



October 6, 2025

California Air Resources Board
1001 I Street
Sacramento, CA 95814

Matthew Botill
Division Chief, Industrial Strategies Division

RE: Information Solicitation to Advise Implementation of the Carbon Capture, Removal, Utilization, and Storage Program: Senate Bill 905

Dear Mr. Botill,

We appreciate the opportunity to comment on CARB's pre-ruling solicitation for the implementation of SB 905.

1PointFive is a Carbon Capture, Utilization, and Sequestration (CCUS) company that is working to help curb global temperature rise to 1.5°C through the deployment of decarbonization solutions, including Carbon Engineering's Direct Air Capture and AIR TO FUELS solutions alongside geologic sequestration hubs.

SB 905 directs CARB to create a carbon capture, removal, utilization, and storage program to evaluate, demonstrate, and regulate CCUS and CDR projects and technologies, an important step in establishing a clear, consistent, and science-based regulatory framework. As these technologies move closer to deployment, effective coordination among state and federal agencies, rigorous technical oversight, and early engagement with communities will be critical to their success.

The following responses address several of the key questions posed in the solicitation and highlight areas where practical considerations, existing best practices, and technical insights can guide implementation.

Definitions

1. In addition to the terms defined in statute, are there other key terms that should be defined? Please provide any proposed definitions with applicable citations.

Yes. California is a recognized leader in recognizing the challenges of and need to address threats of climate change. CARB's low carbon fuel standard and its CCS Protocol have proven influential with a variety of jurisdictions adopting similar and in some cases near verbatim regulatory language. A number of other jurisdictions have followed California's and CARB's lead when developing their programs and have adopted several key defined terms to further stimulate development of climate programs across national and international boundaries.



CARB should consider incorporating several of these defined terms to better align its programs across these developing, and in certain cases adopted, state, federal, and international frameworks. Below are proposed definitions with citations.

Direct Air Capture (DAC)

Proposed Definition: “Direct air capture” (“DAC”) means the removal of carbon dioxide from the atmosphere using engineered chemical and/or physical processes. DAC does not include any facility, technology, or system that captures carbon dioxide through natural photosynthesis.

Source: 45Q and IRS regs

Geologic Carbon Sequestration (GCS)

Proposed Definition: “Geologic carbon sequestration” (“GCS”) means the permanent ($\geq 1,000$ years) containment of CO₂ within deep subsurface rock formations. This term does not include the capture or transport of CO₂.

Source: Adapted from CARB CCS Protocol, with inclusion of permanence aligned to IPCC guidance

[Chapter 5, IPCC Guidelines for National Greenhouse Gas Inventories](#)

Permanence

Proposed Definition: “Permanent sequestration,” “permanence,” or “long-term sequestration” means sequestered CO₂ is expected to remain within the storage complex for at least 1,000 years.

Source: Adapted from CARB CCS Protocol; timeframe extended to reflect durability requirements in line with SB905’s definition of “high quality, suitable locations” and international standards (IPCC)

[Chapter 5, IPCC Guidelines for National Greenhouse Gas Inventories](#)

(Optional: Short-term sequestration may be separately defined for projects that do not meet SB905’s threshold to be considered “high quality, suitable locations,” though this term requires further policy clarification.)

Site Closure

Proposed Definition: “Site closure” means the point in time, as determined by the State regulatory authority consistent with the requirements of the California’s CCS protocol, at which the owner or operator of a carbon sequestration project is released from post-injection site care and monitoring responsibilities. This definition is consistent with the federal Class VI Underground Injection Control program definition at 40 C.F.R. § 146.81(d), which defines site closure as the point at which the Director determines that the owner or operator is released from post-injection site care obligations under § 146.93.

Source: EPA Class VI regulations; aligns with federal practice and ensures consistency with other jurisdictions



We also strongly urge CARB to base the determination of site closure on technical data rather than a defined, but arbitrarily chosen, predetermined and fixed time frame. Where a project can demonstrate that injected CO₂ has stabilized in the subsurface, potential threats of leakage have been addressed and CARB's concurrence that the injected CO₂ is safely and securely stored. Concurrence would first require a project to provide CARB with scientific and technical evidence, such as monitoring results and other relevant data. This approach ensures both a demonstration and agency concurrence that injected CO₂ will remain in the defined storage complex before an owner or operator is released from further post-injection site care and monitoring responsibilities (however, we do not advocate that an owner or operator be released from liability for the storage project). This method aligns with the federal Class VI Underground Injection Control program definition and ensures consistency with other jurisdictions.

2. Are there any definitions in the statute that may require further expansion or clarification?

Yes, several of the existing statutory definitions would benefit from clarification and alignment with related protocols.

Geologic Storage

Issue: The statute includes separate definitions for "geologic storage complex" and "geologic storage reservoir," but the terminology does not appear to fully align with existing terms used in the CCS protocol.

- *Current Definitions:*
 - (c) "Geologic storage complex" means one or more geologic storage reservoirs and any associated facilities or infrastructure necessary to convey, inject, or store carbon dioxide streams at the site of a geologic storage reservoir.
 - (d) "Geologic storage reservoir" means a portion of a sedimentary geologic stratum or formation containing pore spaces, including depleted oil and gas reservoirs and saline formations, that is suitable for injection and permanent storage of carbon dioxide in the state.
- *Proposed Clarification:*

The definitions should be harmonized into a single definition to ensure consistency across SB 905 and the CCS protocol. The "geologic storage complex" definition should clearly state that it encompasses both reservoirs and associated facilities. No separate definition of "geologic storage reservoir" is needed. This avoids ambiguity and better aligns the definition with EPA Class VI and CARB's CCS Protocol frameworks.

CDR Technology

Issue: The current definition is structurally confusing and risks creating regulatory uncertainty.

- *Current Definition:*

"CDR technology" means carbon dioxide removal, defined as anthropogenic activities that use technologies or engineered strategies to remove carbon dioxide from the atmosphere and put it into long-term storage, including direct air capture.



- *Proposed Clarification:*
“CDR technology” should be defined in a clearer structure as:
“Carbon dioxide removal (CDR) technology” means engineered strategies or technologies that remove carbon dioxide from the atmosphere and place it into long-term storage. Examples include direct air capture (DAC), bioenergy with carbon capture and storage (BECCS), and other engineered removal methods.”

This structure aligns with international best practices and avoids conflating the term “CDR technology” with the act of carbon removal itself.

CDR Credits

Issue: The statute is silent on how CDR technologies translate into credits, which creates ambiguity in relation to other programs such as the Low Carbon Fuel Standard (LCFS).

In September 2025, Governor Newsom signed into law the reauthorization of the state's climate program, now renamed "Cap-and-Invest," extending it through 2045 with the passage of AB 1207 and SB 840. This legislation includes the development of “additional compliance offset protocols to address sectors not covered by the market-based compliance mechanism but identified in the scoping plan prepared pursuant to Section 38561, including carbon dioxide removal.” We look forward to engaging with CARB on the implementation of Cap-and-Invest, and how CDR credits will be defined and incorporated.

Applicability

3. Are there any project categories missing from this list?

CARB’s list of eligible project categories appears to be comprehensive, but the field of carbon capture utilization and sequestration (CCUS) is rapidly evolving, and the project categories should be sufficiently broad to accommodate future innovation. As an example, in 2018, CARB cited the importance of supporting the emerging technology of direct air capture when proposing to make it eligible for project-based CCS credits (subject to the same accounting and permanence requirements as any other CCS project types). This helped to jump start the industry.

We suggest that CARB restructure its project categories to ensure that point source capture and DAC are treated as distinct project types, while also explicitly differentiating between utilization pathways that involve long-term storage and those that lead to fuel production (e.g., DAC to fuels).

Consistent with this approach, we propose that the category “carbon capture from large emitters and ambient air for permanent sequestration” be considered two distinct categories:

- Point Source Capture from large emitters for permanent sequestration through utilization.
- Direct Air Capture (DAC) from ambient air for permanent sequestration through utilization.



4. Are there suggestions for further description of these categories, or ways to group categories?

Yes. In addition to our suggestion in response to question 3, above, we propose that CARB eliminate the quotation marks around “permanent” sequestration, as they could be read to imply uncertainty. On the contrary, geologic carbon sequestration is very well understood, highly permanent, and project proponents must first apply for and meet demanding specifications for sequestering carbon pursuant to the Permanence Requirements of the CCS Protocol to be eligible for LCFS project credits.

We do strongly recommend that CARB build on its CCS Protocol experience and revise the CCS Protocol’s definition of permanence.

Proposed Definition: (see question 1)

“Permanent sequestration,” “permanence,” or “long-term sequestration” means sequestered CO₂ will remain within the storage complex for at least 1,000 years.

This provides regulatory certainty and aligns California and CARB with the most recent established carbon accounting principles. Recent peer-reviewed analysis has found that CO₂ storage period of at least 1,000 years is necessary for neutralizing remaining fossil CO₂ emissions to achieve net zero emissions¹.

As recommended above, in question #3, CARB’s categorization would also benefit from emphasizing the capture method (point source vs. ambient air) and end-use (storage vs. utilization), ensuring that each project type is categorized consistently.

In addition, we do not think that the separate term “passive air capture” is needed in the project category list. Any method of air capture is a subset of the “direct air capture (DAC)” category, and we are not aware of any engineered air capture methods that are completely passive.

Alternatively, if CARB’s intent is to include a subset of carbon dioxide removal (CDR) approaches that are not DAC, such as enhanced rock weathering (ERW) or certain ocean-based carbon removal methods, then a more precise, technically accurate term and definition should be adopted.

Finally, we note that CARB uses both “storage” and “sequestration” throughout the list of project categories. For consistency and clarity, we recommend using “sequestration” uniformly, as it is the term applied in federal frameworks to describe the long-term, geologic containment of CO₂.

¹ Brunner, C., Hausfather, Z. & Knutti, R. Durability of carbon dioxide removal is critical for Paris climate goals. *Commun Earth Environ* **5**, 645 (2024)



Financial Responsibility

5) In addition to the instruments listed in §146.85 of Title 40, are there other existing financial responsibility instruments CARB staff should consider?

No additional instruments beyond those already listed in §146.85 are recommended. We do suggest that CARB hold additional workshops or solicit comments on the development of guidance documents to streamline the process for applicants to submit and obtain CARB approval for selected financial responsibility instruments.

6) What other additions or changes to the existing requirements for financial responsibility should CARB consider and why?

We recommend that CARB consider certain clarifications and refinements to the financial responsibility requirements already included in the CCS Protocol. These include:

- (7.a.3) Ensuring that projects assess the potential risks to underground sources of drinking water (USDWs), not just atmospheric releases.
- (7.a.6C) Clarifying whether CARB can be a beneficiary under a letter of credit (EPA cannot be a beneficiary under a letter of credit, necessitating regulatory language in 40 CFR 146.85 requiring a project to take the additional step of establishing a standby trust, however, we are not aware of any other states that have this restriction).
- (7.d.3) Establish clear timelines for agency review, such as requiring decisions on revised cost estimates within 60 days of submittal to ensure that projects can timely arrange for an updated financial instrument or instruments.
- (7.e.3) Shortening the window to replace financial instruments after bankruptcy or insurer insolvency from 60 days to 15 days, with an option to extend where progress is demonstrated, thereby minimizing risk exposure and recognizing that in extreme cases, insolvency may occur within a 60-day period.

Further, we recommend that CARB adopt the federal closure financial tests under 40 CFR §264.143(f)(1) (EPA's financial assurance requirements for the closure of sites under RCRA) as a minimum requirement rather than the financial test under 40 CFR §146.85. The test under 40 CFR § 264.143 is at least as stringent as under 40 CFR §146.85 and better aligns the financial responsibility requirements with the practical realities of corporate finances and ensures that companies with the strongest bottom lines backup their sequestration projects.

The requirement under 40 CFR §146.85 includes a net working capital test (i.e., requiring a project to demonstrate that it or its parent have a net working capital and tangible net worth each at least six times the sum of current well plugging, post injection site care, and site closure cost). By comparison, 40 CFR § 264.143(f)(1) includes two tests that a CCS Project Operator could meet to demonstrate financial fitness. The second of these two tests bases financial fitness on a bond rating and an entity's tangible net worth. Use of the tests in 40 CFR §264.143 avoids the conflicts with corporate stewardship of cash and working capital (companies, generally, try to minimize both), which otherwise creates a material mismatch in duration (working capital is short-term while closure liabilities are long-term) and represents a more accurate measure of a corporation's financial solvency. Said another way, and simply put, the



net working capital test effectively asks companies to cash collateralize closure liabilities on-balance sheet.

Net working capital is intended to measure the day-to-day liquidity needed to operate a business, not to serve as a long-term backstop for liabilities. Requiring companies to maintain inflated working capital balances would force them to hold excess cash or short-term assets, reducing opportunities for productive capital investment, acquisitions, debt reduction, and shareholder returns. This requirement would unintentionally penalize efficient capital management and could even incentivize less optimal financial structures.

Additionally, the CARB Working Capital requirements are internally inconsistent. For example:

- Requirement (2) mandates a ratio of current assets to current liabilities greater than 1.5, implying strongly positive working capital.
- Requirement (4) allows negative working capital, as long as current assets minus current liabilities relative to total assets is greater than -0.1 .

This conflict highlights a misunderstanding of financial risk. Simply put, high working capital does not equate to solvency, nor does negative working capital necessarily indicate distress.

By contrast, the federal closure financial tests under 40 CFR 264.143(f)(1) avoid this conflict and provide a clearer, more accurate measure of corporate solvency and financial strength. These tests rely on tangible net worth, net income ratios, debt-to-equity ratios, credit ratings, and U.S.-based asset coverage—all of which are more reliable indicators of a company's ability to meet closure obligations.

Recommendation:

CARB should align its financial test requirements with the federal model under 40 CFR 264.143(f). This approach provides rigorous solvency assurance while avoiding the inefficiencies and contradictions inherent in using working capital as a proxy. Specifically, the working capital ratio test (>1.5) should be eliminated, and the focus should remain on:

- Tangible net worth thresholds,
- Debt and income ratio tests,
- Bond rating criteria,
- U.S.-based asset location requirements, and
- Annual re-testing to ensure ongoing compliance.

This framework better addresses the true financial risks associated with closure and post-closure obligations while maintaining commercial viability for regulated companies.

7) How should the requirements account for scenarios such as ownership transfer, bankruptcy, change of ownership structure, change in insurance carrier, etc.?

The existing CCS Protocol framework already addresses these scenarios through protective conditions of coverage, including cancellation and renewal provisions, bankruptcy notification,



and continuity requirements. CARB should maintain these safeguards and reinforce them by clarifying timelines for notification and replacement of instruments (as noted in question 6).

Criteria and Toxics Monitoring

9. What project-specific air monitoring activities are CCUS/CDR developers currently conducting or intending to conduct, if any?

Some developers have conducted soil gas monitoring, which typically involves drilling shallow wells (10–15 feet deep, not in bedrock) to measure fluids and gases and to establish a baseline against which abnormal readings can be identified. This technique may offer broader coverage compared to geochemical monitoring wells, which provide data at discrete points. While air monitoring near sensitive receptors (e.g., residences or other structures) may occasionally be considered, project monitoring strategies generally prioritize other monitoring technologies—such as seismic and pressure, temperature, and volume monitoring in the injection well—over surface air monitoring, as these provide more reliable and actionable information.

10. What specific criteria pollutants or toxics emissions should be prioritized for monitoring and where along the CCUS/CDR project components should monitoring be prioritized?

This question considers multiple aspects of CCUS/CDR projects and air monitoring should necessarily be tailored to each project, project component and carbon dioxide stream. However, the air monitoring plans should be designed to be transparent and provide stakeholders, including community members near projects and project components, information confirming project performance within permit limits.

The initial burden on designing air monitoring plans should fall on the CCS project owner or operator. CARB should approve only those CCUS projects that meet California's already demanding regulatory requirements that include monitoring plans designed to ensure that emissions from properly designed, operated, maintained and managed projects should be within permitted limits for regulated pollutants. Projects must develop, implement, review and periodically revise, as necessary, plans to respond to emergency events, as already required under the CCS Protocol.

Monitoring should be prioritized along transportation infrastructure (to detect potential leaks) and at the injection site (to ensure containment and permanence). Monitoring requirements at a capture facility may need to be reviewed if capture equipment is added including reviews of and revisions to existing facility air permits.

12. Are there examples of existing regulatory monitoring efforts being conducted in other sectors/sources that may be instructive for SB 905?

IOGCC recently adopted a model statute for CO₂ storage that includes a section on induced seismicity that CARB should review (Section 1.18, [IOGCC Model Statute and Guidance on Geological Sequestration of Carbon Dioxide](#)). The IOGCC recommendations are closely aligned with the suggested changes to Section 4.3.2.3 that we submitted in our joint letter with EDF on September 21, 2022. Given the similarity, and to promote alignment with the IOGCC framework,



we are resubmitting our proposed revisions in this section for CARB's consideration. Below you will find the proposed language and explanation, drawn from the joint EDF letter, with a few refinements to reflect the IOGCC language.

C.4.3.2.3.(a)(1)(2)(3)(4) Proposed Language

(a) The CCS Project Operator must deploy and maintain a seismicity monitoring system in order to determine the presence or absence, magnitude, and the hypocenter location to the best of the operator's ability of seismic activity within the vicinity of the storage complex of at least Richter Magnitude 0.7 or such other magnitude as may be necessary to perform the risk analysis required by subsection C.4.3.2.3. If, based on project-specific risk analysis, it is reasonably practicable, CARB may permit local seismicity monitoring to be discontinued, deferring instead to state and/or national arrays for long-term monitoring (e.g., USGS).

(1) The design of the array and analysis of the results should enable consideration of whether the risk of triggering an earthquake of Richter magnitude 2.7, or greater, is significantly increased by injection.

(2) The array should be designed with surface arrays and/or downhole arrays as reasonably required to meet minimum magnitude of completeness of 0.7, or an alternative site-appropriate minimum magnitude approved by the Executive Officer, and to appropriately calibrate event magnitudes and hypocenter locations.

(3) The array should be calibrated with check-shots, sonic logs or other local velocity information, preferably at depth.

(4) Seismicity and other relevant data must be analyzed to determine whether the risk of triggering an earthquake of Richter Magnitude 2.7 or greater is significantly increased by injection. If such an increase is determined, the Executive Officer must be notified within 30 days and mitigation is required.

Discussion

- Surface and near-surface based seismicity monitoring systems can provide equivalent accuracy and broader aerial coverage without creating additional penetrations into the reservoir.
- When surface and near-surface based arrays can be demonstrated as accurate, they may be a better option than downhole monitoring, which introduces new penetrations into the storage complex.
- A generally accepted guideline for statistical analysis of seismicity is to seek to measure events over a range of 2 magnitude units in order to estimate the linear relationship between frequency and magnitude.² Given that our magnitude of concern is magnitude 2.7, the array should be designed to detect events at or above magnitude 0.7. Detected events above magnitude 0.7, as and if they occur, can be used to update the risk of a

² Stumpf, M. P. H. and M. A. Porter, 2012, Critical truths about power laws: Science, 335 (6069) p. 665-666.



magnitude of 2.7 or larger, due to the relationship observed with seismic events that relates earthquake magnitude and earthquake frequency.³

13. What frequency of monitoring and reporting should CARB consider, and should this differ by project type? Do you have estimates on costs for monitoring and reporting?

Monitoring and reporting requirements should not be one-size-fits-all; instead, they should be tailored to project type, site characteristics, and project phase. Operators may be required to do more or less frequent monitoring depending upon the operational conditions and results of testing and monitoring data. This allows for testing and monitoring plans to be fit for purpose, which will vary based upon project conditions, risk, and project phase. Operators should be afforded the opportunity to provide data that demonstrate a decrease in monitoring responsibilities is warranted. CARB should give operators the flexibility to propose monitoring methods for approval that are site-specific, fit-for-purpose, and provide the data necessary to promote environmental and operational integrity. Costs vary widely and depend on the technologies deployed.

14. Should CARB consider different monitoring requirements at carbon capture sites versus carbon removals utilizing natural systems?

Yes, they are different projects. By recognizing this, CARB should develop appropriate monitoring requirements for each project type, ensuring effective management and contribution to the state's climate goals.

Minimizing local water and air quality impacts

15. What types of strategies are in use in other regulatory or voluntary programs that could be adapted to meet the statutory requirements?

Several regulatory and voluntary programs already have frameworks in place that could be adapted:

- California should assess the applicability of federal UIC Class VI requirements to determine whether they can enhance or align with the state's existing sequestration protocol. However, while considering the federal framework, it is critical to account for the significant technological progress and regulatory experience accumulated since the 2010 UIC rulemaking and the 2018 adoption of the CCS protocol, as demonstrated by the increasing number of Class VI well applications either approved or under review.
- Interstate Oil and Gas Compact Commission (IOGCC): The recent IOGCC model statute development process – of which California participated – provides a useful reference for addressing issues that CARB could draw from to ensure consistency across jurisdiction and integrate best practices that reflect both state-specific needs and national standards.

³ Gutenberg, B.; Richter, C. F. Seismicity of the Earth and Associated Phenomena, 2nd ed.; Princeton Univ. Press: Princeton, NJ, 1954



17. Is there any information from existing studies or projects to inform a CEQA analysis for the rulemaking?

Yes, a number of studies and existing projects provide technical, environmental, and social data that could inform a California Environmental Quality Act (CEQA) analysis:

- Intergovernmental Panel on Climate Change (IPCC) Special Reports: The IPCC has released multiple special reports—most notably the *Special Report on Carbon Dioxide Capture and Storage* (2005) and more recently chapters within the *Special Report on Global Warming of 1.5°C* (2018) and the *AR6 Working Group III report* (2022)—that synthesize global data on capture, transport, and storage impacts. These reports include detailed assessments of risks, monitoring requirements, and mitigation measures, which provide a scientific foundation for CEQA evaluations.
- Existing CCUS Projects: Demonstration and commercial-scale projects in the U.S. and abroad (e.g. the Terrell Gas Processing Plant and the Sleipner Project) have generated years of environmental monitoring data. These projects offer case studies on subsurface modeling, seismic risk, induced seismicity monitoring, groundwater protection, and surface environmental impacts. [Attached are literature reviews for the Terrell Gas Processing Plant([Lessons captured from 50 years of CCS projects](#)) and the Sleipner Project ([20 Years of Monitoring CO₂-injection at Sleipner](#))]. The National Energy Technology Laboratory (NETL) in 2020 published a technical review of 2 decades of DOE carbon storage R&D program and states that “more than 11 million metric tons of CO₂ were stored in geologic formations via RCSP large-scale field projects, with no indications of negative impacts to either human health or the environment” ([TECHNICAL REPORT TEMPLATE AND USER GUIDE](#)). Additionally, the ADM Illinois Industrial Carbon Capture and Storage (ICCS) project provides both a successful example of safe large-scale storage, along with valuable lessons that can inform improved project design and monitoring methods.

Together, these studies and project-level datasets provide an evidence base for evaluating the potential impacts, mitigation strategies, and monitoring requirements necessary by CEQA.

Permit and Project Portal

18. What key issues should CARB address when developing the unified permit application?

A unified permit application is a critical opportunity to streamline permitting for CCUS projects, but several key issues must be addressed to ensure it delivers clarity and efficiency:

- Jurisdictional Pathways: CARB should clarify the permitting pathway across federal, state, and regional agencies. In particular, projects currently require coordination with EPA Region 9 for Class VI injection wells and state or regional water boards for water-related permits. CARB should provide clear guidance on how these processes interact, including which agency has lead authority at each stage.
- Step-by-Step Permitting Roadmap: Applicants would benefit from a detailed roadmap outlining permit requirements, sequencing, and timelines across all agencies. This should include clear expectations for environmental review, public consultation, and interagency coordination.



- **Submission Portal Integration:** A unified, centralized submission portal should be developed to allow applicants to submit materials once and ensure they are shared with all relevant agencies. This would reduce duplication, administrative burden, and delays.
- **Project Status Updates:** Transparency is essential. CARB should provide a public-facing platform where applicants and stakeholders can track the real-time status of permits (e.g., application received, under review, information requested, approved).

Recommendation: By clearly defining the jurisdictional roles, creating a step-by-step roadmap, integrating submissions into a single portal, and offering transparent status updates, CARB can make the unified permit application a model for regulatory efficiency and predictability.

21. Are there examples of existing public CCUS project databases that we should look to and/or emulate for public reporting on project deployment?

Yes. There are a few existing federal resources that California could look to as models for public reporting on CCUS project deployment:

- **EPA Class VI Permit Tracker:** EPA has a public-facing Class VI well dashboard, which tracks project status in real time. The tracker includes applications received, projects under review, final permit decisions, applications awaiting responses to information requests, and applications on hold. This type of transparency builds public confidence and provides a clear picture of regulatory progress.

Recommendation: CARB should leverage the real-time transparency of the Class VI permit tracker to create a comprehensive, accessible database. Such a system should include:

- Project status (application received, under review, approved, operational)
- Monitoring, reporting, and verification (MRV) data
- Non-technical project summaries to enhance accessibility for communities and stakeholders

By doing so, CARB would set a national benchmark for transparent CCUS project reporting, reinforcing trust and ensuring accountability.

Integration with Existing State Programs and Potential New Policy Support

22. What role could projects developed under SB 905 play in these programs and are there other programs or policies in which carbon capture removal, storage, and utilization could play a role for compliance?

Projects developed under SB 905 can serve as critical compliance pathways across multiple California climate policies, but greater regulatory clarity is needed to ensure consistency and effectiveness.

- **Cap-and-Invest (C&I):** CARB should clarify the extent to which capturing and storing CO₂ from point sources qualifies for compliance under the Cap-and-Invest program. Importantly, the framework should also be broadened to explicitly include ambient carbon dioxide removal (CDR), such as direct air capture (DAC), as a compliance-eligible



pathway. This will ensure that both point source reductions and atmospheric removals are recognized.

- Enhanced Oil Recovery (EOR): CARB must provide clear guidance on whether CO₂ stored through EOR operations will be considered “secure storage” for compliance purposes under Cap-and-Invest. Aligning with federal definitions of secure geological storage and requiring robust monitoring, reporting, and verification (MRV) would help address concerns about permanence.

Recommendation: CARB should issue guidance that:

1. Clarifies the role of point source CCS vs. ambient CDR (DAC) in Cap-and-Invest.
2. Expands the LCFS to explicitly incorporate CDR credits.

By providing these clarifications, California can align SB 905 projects with its broader climate compliance tools, ensuring that CCUS and CDR projects are incentivized across programs in a transparent and durable way.

23. Are there other things the state could be doing to scale up deployment of projects under SB 905?

Yes. While SB 905 establishes an important framework, additional state actions could further accelerate project deployment and market confidence. In particular, California should consider:

- Direct procurement of CDR credits – Establishing a state-led purchasing program would provide long-term demand certainty, de-risk early projects, and send a strong market signal for carbon removal.
- Incentives for early adopters – Providing financial or regulatory incentives (e.g., tax credits, offtake guarantees, or streamlined permitting pathways) will encourage companies to commit capital to projects sooner, helping California achieve deployment targets.

Taken together, these actions would complement SB 905’s framework by driving investment, innovation, and early market formation, ensuring that carbon removal and storage solutions can scale rapidly to meet the state’s climate goals.

Protocols

27. Are there examples of existing public CCUS project databases that we should look to and/or emulate for public reporting on project deployment?

Yes. The U.S. Environmental Protection Agency (EPA) has a UIC Class VI Permit Tracker, which serves as a useful model. This dashboard provides transparency into Class VI well projects by tracking:

- Applications received and under review
- Final permit decisions
- Applications awaiting responses to information requests
- Applications on hold
- Other relevant status updates

The EPA UIC Class VI Wells Permit Tracker Dashboard can be accessed here: [UIC Class VI Wells Permit Tracker Dashboard](#).



Recommendation: CARB should develop a similar public-facing database to enhance transparency and public trust. This database should provide real-time information on project status (application received, under review, approved, operational) and integrate:

- Monitoring and reporting data for ongoing assurance of project integrity
- Non-technical project summaries to make information more accessible for communities and stakeholders

Such an approach would significantly improve transparency, foster informed community engagement, and align California's reporting practices with federal best practices.

We would like to express our sincere appreciation for the opportunity to offer our insights on CARB's Carbon Capture, Removal, Utilization, and Storage Program. We value the dialogue surrounding these significant matters and look forward to further discussions.

Sincerely,

1PointFive

cc: Liane Randolph, Chair, CARB
Honorable Stevens S. Cliff, Ph.D., Executive Officer, CARB
Rajinder Sahota, Deputy Executive Officer, Climate Change & Research, CARB