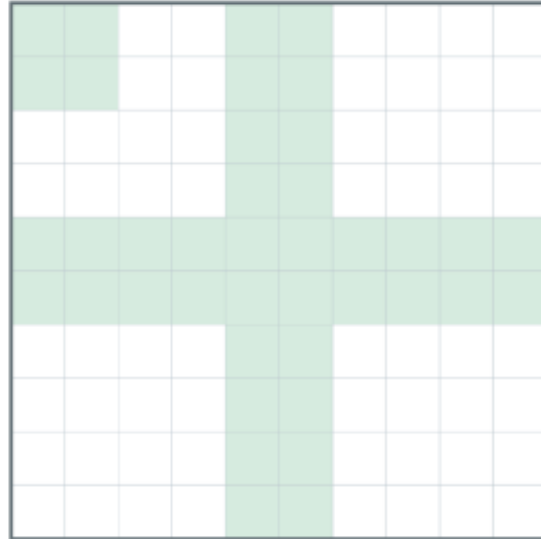


Putting the Pieces Together for a Reliable, Affordable, and Sustainable Grid

Doug Lewin | Stoic Energy | October 2023

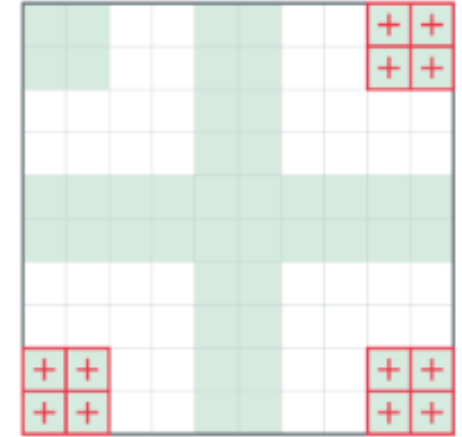
The challenge:

Make the grid pattern symmetrical using the fewest clicks possible. Clicking any white square will turn it green, and clicking any green square will turn it white.



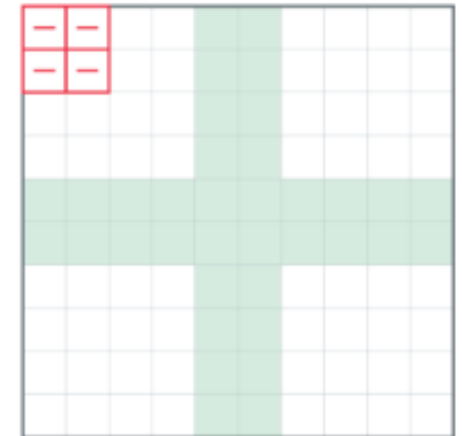
Example additive solution:

Adding green boxes to the three empty corners using 12 clicks.



Subtractive solution:

Removing extra green squares in only four clicks.



When Subtraction Adds Value

by Gabrielle Adams, Benjamin A. Converse, Andrew Hales, and Leidy Klotz

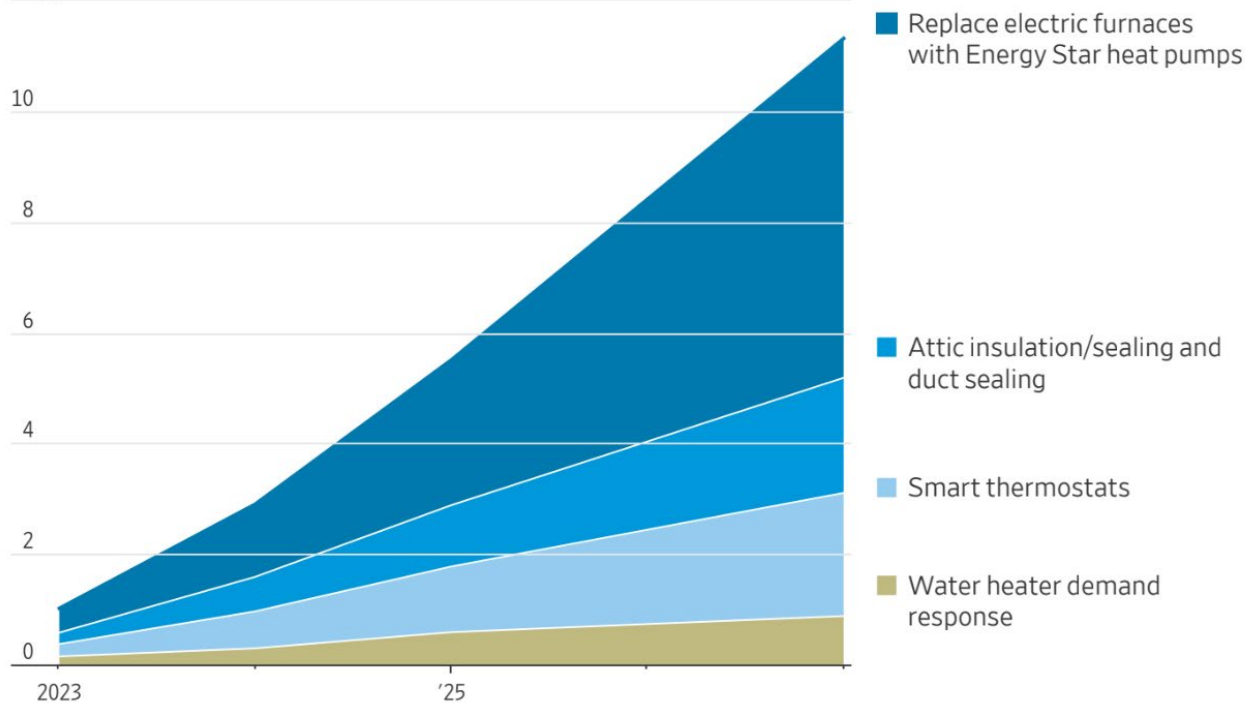
February 04, 2022

THE WALL STREET JOURNAL.

Less Is More

Estimated Texas winter peak savings by program and year

12 gigawatts



Source: American Council for an Energy-Efficient Economy

MARKETSHEARD ON THE STREET

Texas Has an Obvious, Affordable Fix for Its Electricity Problem

Amid work to avoid blackouts, conservation is getting short shrift



The first phase of Texas' power market reform, which involved winterizing power plants and gas-related infrastructure, hasn't been enough to mitigate all winter emergencies.

PHOTO: JUSTIN SULLIVAN/GETTY IMAGES

By [Jinjo Lee](#) [Follow](#)

Dec. 15, 2022 7:00 am ET

Almost two years after a brutal winter storm cut electricity supply to millions of Texans and took hundreds of lives, the state is contemplating fundamental fixes to its electricity market design. So far, though, it appears to be ignoring a simpler and cheaper one: reducing demand.

Cost to Acquire 10GW of Supply vs. Demand

\$12,000,000,000

\$10,000,000,000

\$8,000,000,000

\$6,000,000,000

\$4,000,000,000

\$2,000,000,000

\$0

Energy Efficiency

Natural Gas Plants



Ways To Connect With Me:

Email: doug@stoicenergyconsulting.com

Find the Texas Energy and Power Newsletter at
www.douglewin.com

Twitter: [@douglewinenergy](https://twitter.com/douglewinenergy)

LinkedIn: www.linkedin.com/douglewin

www.texasenergysummit.com

Thank you!

Panelist



Kay McCall

President and Executive Director,
Renewable Energy Alliance Houston



Renewable Energy Alliance Houston

C. Kay McCall
October 17, 2023



What is REAL Houston?

REAL Houston, a 501(c)(6) non-profit, was launched in 2020 by clean energy incumbents in support of a growing industry in Houston. REAL Houston works to do the following:

- Grow the clean energy community in the Houston area
- Promote thought leadership and conversation about clean energy issues
- Connect early career professionals to the industry, and each other
- REAL does not lobby: all opinions are my own

Connection, Conversation, Community



Renewable energy, particularly wind energy, grew in Texas in the early 2000s, initially as a hedge against natural gas prices. Utilities were the first buyers.

This year, for the first time nat gas prices have begun to correlate with global pricing. Global factors indicate that nat gas prices may be on the rise over the long term.

It is estimated that renewable energy saved Texans \$11B in electricity costs in 2022. Renewable energy also helps conserve the withdrawal and consumption of water, saving billions of gallons in 2022.

Meanwhile, the renewable energy industry faced an unprecedented amount of anti-renewable legislation in the 88th session.



Panelist



Jack Belcher

Principal, Advisory Services, Cornerstone
Government Affairs, Inc.

Reliability Shortcomings

- Mechanisms in place do not pay for generation
 - Not a capacity payment, a temporary solution
- Fundamental problems still exist
 - Erosion of thermal capacity (retiring coal and gas)
 - Not enough baseload generation capacity
 - Demand growth, population, energy hogs (data centers, cryptocurrency)
- Concern about lack of transparency in intrastate pipeline system
 - Hard to know how much gas is available for generation
- Storage
 - 10,000 MW of battery will be in place by end of 2024
 - Uncertainty over battery storage impact to overall system
- Texas Advanced Nuclear Reactor Working Group
 - Advance SMRs
 - Streamline permitting
 - Address supply chain issues



Inflation Reduction Act

- Perceived Gamechanger (Europe)
- ~\$783 billion in climate funding
- Methane Fee, Carbon Capture & Storage 45Q, Hydrogen 45V
- Complexity
 - Staffing challenges
 - Getting guidance issued
 - Interagency coordination
 - Stipulations
- Support in Texas
 - Anti-ESG movement



Hydrogen Hub

- DOE announced on Friday 7 billion in funding to launch seven Regional Clean Hydrogen Hubs
- Funded through the Infrastructure Investment & Jobs Act
- Expected to collectively produce 3,000,000 metric tons of hydrogen annually
- Gulf Coast Hydrogen Hub or HyVelocity Hydrogen Hub
 - Located in Houston area
 - Up to \$1.2 billion in grants
 - 45,000 direct jobs—35,000 in construction jobs and 10,000 permanent jobs.
 - Blue hydrogen – natural gas and CCUS
 - Green hydrogen – renewables for power
 - Goal to reduce cost and advance technology
 - Industry sponsors – AES, Air Liquide, Chevron, ExxonMobil, Mitsubishi Power, Orsted, Sempra



About Cornerstone

- Founded in 2002 headquartered in D.C.
- Professional services consulting and employee-owned firm with 400+ clients
- Currently with 160 professionals across 14 office locations
- 15 states and DC, including Houston and Austin
- Work in virtually every sector of the economy



Federal
Government
Relations



State
Government
Relations



Public Affairs &
Strategic
Communications



Advisory
Services
(DEI, ESG & PAC)



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Upcoming TIEEP Events

Fall Energy Forum

Energy Efficiency and Decarbonization – Success Stories

Wednesday, November 29, 2023, 1:00–4:30 pm

ChemE Show, Moody Gardens, Galveston

Register at: <https://cheme-show.com/register/>