

DOCKETED

Docket Number:	25-ERDD-01
Project Title:	Carbon Management Hub RFI
TN #:	261466
Document Title:	Carbon Direct_Request for Information_ Docket # 25-ERDD-01
Description:	Carbon Direct's response for Request for Information, Docket # 25-ERDD-01
Filer:	Justine Davids
Organization:	Carbon Direct
Submitter Role:	Applicant
Submission Date:	1/30/2025 10:16:39 AM
Docketed Date:	1/30/2025



The California Energy Commission

Request for Information California Carbon Management Hub

Docket # 25-ERDD-01

28 January 2025

Carbon Direct Inc.

Indication if company / institution is: Advisor for corporations, governments and foundations; current or potential buyer of carbon removal credits.

Company / institution point of contact: Justine Davids

E-mail address: jadavids@carbon-direct.com

Contents

Request for Information Categories and Questions **2**

Request for Information Categories and Questions

1. Please describe your interest in partnering with other entities to apply for DOE funding and outline the role and expertise your organization would contribute to a carbon management hub. Include any relevant experience from prior collaborative projects that could help inform and strengthen a hub-based partnership.

Carbon Direct helps organizations turn climate science into action through our end-to-end carbon management services. With a team of over 60 scientists, Carbon Direct helps leading companies and governments around the world reach their climate goals with integrity. We combine technology with deep expertise in climate science, policy, and carbon markets to deliver carbon emission footprints, actionable reduction strategies, and high-quality carbon dioxide removal. With Carbon Direct, clients can set and equitably deliver on their climate commitments, streamline compliance, and manage risk through transparency and scientific credibility.

Carbon Direct has worked as a [strategic advisor](#) to two Bipartisan Infrastructure Law-funded Regional Direct Air Capture (DAC) Hubs program recipients. Carbon Direct was selected by 1PointFive and CarbonCapture Inc. to provide community benefits planning, life cycle assessments, and stakeholder engagement for the proposed projects. Through these partnerships, Carbon Direct has developed additional expertise and capability in:

- assessing the impacts of energy and water use in carbon management
- engagement of community-based and local organizations
- engagement with regional and national climate-focused organizations

Carbon Direct has extensive experience working with and for US federal government agencies, national laboratories, state governments (including California), [counties](#), and cities on a range of topics including biomass chain of custody, evaluation of CDR projects against quality criteria, and strategic planning for the transition to a low-carbon economy.

2. Which types of state-level support beyond grants — such as stakeholder convening, streamlined processes, technical assistance, research access, and community engagement — is your organization most interested in, and which does your organization believe would be most effective for advancing carbon management efforts, particularly with regards to a hub- based approach?

State level support would be greatly beneficial for research access, for sources such as application processes for grants, existing wells and geologic sequestration potential. In addition, community engagement would benefit from being bolstered, providing science based education to communities to alleviate fear surrounding new technologies. Carbon Direct encourages hiring scientific experts or partnering with organizations to evaluate different technologies and community benefits plans.

Additionally, carbon dioxide removal purchase prizes by the state would be catalytic. This is highly valuable as it sends a direct market signal that the state is setting a floor for carbon management projects. Government-backed purchases would assist projects to secure debt financing, significantly lowering capital costs, and provide assurances of quality. A combination of direct purchases (small volume) and advanced market commitments would be the most effective approach.

3. What is the current Technology Readiness Level (TRL) of your technology and/or the development stage of your project (e.g., preliminary front-end engineering and design, demonstration)? Please provide potential outcomes from partnering with your organization, including estimated annual carbon capture capacity (in tonnes per year), description of product (if carbon utilization), co-benefits (e.g., hydrogen or water production), and other relevant details.

N/A

4. What challenges are you currently facing, particularly related to funding (e.g., offsetting construction or operating costs, securing offtake agreements)? What challenges – financial or otherwise - do you anticipate in scaling these technologies within a hub-based approach, and are there any challenges unique to establishing a hub in California?

As these technologies are scaled, Carbon Direct anticipates infrastructure challenges, ability to scale and execute, as well as community engagement needs.

Permitting and infrastructure are significant obstacles to investment in CDR projects. Sometimes lengthy and uncertain permitting processes introduce delays and increase costs, making projects riskier and less attractive to investors. Infrastructure limitations, such as insufficient geographic coverage and storage capacity, compound these risks by constraining the volume of carbon that can be stored and creating vulnerabilities across the value chain. These factors collectively hinder the scalability and financial feasibility of CDR investments.

The scale of infrastructure required to manage captured carbon is not always well matched to the scale of technology that is ready to be tested or deployed. For example, the economics of carbon dioxide compression, liquefaction, transportation, and injection improve strongly with increasing scale because they are industrially deployed in the merchant CO₂ and EOR industries. These unit operations are much less cost effective when paired with pilot/demonstration-scale CDR technologies. The same is true for the systems and sensors required to measure and verify CDR performance. Therefore, financing these non-capture infrastructure components will require both public support and innovative contracting to ensure effective and equitable hub operation.

Finally, many vendors with advanced technology, even accomplished companies, find that they lack the specific experience required for CO₂ removal and storage. Carbon Direct has worked directly with projects to assure their success in changing macroeconomics (e.g., interest rates, supply chains), CO₂ offtake, credit offtake, and technical integration. Carbon Direct's breadth and depth of experience allows us to assist projects encountering operational, commercial, technical, economic, political, and community challenges.