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Casey Sixkiller
Director, Washington Department of Ecology
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Lacey, Washington 98503
CCA_carboncapture@ecy.wa.gov

RE: Carbon Capture, Removal, Utilization, and Storage in the Cap-and-Invest Program

Dear Mr. Casey Sixkiller,

The Climate Action Reserve (the Reserve) is pleased to submit feedback to help inform *Carbon Capture, Removal, Utilization, and Storage (CCRUS) in the Cap-and-Invest Program*. The Reserve is a California-based nonprofit organization dedicated to ensuring the environmental integrity of carbon credits and serves as an approved Offset Project Registry under California's Cap and Invest program. We thank the Washington Department of Ecology (ECY) for its continued leadership and for developing this important program to advance decarbonization efforts in the state. The Reserve supports this effort and, as an approved Offset Project Registry under Washington's Cap-and-Invest program, stands ready to develop and provide high-quality CCRUS protocols for both nature-based solutions and engineered carbon removals.

With the upcoming linkage between Washington and the California-Quebec market and California's CCUS program under SB 905, we believe this is a timely and important effort to catalyze investment in innovative CCRUS projects across Washington. Inclusion of CCRUS in the Washington Cap-and-Invest Program has the opportunity to help direct significant investment toward market-leading CCRUS projects. The Reserve believes it is critical that ECY establish a holistic CCRUS program that incorporates both nature-based and engineered removal project types to ensure equitable opportunities across sectors and support the collective scaling of climate action. Further, we continue to advocate for alignment with other programs to reduce unnecessary burdens and avoid duplicative requirements. The Reserve is excited to support ECY as you continue to design this CCRUS program and welcomes the continued opportunity to provide feedback.

Feedback Area 1: Carbon management within the Cap-and-Invest Program

Which engineered carbon management pathways do you think present the greatest opportunity for Cap-and-Invest Program compliance? For example, point source carbon capture and storage, carbon capture and utilization, and technological carbon dioxide removal. Why?

The Reserve recommends that ECY focus its attention on the key design considerations for these pathways rather than the specific technology pathway, which will help drive continued innovation across the CCRUS sector.

The Reserve is actively evaluating these engineered carbon management pathways as we prioritize protocol development opportunities. We recognize the significant potential of these activities and look forward to collaborating with ECY as key design considerations (permanence, monitoring, reporting, verification, and quantification) are evaluated.

At the same time, we believe this CCRUS program should also reflect the broader range of high-quality carbon removal and storage activities for which robust protocols already exist. We encourage ECY to prioritize the near-term evaluation of protocol types currently available in the market. This would include expanding the list of pathways beyond only engineered carbon removal activities (e.g., carbon capture from large emissions sources, direct air capture, and BECCS) to also include natural climate solutions (e.g., forestry, soil carbon, and biochar).

The Reserve currently has established protocols covering nature-based climate solutions, carbon utilization, and biomass and bio-oil storage. Given the maturity of these methodologies and their demonstrated ability to deliver quantifiable climate benefits, we believe these project types should be explicitly included alongside engineered removal approaches. This includes:

Nature-based climate solutions:

- [U.S. Forest Protocol \(Version 5.1\)](#): The U.S. Forest Protocol provides guidance for the development of forest carbon projects, including enhanced removals of carbon through reforestation and improved forest management activities.
- [U.S. Soil Enrichment Protocol \(Version 1.1\)](#): The U.S. Soil Enrichment Protocol (SEP) provides guidance on how to quantify, monitor, report, and verify agricultural practices that enhance carbon storage in soils.

Biomass or bio-oil storage:

- [U.S. and Canada Biochar Protocol \(Version 1.0\)](#): The U.S. and Canada Biochar Protocol provides guidance to account for, report, and verify carbon removals associated with the production and application of biochar.

The Reserve looks forward to discussing how existing and future protocols under our program can support the inclusion of CCRUS in Washington's Cap-and-Invest Program.

What additional clarity is required for effective deployment of engineered carbon management for Cap-and-Invest Program compliance? What is the most important? What is the most pressing?

We encourage ECY to align with best available science and current market standards to ensure effective deployment of CCRUS under Washington's Cap-and-Invest program. The Reserve recommends that ECY review the most up-to-date CCRUS information from governments, standards, and academics, ensuring best available science is incorporated into its program design. We firmly believe that such alignment will help reduce unnecessary administrative and regulatory burdens on companies that have already invested significantly in CCRUS projects and will support near-term CCRUS deployment under the program.

The Reserve is a member of the Carbon Dioxide Removals (CDR) Consortium with the National Institute for Standards and Technology and, within this consortium, is supporting the development of a CDR white paper. We encourage ECY to review the outcomes from the Consortium and White Paper to ensure alignment and consistency in the CDR sector.

Do you have any specific questions regarding the treatment of different carbon management pathways under the Cap-and-Invest Program?

The Reserve is interested in any additional information regarding ECY's current priorities for determining which carbon management pathways may be accepted for compliance offset crediting. As an Offset Project Registry under Washington's Cap-and-Invest Program, this information would help ensure we can effectively support ECY through the continued development of high-quality protocols.

Feedback Area 2: Carbon management in Washington

Do engineered carbon management pathways present a feasible decarbonization strategy for companies/facilities in Washington? For example, point source carbon capture and storage, carbon capture and utilization, and technological carbon dioxide removal. Why? Why not? Follow-up: What are the timelines for implementing carbon management projects in Washington?

The Reserve believes that engineered removals will play a critical role in any net zero strategy and is actively reviewing available pathways to prioritize market-ready protocols. We reiterate the need for a holistic CCRUS program that supports a broad range of eligible approaches under the Cap-and-Invest Program, enabling both near-term deployment of proven solutions and continued innovation in emerging technologies and storage pathways.

What are the greatest obstacles to implementing engineered carbon management in Washington and how can the state remove those barriers? Follow-up: Which of these barriers is the most pressing for the state to overcome? Why?

The Reserve is currently conducting a detailed assessment of engineered carbon management pathways to evaluate the market readiness of each approach and identify the carbon accounting principles that may present the greatest implementation challenges. One area already highlighted is around the long-term permanence of sequestered and stored carbon, with implementation challenges associated with Monitoring, Reporting, and Verification (MRV) across 1000-year timeframes.

Further, it is our understanding that engineered removals will require significant upfront capital expenditure, and geological storage can depend on location and access to infrastructure to deliver captured carbon to injection sites. The Reserve encourages ECY to review potential funding programs to help alleviate barriers to entry for companies interested in investing in long-term engineered carbon management projects.

What potential impacts or harms could engineered carbon management have on communities and Tribes in Washington? How can Washington proactively mitigate these?

We appreciate that ECY is thinking in advance about the potential impact or harms that engineered carbon management could have on communities or tribes in Washington, with the intent to proactively mitigate any potential negative impact.

To respect internal governmental processes, customs and rights of Indigenous Peoples and Local Communities (IPLCs), the Reserve requires Project Developers to engage in a Free, Prior, and Informed Consent (FPIC) for all project types that involve or impact IPLCs. The FPIC requirements are included within each protocol's Social Safeguards, which are designed to be aligned with the governance structure of IPLCs in the jurisdiction.

We encourage ECY to develop a specific process for assessing any impact or harm that could result from implementation of an engineered carbon management project to ensure there is a FPIC process for all related projects in the state. Further, we reiterate that ECY should include nature-based solutions, such as forestry and agriculture, to recognize the potential that natural systems have to sequester and store carbon out of the atmosphere. These solutions would further deliver benefits for communities, tribes, and the environment.

Feedback Area 3: Implementation of the CCA Program Rule

Permanent sequestration as defined in WAC 173-407-110

Which sequestration and/or mineralization approaches might meet this definition of permanent sequestration? Why?

Does this definition create barriers to implementation of carbon sequestration methods and technologies? How and why?

Permanent sequestration as defined in WAC 173-407-110 will be difficult to demonstrate for sequestration and mineralization pathways that do not involve geological storage of captured carbon. Natural climate solutions and mineralization-based applications (e.g., concrete) can release sequestered carbon back into the atmosphere if underlying practices or conditions are not maintained. As a result, these pathways are unlikely to meet this permanence standard and will require alternative mechanisms to manage reversal risk over a 1,000-year timeframe. However, it is important to underscore that while there is an impermanence risk, there are innovative mechanisms to mitigate and manage that risk to ensure durable, long-term climate impacts in natural climate solutions and mineralization-based activities.

The Reserve launched a [Permanence Work Program](#) in September 2025 comprising carbon market leaders, climate scientists, and community representatives to revise our permanence approach to reflect the latest scientific understanding, market innovations, and practical implementation instruments. We recently published the outcomes of this work program for public comment and welcome the opportunity to further engage with ECY to discuss how this work can support the design of the CCRUS program in Washington State.

Models and frameworks for CCA Program Rule implementation

How can and should elements such as monitoring and verification procedures and risk mitigation, compensation, financial assurance, and reversal provisions be factored into Ecology's implementation of the CCA program rule?

We strongly believe that these elements are fundamental for permanence of stored carbon and must be factored into the implementation of the CCA program rule. One of the main takeaways from our Permanence Work Program concluded that project developer MRV and compensation for reversals needs to be practical and enforceable (i.e., 40 years), particularly for practice activities with significant reversal risk associated with changes in activity. Further, it was clear that alternative mechanisms, like risk mitigation or financial assurances, are necessary to support long-term permanence across 1000-year timeframes. We encourage ECY to review the outcomes of our Permanence Work Program and stand ready to further discuss the readiness of alternative approaches that can be used to help mitigate against the long-term risk of impermanence.

How might federal Class VI well or other applicable state or federal standards be leveraged?

What other methodologies or protocols related to geologic sequestration and/or mineralization should Ecology look at?

The Reserve takes this opportunity to voice the need for alignment amongst state and federal standards, and other voluntary methodologies or protocols related to geologic sequestration and/or mineralization. Notably, we encourage ECY to align as closely as possible with SB 905 currently under development in California and welcome the opportunity to collaborate as we work to develop a protocol for carbon capture and geological storage in the near future. Further, we believe Alberta and the Canadian federal government have made significant

progress with CCUS projects that could provide best available science for these technologies and potential lessons learned with practical implementation of CCRUS at scale.

Strategies to mitigate impacts to communities and Tribes

As Ecology works to provide clarity on the CCA Program Rule implementation, what strategies could mitigate potential harms to communities and Tribes?

What approaches have other states or jurisdictions taken that can serve as models?

For feedback as it relates to strategies to mitigate impacts to communities and tribes, please refer to our above comments under Feedback Area 2.

The Reserve supports the continued development of this CCRUS program and looks forward to building on its longstanding collaboration with ECY to continue providing high-quality protocols that support durable carbon removals under Washington's Cap-and-Invest Program.

Sincerely,

/s/ Amy Kessler
Amy Kessler
Director, Market Development

/s/ McKenzie Smith
McKenzie Smith
Associate Director, Market Development (US and Canada)