

# Carbon Capture & Storage (CCS) Information

## Talk to Us

**TEXAS** Geosciences  
Bureau of Economic Geology  
Jackson School of Geosciences  
The University of Texas at Austin



Dr. Katherine Romanak, Research Professor, Gulf Coast Carbon Center at the Bureau of Economic Geology, The University of Texas at Austin, U.S.A.



**Expertise:** Environmental geochemist who develops monitoring plans for multiple large-scale CO<sub>2</sub> storage projects dating back to 2009; an academic that works alongside countries to develop, innovate, and apply CO<sub>2</sub> storage technology in real-world applications. Katherine pioneered a process-based soil gas approach, which avoids costly and complex baseline data collection and has created a paradigm shift in near-surface monitoring worldwide.

**Contact me when:** You are looking for geologic advice regarding CCS, monitoring, permitting, how to get CCS projects started in your country. You need technical support from a research consortium and access to world-renowned experts for your CCS projects.

**Contact Information:** [katherine.romanak@beg.utexas.edu](mailto:katherine.romanak@beg.utexas.edu) at the Gulf Coast Carbon Center ([www.gulfcostcarbon.org](http://www.gulfcostcarbon.org))



Tim Dixon, Director and General Manager, IEAGHG, U.K.



**Expertise:** Tim is responsible for ensuring IEAGHG activities provide the technical evidence-base to support CCS development and deployment. Evidence-base is provided through Technical Studies, Expert Networks, GHGT Conferences, and Summer Schools, and by contributing to regulatory and policy developments. Tim was the EU's Lead Negotiator for CCS in the Clean Development Mechanism (CDM) at UNFCCC, and for CCS in the London Convention, OSPAR, and EU Emission Trading Scheme.

**Contact me when:** You are looking for technical information on any aspect of CCS as well as policy, legal and regulatory advice on CCS, the state of CCS globally, and how to get CCS projects started in your country.

**Contact Information:** [tim.dixon@ieaghg.org](mailto:tim.dixon@ieaghg.org) at the IEA Greenhouse Gas R&D Programme ([www.ieaghg.org](http://www.ieaghg.org))



Olivia Powis, CEO, Carbon Capture and Storage Association (CCSA)



**Expertise:** Olivia leads the CCSA and oversees the London and Brussels offices. Olivia is focused on ensuring that the CCSA's 120+ members from carbon capture, transport, utilization, storage, carbon removals and hydrogen production segments, as well as pioneering end-users from power and industrial sectors, are represented effectively and can engage constructively with UK and EU level decision-makers, whilst building their collective knowledge base to establish a successful industry.

**Contact me when:** You want to explore the development and deployment of commercial scale CCUS to deliver sustainable growth across regions and nations.

**Contact Information:** [info@ccsassociation.org](mailto:info@ccsassociation.org) at the Carbon Capture and Storage Association ([www.ccsassociation.org](http://www.ccsassociation.org))



James Fann, President & CEO, International CCS Knowledge Centre, Canada



**Expertise:** James Fann is President and CEO of the International CCS Knowledge Centre, where he leads global initiatives to advance CCS. With nearly two decades in Canada's energy sector, his experience spans technical and executive roles across the full value chain, from upstream operations to corporate strategy and board-level leadership. James holds a BSc in Chemical Engineering from the University of Waterloo and a Global Energy Executive MBA from the University of Calgary.

**Contact me when:** You are exploring new carbon management opportunities, seeking strategic insights on CCS deployment, or looking to collaborate on advancing climate solutions in Canada and beyond.

**Contact Information:** [jfann@CCSKnowledge.com](mailto:jfann@CCSKnowledge.com) or <http://ccsknowledge.com/>

## Contact

**TEXAS** Geosciences  
Bureau of Economic Geology  
Jackson School of Geosciences  
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**GCCC**  
GULF COAST CARBON CENTER

Since 1998, the Gulf Coast Carbon Center (GCCC) has been a global leader of research that facilitates reductions in the atmospheric release of CO<sub>2</sub>. The GCCC has led several major field research projects onshore and offshore to develop effective technologies to monitor retention of CO<sub>2</sub> in the subsurface.

The GCCC leads diverse carbon storage projects including estimations of storage capacity, storage site screening and economic assessments, risk and monitoring of leakage to water and surface resources, assessment of pressure, and whole-system integration.

We have a team of ~30 Research Scientists (Geologists, Geochemists, and Engineers), Energy Economists, Postdoctoral Fellows, and Graduate Students that are here to support your projects. We have developed software, such as EASITool, to serve CCS projects and assessments.

[www.gulfcostcarbon.org](http://www.gulfcostcarbon.org)

**Get info here**

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**IEAGHG**

Blazing the way to net zero with leading CCS research. Our authoritative, peer-reviewed research is at the forefront of the carbon capture and storage (CCS) sector. We advance technology that reduces carbon emissions and accelerates the deployment of CCS projects by improving processes, reducing costs, and overcoming barriers.

[www.ieaghg.org](http://www.ieaghg.org)

**Get info here**

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**Carbon Capture & Storage Association**

The Carbon Capture and Storage Association (CCSA) is the lead European association accelerating the commercial deployment of carbon capture, utilisation and storage (CCUS), an essential solution to deliver net zero emissions across industry, heat, power and transport.

[www.ccsassociation.org](http://www.ccsassociation.org)

**Get info here**

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**INTERNATIONAL CCS KNOWLEDGE CENTRE**

The International CCS Knowledge Centre provides independent, expert advisory services throughout the lifecycle of CCS projects based on the world's experience from major CCS projects across the globe, including our team's involvement in the development and ongoing optimization of the world's first fully integrated post-combustion CCS facility. We have a proven track record of helping our clients' lower costs, reduce risks and improve the performance of CCS projects across industries and technology platforms. We also provide input to policy development and promote broad collaboration between stakeholders to enhance understanding of the critical role CCS plays in global decarbonization efforts.

[ccsknowledge.com](http://ccsknowledge.com)

**Get info here**

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The University of Texas at Austin

**GULF COAST CARBON CENTER**

Poster created by Dr. Dolores van der Kolk  
Communications Coordinator & Geologist  
Gulf Coast Carbon Center, Bureau of Economic Geology  
Austin, Texas, U.S.A Email: [dvdk@beg.utexas.edu](mailto:dvdk@beg.utexas.edu)

**Get info here**

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## How does CCS happen?

**A Europe-wide CO<sub>2</sub> Market Can Reduce Storage Costs by 20%**

CCUS is central to decarbonisation and climate strategies in Europe and beyond. This report explains why enabling CO<sub>2</sub> transport and storage between the EU/EEA and the UK is vital for timely emissions reduction, cost efficiency, and achieving net zero. A coordinated Europe-wide CO<sub>2</sub> market could cut storage costs by 20%, highlighting the value of cross-border cooperation.

<https://www.ccsassociation.org/all-news/eu-europe-wide-co2-market-can-reduce-storage-costs-by-20-2/>

**Get report here**

**What Industries are Major Emission Sources of CO<sub>2</sub>?**

Each industry has different CO<sub>2</sub> emissions sources with varying CO<sub>2</sub> concentrations, leading to unique challenges faced by each industry when implementing CCS. Learn more about the complexities of carbon capture for the power, cement, oil & gas, and iron & steel industries.

<https://ccsknowledge.com/insight-accelerator2-0-emissions-across-industries/>

**Get info here**

**How to conduct a National CO<sub>2</sub> Storage Assessment**

Designed to help government bodies and policy makers with limited prior CCS experience find information, this guide outlines the materials required and methodology to undertake initial national-scale storage assessments.

<https://ieaghg.org/publications/national-storage-co2-assessment-guidance/>

**Get a copy here**

**Network of National CCUS Centers of Excellence (NNCCE)**

GCCC & IEAGHG launch network to connect national institutions in the Global South; strengthen CCUS capacity; and improve access to technology transfer and climate finance mechanisms such as Climate Technology Centre and Network & the Green Climate Fund.

<https://gcccc.beg.utexas.edu/nnccce>

**Get info here**

**See Virtual Tour of the Boundary Dam Capture Facility in Canada**

The 1st large-scale capture project on a coal-fired power plant, capturing more than 1 Megatonnes per annum (Mtpa).

<https://www.youtube.com/watch?v=zY9GAMUYS4g>

**Get info here**

**Review CCS activities undertaken by the IEAGHG**

This Annual Review outlines the work undertaken and produced by the IEAGHG including key achievements, networks, technical reports, information papers and presentations made by members of staff at external meetings.

<https://ieaghg.org/about-us/ieaghg-annual-reviews>

**Get a copy of the report here**

**Next Steps for UK CCUS Deployment? Strengthen Confidence & Delivery Through Non-Fiscal Measures**

The CCSA outlines non-fiscal actions to strengthen investor and developer confidence in the U.K., while building on existing Government commitments to CCUS, and ensuring the successful establishment of the UK CCUS sector.

<https://www.ccsassociation.org/all-news/ccsa-news-uk-ccus-deployment/>

**Get a copy of the report here**

**An example of a stakeholder workshop, used by a small island developing state (SIDS) and how they began their CCS journey**

Local universities in Trinidad and Tobago held an international knowledge-sharing symposium on CCS for state, academic and private stakeholders to discuss national CCS development with technical support from international partners.

<https://www.beg.utexas.edu/files/gccc/docs/Trinidad%20Final%20Symposium%20Report.pdf>

**Get a copy of the report here**

**Visualize the 3-step process of capture, transport & storage**

CCS is a powerful tool in the race towards net-zero, helping industries like power plants and factories reduce their greenhouse gas emissions while continuing to produce the products we need at full capacity.

<https://ccsknowledge.com/what-is-ccs/>

**Get info here**

**3-minute video:** <https://www.youtube.com/watch?v=GVIYCHtd0>

**CCUS: Capturing Carbon for a Global Net Zero Future**

Learn about the Carbon Capture, Utilisation and Storage (CCUS) process, and the vital role these technologies play to reduce carbon dioxide (CO<sub>2</sub>) emissions across a wide variety of essential industries.

**Watch & listen here**

**1.5-minute video:** <https://www.youtube.com/watch?v=2ks1qCfVIA>

**Get info here**

**What do you do after you capture large amounts of CO<sub>2</sub>? How do you transport and store CO<sub>2</sub> underground?**

Listen and watch as U.S. researchers explain how we transport, store, and isolate CO<sub>2</sub> underground between the sand grains. For resources, access to this report, fact sheets, or videos, check out: [www.roadstoremoval.org](http://www.roadstoremoval.org).

**Watch and listen here**

**6-minute video:** <https://youtu.be/Vf54j0Cnw7s#h=HJYpB-Lnm0TY5dt1>

**Get access to presentations**

[www.beg.utexas.edu/gccc/research/gci](http://www.beg.utexas.edu/gccc/research/gci)

**Learn about CCS and what needs to happen to make drastic reductions in emissions long term**

Researchers at the University of Texas at Austin study an emissions mitigation technology called carbon capture and storage (CCS). By capturing carbon dioxide (CO<sub>2</sub>) emissions at the source and storing them permanently deep in the Earth, we can achieve drastic reductions in our emissions. We must act now.

**Watch and listen here**

**1.5-minute video:** <https://www.youtube.com/watch?v=2ks1qCfVIA>

**CO<sub>2</sub> is stored 0.5 to 1.9 miles, (0.8 to 3 km) below the surface, safely, and permanently**

<https://www.globalccsinstitute.com/resources/ccs-image-library/>

**What is CCS?**

Carbon Capture and Storage (CCS)—also known as Carbon Capture, Utilization, and Storage (CCUS)—is a technology designed to capture carbon dioxide (CO<sub>2</sub>) emissions from major industrial sources such as power plants, steel, cement, fertilizer, and chemical manufacturing.

Once captured, the CO<sub>2</sub> is compressed and transported—typically by pipeline or ship—and injected deep underground (between 0.8 and 3 kilometers) into secure geological formations for permanent storage. This process prevents human-made CO<sub>2</sub> from entering the atmosphere, ensuring it is safely and permanently contained underground.

For local industries, CCS helps sustain jobs and attract investment by providing the infrastructure needed to achieve deep emissions reductions. It also drives the development of new expertise, supply chains, and resources that strengthen regional economies while supporting global climate goals.

**We invite you to:**

- Use your electronic device to scan for a link, watch a video, download a helpful CCS document, or take a photograph to learn more about CCS.
- Contact us to learn more.

**We are here for you!**

Scan this QR code to get access to all this info on poster...

**SCAN ME**

**6-minute video:** <https://youtu.be/Vf54j0Cnw7s#h=HJYpB-Lnm0TY5dt1>

## Educational Resources & CCS Info

**GLOBAL CCS INSTITUTE**

**Summary of CCS Projects Around the World**

**Massive Expansion of CCS is Underway Worldwide**

Facility Status	Count
Early Development	251
Advanced Development	202
In Operation	47
Planned	19

**77** Number of facilities in operation rises 54% year on year

**64 Mtpa** Capture capacity in operation rises 25% year on year

**734** Total number of facilities rises 17% year on year

**46%** Increase in the capture capacity of facilities in advanced development (FED) from 180 to 262 Mtpa.

**513 Mtpa** Total capture capacity rises 23% year on year

**44 Mtpa** Capture capacity in construction in July 2025

<https://www.globalccsinstitute.com/global-status-of-ccs/>

**Gulf Coast Carbon Center's Research Consortium: Access to Carbon Storage Experts & CCS Training**

The GCCC's consortium includes a team of world-renowned carbon storage experts who conduct research to help keep industrial professionals and those regulating industry well-informed about CCS. Our group is known to help when technical CCS challenges arise. To join, there is an annual \$75,000 membership fee, which includes two technical meetings designed specifically for our sponsors each year. Our group delivers CCS training courses, and prioritizes our time with sponsors when support is needed for their CCS projects.

Sponsors of the GCCC's Consortium benefit by participating in biannual meetings where they are provided with latest CCS research developments that often helps inform regulations, policies, and project trends. The GCCC has multidecades of CCS research experience and continue to facilitate their expertise through technical support, outreach programs, and CCS education. Sponsors gain access to a password-protected portal, so they have access to key materials throughout the year. We educate the next generation of CCS professionals.

**Contact:** Drs. Sue Hovorka ([susan.hovorka@beg.utexas.edu](mailto:susan.hovorka@beg.utexas.edu)) or Dolores van der Kolk ([dvdk@beg.utexas.edu](mailto:dvdk@beg.utexas.edu)) for more information.

[www.gulfcostcarbon.org](http://www.gulfcostcarbon.org)

**Get info here**

**Texas-Louisiana Carbon Management Community's (TXLA CMC's) CCS Comic Book for Education**

The Gulf Coast Carbon Center's TXLA CMC just created a CCS comic book geared for middle school education. These comic books were created for 12-to-14-year-old children in Texas to introduce them to greenhouse gas, carbon capture and storage (CCS). This comic book is FREE, available online to download, and print.

[www.put-it-back.org](http://www.put-it-back.org)

**Get a copy here**

**Carbon-nots to the Rescue!**

[www.put-it-back.org](http://www.put-it-back.org)

**Greenhouse Gas Control Technologies Conference October 25-29, 2026 in Perth, Australia**

**GHGT-18**

The Greenhouse Gas Control Technologies (GHGT) Series is the world's foremost conference in the field of CCS. It provides an opportunity for researchers, industry professionals and policymakers to share their knowledge and experience.

Featuring over a hundred expert speakers from across the globe, GHGT gives you the opportunity to hear from thought leaders on a huge range of areas related to CCS. The conference covers topics such as Carbon Capture, Transportation, Storage, Utilisation, Monitoring and more.

**Get info here**

**Call to action:** <https://ghgt.info>

**Educational Materials for All Ages**

Educational materials suitable for teachers to help their students explore CCS. Here GCCC graduate students use teaching materials about CO<sub>2</sub>.

**Get info here**

[www.beg.utexas.edu/gccc/educational-resources](http://www.beg.utexas.edu/gccc/educational-resources)

**put it back**

[www.put-it-back.org](http://www.put-it-back.org)

**Learn About Canada's Readiness to Scale Direct Air Capture (DAC) Deployment**

DAC is a technology that removes CO<sub>2</sub> directly from the atmosphere by capturing CO<sub>2</sub> from ambient (outdoor) air, which has relatively low concentrations. As of January 2025, there are more than 140 companies worldwide working to deploy this technology.

**Get a copy here**

**Subscribe to the IEAGHG Newsletter to get the latest information on CCS**

**Greenhouse News**  
the official newsletter of IEAGHG and its members

Greenhouse News is a free e-Newsletter providing information on new developments in the field of greenhouse gas abatement and mitigation.

<https://ieaghg.org/ccs-resources/greenhouse-news-newsletter>

**Get a copy here**

**IEAGHG's Summer School**

This Summer School covers every aspect of CCS and presents the most recent information available. IEAGHG's Summer Schools are the only CCS education program that truly has an international focus. With the location moving around the world, our program has now taken place in over 7 countries covering Europe, Australia, Asia and North America. Our summer school now has over 700 alumni representing over 60 countries with many moving on to successful careers within CCS industry and academia.

[www.gulfcostcarbon.org](http://www.gulfcostcarbon.org)

**Get more information here**

## Are you with us?