

May 26, 2023

# **Industrial Innovation Initiative Releases Hydrogen Landscape Report**

This week, the Industrial Innovation Initiative released *The Landscape of Clean Hydrogen: An Outlook for Industrial Hubs in the United States* which provides a landscape of current production and potential future use of hydrogen, demonstrating where hydrogen hubs may be located to the greatest effect, accounting for local resources, high-emissions industries present in the region, and geographic characteristics.

Key findings of The Landscape of Clean Hydrogen include:

- Prioritizing the use of hydrogen in hard-to-electrify sectors will be key to maximizing climate benefits.
- DOE's goals represent hydrogen production at five times today's current capacity.
- Hydrogen hubs are an opportunity to co-locate production with new and existing markets.
- It will be beneficial to establish hydrogen hubs with large production targets.
- Electrolysis will need to scale immensely to achieve multi-gigawatt scale in the next decade.
- A significant amount of clean electricity will be needed to produce hydrogen via electrolysis.
- Clean hydrogen can reduce air quality pollutants by displacing fossil fuel use in the industrial and transportation sectors.

# Clean Air Task Force and Lawrence Livermore National Laboratory Release California Carbon Management Report

This week, authors from Clean Air Task Force and Lawrence Livermore National Laboratory released "Sharing the Benefits: How the Economics of Carbon Capture and Storage Projects in California Can Serve Communities, the Economy, and the Climate." The report examines the economic feasibility of carbon management initiatives in California and explores case studies for ethanol, refinery, cement, and natural gas facilities and finds the state likely has currently viable projects that can help meet California's climate goals while returning developer's investments and providing landowner and community benefits.

# **Data for Progress Hosts Focus Groups on Direct Air Capture**

Data for Progress recently released a memo on four DAC workshops, held in East Houston, Texas; Beaver County, Pennsylvania; Bakersfield, California; and Rock Springs, Wyoming. During the focus groups, communities discussed what direct air capture was, how it would work, and, ideally, what DAC would look like in their community, including potential community benefits plans. Although focus group members had questions and concerns about DAC development, they also expressed interest in the economic and social benefits it could bring to their community.

The memo also included polling around support for direct air capture. The poll, which surveyed 1,512 adults, found that 68 percent of all likely voters were broadly supportive of building more DAC facilities in the US, with 18 percent opposed and 14 percent unsure, equating to a +50 net-favorability. This support was held across racial and ethnic groups surveyed. The poll did find a more significant partisan divide in support for these programs, however, with DAC deployment holding a +67 favorability with Democrats, compared to +47 for Independents and third-party voters and +34 among Republicans.

# Global CCS Institute Hosts Listening Sessions on CO<sub>2</sub> Pipelines

To gain deeper insights into the challenges and concerns related to CO2 pipelines and to foster discussions aimed at finding solutions, the Global CCS Institute organized three listening sessions in February 2023 in the Midwest, Texas, Louisiana, and California. Read insights from those listening sessions in here.

# Watch DOE's Upcoming Carbon Management Webinar on Pathways to Commercial Liftoff

In April 2023, the Department of Energy (DOE) published its fourth Pathways to Commercial Liftoff Report, which specifically concentrates on carbon management. This latest report explores the carbon management ecosystem, including point-source carbon capture, utilization, and storage, as well as carbon dioxide removal. Additionally, it addresses barriers that hinder the widespread deployment of carbon management technologies at scale.

Register for the DOE's upcoming webinar covering the report on June 5 2023.

# **News Roundup**

- Linde and Heidelberg Materials to deploy BASF's gas treatment solution in large-scale CO2-capture venture (gasworld.com)
- "Fighting Over A Small Pot Of Carbon Removal Resources, Instead Of Growing It Would Be Short-Sighted," Jason Hochman, Co-Founder DAC Coalition (carbonherald.com)
- Carbon removal industry challenges findings of skeptical UN body | Reuters
- We should debunk the most common myths about carbon removal (euronews)

- CCUS: Why it's time to fast-track carbon capture to future-proof power plants (powerengineeringint.com)
- CCS Commercial and Regulatory Frameworks: Lessons Learned from the CCS Experience in the United States - Global CCS Institute
- CCS Sees Promise Amid Challenges | Energy Intelligence
- "Clean" energy investment is growing (axios.com)

## **Global News**

- Alberta Carbon Capture Utilization & Storage Workshop: From Policy & Technology to Deployment - Global CCS Institute
- Cement makers advance carbon capture (acs.org)
- Orsted awarded first Danish CCUS subsidy tender and signs major carbon removal offtake contract - News - The Chemical Engineer
- Svante partners on cement carbon capture, DAC materials development
   SustainableBiz Canada
   Sustainable Biz Canada

# **News in the States**

#### Alaska

- Alaska beginning its carbon management program (The Center Square)
- Governor Dunleavy signs carbon offset legislation (Gov Dunleavy)

#### Colorado

- Colorado makes policy moves with an eye toward regulating carbon sequestration (Brownstein)
- Colorado carbon storage project receives \$32.6M in funding (Environment and Energy Leader)
- Colorado legislature stops short of enabling intrastate carbon capture (JD Supra)

#### lowa

- CO2 pipeline opponents seek federal moratorium Axios Des Moines
- lowa regulators propose mediators for carbon capture pipeline disputes (desmoinesregister.com)
- Navigator plans to provide CO2 captured in Iowa, other states for fuel (desmoinesregister.com)

#### Louisiana

 Mary Landrieu: Natural gas vital in reducing emissions | Opinions and Editorials | nola.com

- Guest column: Carbon capture geological risk for Louisiana? | Opinions and Editorials | nola.com
- Editorial: Safe carbon projects will generate public trust | Our Views | nola.com
- Bills aiming to block carbon sequestration in Lake Maurepas defeated L'Observateur | L'Observateur (lobservateur.com)
- EPA Proposes Approval Of Louisiana's Assumption Of CCS Injection Permitting -Climate Change - United States (mondag.com)

#### Maine

 US Senator Susan Colins (R) introduces bi-partisan carbon removal legislation (Carbon Herald)

#### Michigan

• Dingell Announces \$1 Million for Clean Hydrogen Project at University of Michigan | Congresswoman Debbie Dingell (house.gov)

#### **Minnesota**

- Summit Carbon Solutions updates Kandiyohi County Board on pipeline progress in Minnesota, Iowa, Dakotas - West Central Tribune | News, weather, sports from Willmar Minnesota (wctrib.com)
- Xcel, Minnesota vie for billions in federal funds to create 'clean' hydrogen hub (Star Tribune)

#### Mississippi

• A 2020 pipeline rupture in Satartia, MS has lessons for future carbon capture (NPR)

#### Nevada

 Allegiant Stadium and Las Vegas Convention Center launch effort to monitor and manage carbon emissions in real time (PR Newswire)

#### **North Carolina**

 Former NC State Senator says carbon capture initiatives are key to achieving climate goals (WRAL)

#### **North Dakota**

- North Dakota Legislator calling for investigation into Summit Carbon Solutions investors
   Agweek | #1 source for agriculture news, farming, markets
- IUB sets partial procedural schedule for proposed Summit Carbon CO2 pipeline | Iowa Utilities Board

#### Ohio

Dominion Energy starts hydrogen blending project in Ohio (Power Engineering)

#### Oklahoma

 New Oklahoma oil refinery will utilize renewable energy, carbon capture and hydrogen production to reduce its emissions by 90% (The Oklahoman)

#### **Pennsylvania**

 Hydrogen hubs threaten taxpayer waste without thoughtful design | Pennsylvania | thecentersquare.com

#### South Dakota

How might Summit Carbon Solutions' pipeline impact SD landowners? | SDPB

#### **Tennessee**

 Philips and Vanderbilt University Medical Center unite to define roadmap for decarbonizing radiology (Philips)

#### **Texas**

- Drax Group selects Houston as North American carbon capture HQ Houston Business Journal (bizjournals.com)
- Houston Emerging as Leading Hub for Carbon Capture Advancements

#### Vermont

South Burlington, VT implements climate action plan (Willston Observer)

#### Washington

Washington state passes carbon removal funding in capital budget (Carbon Herald)

#### **West Virginia**

 West Virginia coal, oil and gas shareholders push back against EPA's carbon rule (WVnews.com)

#### Wyoming

- University of Wyoming lands massive federal grant for carbon storage | Wyoming Public Media
- Why is Gordon opposed to pollution limits if carbon capture is a priority? | Letters To Editor | wyomingnews.com

# **Upcoming events**

### June 6

Direct Air Capture Summit, hosted by Climeworks
 Climeworks' Direct Air Capture Summit is a one-of-

Climeworks' Direct Air Capture Summit is a one-of-a-kind platform featuring business, technology, scientists, and policy experts. Key players collaborating and discussing high-quality carbon removal solutions help drive the scale-up the industry needs. The fourth edition will focus on advancing high-quality carbon removal solutions that are netnegative, additional, verifiable, and permanent.

#### June 12-14

Carbon Capture & Storage Summit - 2023 Fuel Ethanol Workshop and Expo
 Capturing and storing carbon dioxide in underground wells has the potential to become
 the most consequential technological deployment in the history of the broader biofuels

industry. Deploying effective carbon capture and storage at biofuels plants will cement ethanol and biodiesel as the lowest carbon liquid fuels commercially available in the marketplace. The Carbon Capture & Storage Summit will offer attendees a comprehensive look at the economics of carbon capture and storage, the infrastructure required to make it possible and the financial and marketplace impacts to participating producers.

#### June 15

• 2023 Europe Forum on Carbon Capture & Storage - Global CCS Institute
The event will feature insightful presentations from high-level representatives of the
European Commission, including the Director General of DG Climate Action, Kurt
Vandenberghe. Representatives with the Dutch Government, the Bank of America,
Equinor, Imperial College London, the IEA and many more will be at the Forum to
provide their lens and expertise on CCS. We will hold dynamic panel discussions
unpacking CCS policy frameworks and financing mechanisms, and offer our attendees
the opportunity to take part in Q&A and breakout group discussions.

#### June 19 - 21

Industrial Decarbonization: Manufacturing a Green Future (techconnectworld.com)
 Topics and application areas include Low GHG feedstocks and chemical processes,
 Hydrogen production processes, Low GHG heat and electricity sources, Electrical
 energy storage and application to industrial processes, Carbon capture and storage from
 industrial point sources, including bioenergy with CCS (BECCS), Case studies: Iron and
 steel, Chemicals & plastics, Cement, Aluminum, and Refining.

#### June 20-23

• CUSP Annual Meeting - CUSP West

The Carbon Utilization and Storage Partnership of the Western United States (CUSP-West) and Kansas Geological Survey are hosting the 6th annual Carbon Capture Utilization and Storage meeting in Kansas, June 20-22nd in Lawrence, Kansas

#### June 28 - 29

 Carbon Capture Technology Conference & Expo North America 2023, Houston, USA (ccus-expo.com)

The two-day event will bring together leading engineering firms, technology manufacturers and suppliers, energy firms, the oil and gas sector, heavy industry, chemical companies, various manufacturing organizations, research groups and NGOs, consultants, and government bodies to explore how we can rapidly accelerate the deployment and commercialization of carbon-removal technologies as a key solution on the pathway to net-zero carbon emissions.

#### July 24-26

 CCS / Decarbonization Project Development, Finance & Investment - Presented by Infocast (infocastinc.com)

This Summit will bring together project developers, emitters, providers of tax equity, development capital and cash equity to explain the latest developments, showcase critical market information, and provide an "inside view" from the perspectives of all the players in these deals. Let the experts show you how to take maximum advantage of

available federal and state programs and incentives and other potential revenue streams and get what you need to make projects actually happen.

### **August 28-30**

 Hydrogen Hubs: Building a Financeable Value Chain - Presented by Infocast (infocastinc.com)

The Summit will bring policymakers together with today's leading hub development teams, technology providers and potential hydrogen offtakers ranging from ammonia to fertilizer producers to long-haul transportation to power plant operators—and more—to discuss procurements and development opportunities.

#### Next week - Carbon Management and Misinformation - A Note from the Writer

Every week, we curate a collection of articles from various sources throughout the United States on carbon management and hydrogen. As the landscape of carbon management projects and initiatives expands, so does the misinformation about these technologies. In our commitment to presenting an authentic depiction of the events unfolding across the nation, there are occasions when articles containing inaccurate information about carbon management and hydrogen are included in the newsletter. From now on, we plan to label articles with an "inaccurate information contained in this article" tag. By adopting this approach, we aim to provide you with a comprehensive view of perspectives on carbon management while ensuring that accurate information remains at the forefront. If you have questions about the inaccuracies we found, please feel free to reach out. Thank you!

About the Regional Carbon Capture Deployment Initiative: The Regional Carbon Capture Deployment Initiative brings together state officials with diverse industry, NGO, labor, and other stakeholders to promote broad scale deployment of infrastructure for carbon management. The Initiative is staffed by the Great Plains Institute (GPI), a nonpartisan nonprofit working to transform the energy system to benefit the economy and environment.

Subscribe or request to add an event, news story, report, blog, or job posting to the update by reaching out to *Emma Thomley*. Looking for more carbon management updates, studies, and fact sheets? Visit us at *Carbon Capture Ready* and read previous newsletters in our Action Alliance's *newsletter* archive.