The DAC Dispatch



Welcome to The DAC Dispatch, the monthly newsletter from the DAC Coalition, keeping you up-to-date with the evolution of all things DAC.

MARCH 2024

Yes, we know it's already April but given how much happened in March, we hope you'll excuse us for being a bit late.

March saw a flurry of announcements from a whole host of our members, from Airhive teaming up with Coca-Cola to Spiritus announcing "Orchard One" which lays out their plans for a 2Mt/yr facility by 2030 at stunningly low-costs.

Deployment was the word of the month as we released our Global DAC Deployments Map that pins every known DAC first-of-a-kind project along with accompanying data on partners, nameplate capacity and CO2 end use. Explore it live on our website.

On the policy front, the U.S Department of Energy continued to trailblaze its support for carbon removal with a new and innovative demand support measure that encourages public-private partnerships.

With San Francisco Climate Week coming up next month, there is plenty to look forward to in terms of events. Fingers crossed for another spellbinding month of announcements!



MARKET UPDATES

CarbonCapture Inc <u>released a Request for Information</u> to identify partners clean energy partners to develop the prospect of a Wyoming DAC Hub.

The U.S. Department of Energy launched its <u>Voluntary Carbon Dioxide</u> <u>Removal Purchasing Challenge</u>, which encourages public-private partnerships to catalyze carbon removal credit purchases. Google were the first company to sign-up to the initiative with a <u>\$35m commitment</u> over the next 12 months.

Two new Requests for Information were opened up for consultation. One focused on <u>scaling mid-scale commercial facilities</u> by the **U.S Department of Energy** and the other focusing on <u>building carbon capture and hydrogen supply</u> <u>chains</u> by the **U.K Department for Energy Security and Net-Zero**. The Direct Air Capture Coalition will be responding to both.

\$ Climeworks announced it has <u>entered into a 9-year offtake agreement</u> (2023-2032) with the LEGO Group valued at \$2.4m supplemented by a \$405k deal with LEGO's investment company, **KIRKBI**. Climeworks also signed <u>added</u> its first airlines customers in SWISS, part of the Lufthansa Group, in another long-term offtake agreement and cemented their U.S positioning after <u>opening</u> of their new HQ in Austin, Texas helping to confirm the region's vast potential for DAC+Storage.

\$ Project Cypress/Louisiana DAC Hub Update: **Climeworks** and **Heirloom** alongside lead project developer Battelle <u>received \$51m in DAC Hub</u> <u>funding</u> unlocking another \$50m in private investment. Land for siting is currently being finalised with Calcasieu Parish looking like the likely location.

Octavia Carbon and **Carbonfuture** team up to mark the development and deployment of a <u>first-ever dMRV for DACs</u> integrated with IoT technology. Following data collection, Carbonfuture will facilitate the certification and verification of data to standards working with DAC.

AirMyne come out of stealth mode with a <u>\$6.9m Seed round</u> to explore their liquid solvent low-temperature regeneration eyeing up collaborations with geothermal mavericks **Fervo Energy** and concrete kings **CarbonBuilt**, both DAC Coalition ecosystem members.

Equatic and **UCLA Institute for Carbon Management** sync up <u>to build the</u> <u>Equatic-1</u> in Singapore, a 3650t/yr ocean-based DAC facility capable of coproducing 105t/yr of carbon negative hydrogen.

New research by **Rhodium Group** demonstrates deployment and employment opportunities that direct air capture presents at scale, state-bystate. **Breakthrough Energy and Hart Research** release strategic findings from focus groups residing near four proposed DAC Hub locations. Read both papers in the DAC Coalition <u>Report Library.</u>

Airhive team up with Coca-Cola Europacific Partners to <u>announce a new</u> <u>1000tpa facility</u> and welcome the beverage giants onto their cap table as they close out their pre-Seed round alongside AP Ventures.

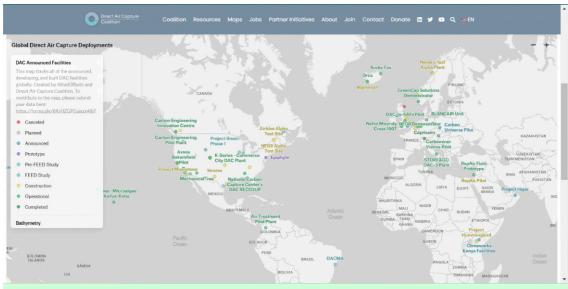
• **Spiritus** add to the growing DAC presence in Wyoming with the <u>announcement of Orchard One</u>. The new facility which will begin operations in 2026 with an initial capacity of <2000tpa has the potential to be scaled-up to 2Mtpa with at-scale costs coming in at \$100 per tonne.

Mission Zero Technologies raised a £21.5m Series A, adding Breakthrough Energy, 2150, and World Fund to their table. A big boost for DAC via electrochemical regeneration as Greenlyte Carbon Technologies added a further €10.5m in pre-Series A funding to their books, strengthening the outlook for DAC + hydrogen production.

CarbonCapture Inc confirmed <u>the purchase of 1872 tonnes</u> to **CarbonX**, a European demand-aggregator. **CarbonCapture Inc** also <u>closed a mega Series</u> <u>A round of \$80m</u> to push on with the development of Project Bison in Wyoming. The round was led by PRIME and supported by Climate Pledge Fund, Aramco Ventures, and Siemens Financial Services.

• The <u>deadline for applications</u> to Cleantech Open, the world's largest cleantech accelerator, close on the 14th April.

JUST LAUNCHED



GLOBAL DAC DEPLOYMENTS MAP

In collaboration with AlliedOffsets, this map depicts the most accurate map of DAC deployments to date from prototypes to commercial facilities, supplemented with data on respective: Project Partners, CO2 End Use and DAC Taxonomy.

The map was designed to reflect projects with a high degree of deliverability and therefore, focuses on FOAKs.

This tool will act as a living resource and will be updated regularly as and when new projects are announced. Help us to keep it accurate by submitting your facility-level data here

Submit Facility Data

WHAT WE'RE READING

1. **OPINION**: <u>Direct air capture is cheaper than you think</u> (Robert Höglund, Milkywire)

2. **ACADEMIC PAPER**: <u>Beyond emissions trading to a negative carbon</u> <u>economy: a proposed carbon removal obligation and its</u>

implementation (Bednar et al, 2023, Climate Policy)

3. ACADEMIC PAPER: <u>Analysing direct air capture for enabling negative</u> emissions in Germany: an assessment of the resource requirements and costs of a potential rollout in 2045 (Block, Viebahn and Junbuth, *Frontiers in Climate*)

4. BLOG: Diving deep into underground storage (Heirloom)

5. **ARTICLE**: <u>As Carbon Air Capture Ramps Up, Major Hurdles Remain</u> (Nicola Jones, Yale Environment 360)

MARCH'S MUST READ



Envisioning a Carbon Removal Strategy for Europe

Carbon Gap

In this document, Carbon Gap offers 18 actionable policy recommendations for how the EU could support CDR over the next thirty years as part of an EU CDR Strategy. You can catch up on the panels from the launch event, <u>here</u>.

DACC Reports Library

PICTURE THIS!

FIGURE 3 Mid-century deployment and economic opportunity for direct air capture in 2050, top 15 states

DAC deployment potential, cumulative MMT/yr (left); Total jobs by state (right)

Texas	Low Deployment	High Deployment	Low Deployment 98,520	High Deployment
New Mexico	32.2 • 105.7		36,200 • 157,190	
Alaska	30.2 • 99.1		32,190 • 142,740	
Kansas	28.6 93.9		26,600 • 115,000	
Oklahoma	28.5 • 93.3		30,480 • 131,270	
Iowa	27.2 • 89.1		26,960 • 113,230	
Nebraska	25.9 • 85.0		25,720 • 110,340	
Montana	25.3 • 83.1		27,920 • 121,300	
Louisiana	24.7 • 81.1		25,500 • 106,480	
Arizona	23.8 • 77.9		23,990 • 104,440	
Wyoming	21.8 • 71.5		23,560 • 102,150	
South Dakota	21.3 • 69.9		22,710 • 97,880	
Colorado	21.3 • 69.7		19,620 • 84,920	
California	20.1 65.8		17,440 • 74,910	
Nevada	19.8 • 65.0		20,330 • 88,620	

Source: Rhodium Group. For total jobs, we add average annual capital investment jobs over the near-term timeframe to annual operating jobs.

SOURCE: Direct Air Capture Deployment and Economic Opportunity: State-by-State

MEMBER SPOTLIGHT



Skytree unveiled designs for its new products, Stratus. The Stratus unit follows Cumulus, a smaller scale unit launched last year. Stratus can capture from ambient air as much as 2750 lbs. (1250kg) of CO2 per day to meet the needs of large greenhouses and vertical farms.







DeepSky and **Avnos** <u>partner to deploy</u> Avnos's hybrid DAC that co-produces water in Canada. The initial pilot will be capable of 450t/yr

Capture6 announced their intention to <u>develop a</u> <u>DAC pilot</u> in New Zealand supported by Ara Ake, New Zealand's Future Energy Centre, to feed into a number of catalytic projects critical for the islands decarbonization priorities including SAFs, marine CDR and permanent CO2 removal



Parallel Carbon was <u>featured in The Times</u> discussing the UK approach to supporting DAC and the value of their DAC + Hydrogen approach.

DACC ON THE ROAD

Aaron Benjamin, Founding Team Member and UK/Europe Lead, was recently in Belgium to take part in the launch of the **Carbon Gap's** <u>*CDR Strategy for Europe*</u> and **Carbon Markets Watch** <u>*CO2ol Down*</u> policy workshops. The trip was also an opportunity to touch base with key European DAC Coalition members such as **Skytree, Carbyon** and **Sirona Technologies**.



'Solvent Discovery: Highly Classified' Eindhoven High Tech Campus, Netherlands



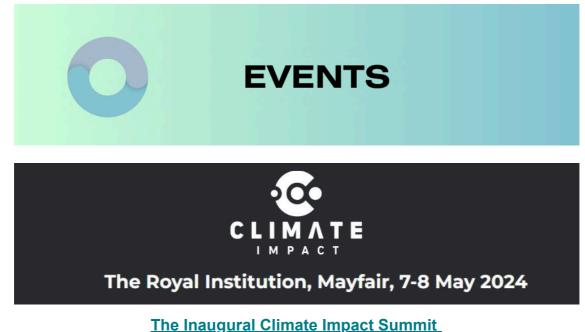
'The Skytree Museum' Amsterdam Science Park, Netherlands



Disturbing the Sirona Technologies team lunch for this photo Anderlecht, Belgium



Policy co-creation at work! Brussels, Belgium



7-8th May 2024 London, UK

With over 500 invited guests blending policy makers, climate tech founders, investors, and ambitious corporates, discussing topics on decarbonisation, energy, alternative materials, cities, AI, circularity, food and agriculture. Joining the likes of UNDO and Climeworks representing the carbon removal field.

As an official Community Champion of the event, DAC Coalition members will receive 50% off the ticket price. Registration can be found <u>here</u>.



CarbonUnbound USA May 21-23rd - New York, New York

Join our Co-founder and Executive Director, Jason Hochman, alongside other CDR executives at this prominent conference.





CO₂NNECT on Carbon Storage April 10th - 08:00-17:00 (CDT) JW Marriott Austin. Texas

Led by the Great Plains Institute, attendees can expect a day full of engaging conversations on the importance of collaboration among diverse stakeholders, insights on how to communicate effectively and authentically with communities on the topic of carbon dioxide (CO₂) storage, and candid discussions on how states and Tribal nations can lead the way to economywide decarbonization through investments in carbon storage. <u>Registration is free.</u> Responsible & Regional Deployment of Carbon Removal: A PNW Symposium April 18th · 9am - 5:30pm PDT

As carbon removal scales, the Pacific Northwest region is poised to become a major hub of activity due to its vibrant climate tech ecosystem and natural attributes. The Carbon Business Council, RMI, Building Tribal Leadership in Carbon Removal, Institute for Responsible Carbon Removal, Indigenous Greenhouse Gas Removal Commission, Clean and Prosperous Institute, and Carbon Development Council invite you to participate in a Seattle Symposium on April 18th to discuss regional deployment opportunities in the Pacific Northwest. <u>Registration, here</u>.



San Francisco Climate Week April 21-27th

Check out the full list of event happening over SF Climate Week, <u>here</u>. A number of carbon removal events are occurring including <u>Puro.earth's West Coast CDR Summit.</u>



AirMyne HQ Tour April 26th - 10:00-12:00 (PDT)

As part of San Francisco Climate Week, join the AirMyne team for a tour of their R&D facility in Berkeley. Places are limited and subject to approval via <u>registration</u>.



Workshop: Harmonizing Assessments of Carbon Management Approaches May 21-23 - Ann Arbor, Michigan

This free annual hybrid workshop addresses open issues and future directions related to environmental, economic, and societal assessments of carbon dioxide capture, conversion to products, use for other purposes, or sequestration in their many forms. This event is suitable for researchers, students, practitioners, developers and users of carbon management Life Cycle Assessment (LCA) and Techno-economic Assessment (TEA) and users of assessment outputs.



Looking to move your career into Direct Air Capture? Check out these positions and more on the DACC Jobs Board!

• VP of Marketing and Public Affairs (Capture6, Remote, California)

- <u>Senior Policy Analyst</u> (Bipartisan Policy Center, Remote, Washington D.C)
- <u>Director of Community and Stakeholder Engagement</u> (**DeepSky**, Montreal)
- Head of Growth (Skytree, Amsterdam)

All vacancies are made available on the DAC Coalition Jobs Board (powered by Climatebase)

