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RESERVE

818 W. 7th Street, Suite 710
Los Angeles, California 90017
www.climateactionreserve.org
(213) 891-1444

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March 16, 2018

Via Electronic Submission

Re: Comments on the Preliminary Discussion Draft of Potential Changes to the Regulation for the California Cap on Greenhouse Gas Emissions and Market-Based Compliance Mechanisms

Dear Chairwoman Nichols and Members of the California Air Resources Board:

The Climate Action Reserve commends the California Air Resources Board and its staff for the achievements of the state's pioneering cap-and-trade program and the work being done to expand and strengthen the program. The Reserve is the largest Offset Project Registry (OPR) serving California's Compliance Offset Program and has issued over 33 million registry offset credits to 148 projects under the current Cap-and-Trade Regulation. Supporting these offset projects over the last five years has given us significant insight into the processes and requirements codified in the Cap-and-Trade Regulation. Our comments below are based on this experience working with ARB staff and offset project developers, and our desire to improve the efficient implementation of the Compliance Offset Program.

§95802(a) – Updated definition of “Initial Crediting Period”

We appreciate ARB's effort to better define the initial crediting period for offset projects. However, we believe that this change does not adequately address situations in which a project's crediting period has been initiated, but for which no ARBOCs will be issued in the first year. An example would be a reforestation project deferring its inventory. Our suggestion is to consider revising the definition as follows:

“Initial Crediting Period” means the crediting period that begins with the date that the first GHG emission reductions or GHG removal enhancements took place according to the first Positive or Qualified Positive Offset Verification Statement that results in ARB offset credit issuance, or the crediting period that begins with the offset project commencement date for projects developed under the Compliance Offset Protocols listed in section 95973(a)(2)(D)(4).

§95854 – Additional text to define Direct Environmental Benefits in the State (“DEBS”)

We encourage ARB staff to provide clear guidelines for determining the DEBS requirements by protocol. The proposed language relies heavily on a project’s physical location. While this may be the best course of action for offset project types with a single distinct location (such as forest projects), for other project types, the scope of a project’s location should be clarified to consider other factors. We suggest that ARB consider the locations of the affected GHG sources, sinks, and reservoirs (SSRs) identified in each protocol when determining potential environmental impacts to the State of California. For example, any destruction of ODS material collected from sources within the State directly avoids emissions of those gases within the State. Similarly, renewable electricity generated by out-of-state projects that is delivered to users within California could displace fossil generation sources within the State. We have attached a matrix of similar considerations for each project type (Attachment A).

We suggest that any terminology to be introduced in this section be clearly defined. In particular, it is stated that no further information would be needed for a project “located adjacent to a water body that flows within or into California.” Based on our experience working within this program, we recommend clearly defining terms like “adjacent” and “water body.”

§95973(a)(2)(D) – Transitioning a project to a new version of a Compliance Offset Protocol

We are supportive of this proposed change, as we believe it will provide a reasonable level of flexibility to the annual reporting process.

§95977.1 (b)(1) – Timing of verification services for audited verifications

We are supportive of this proposed change introducing new site visit timing and verification body notification requirements for audited projects, as we believe it will aid in OPR audit logistics planning and administration.

§95981.1(e) – ARBOC issuance and ROC cancellation process

We appreciate ARB’s effort to facilitate the Registries’ administrative processes, but believe that 90 calendar days is excessive. Based on the current timing for ARBOC issuances, the 10 calendar day timeframe expires on a Saturday, which presents administrative difficulties. Changing the timeframe to 10 or 15 working days may help address the timing issue, while allowing sufficient time to process any pending ROC cancellations. We encourage ARB

to reduce potential delays between ROC issuance and ARBOC issuance as much as possible.

We are also concerned that ARB has proposed to cancel ARBOCs if ROCs are not cancelled in the defined time period. As an OPR, we do everything in our power to process ROCs efficiently. However, there may be unforeseen circumstances that lead to delays beyond our control. We request that ARB provide opportunity for projects to have their ARBOCs re-issued during a future issuance if ROC cancellation is temporarily delayed.

§95987(b)(3) – New ARB offset project statuses of “Inactive,” “Terminated,” and “Completed”

We are supportive of this proposed change, as we believe it will improve the transparency of the Compliance Offset Program.

§95987(f)(1)-(4) and §95987(l) – New process for Registries to provide project documentation to ARB staff

We are supportive of this effort to take advantage of Offset Project Registry services. We encourage ARB staff to work with the Registries to ensure this proposed process is implemented as efficiently as possible.

Appendix E – “Offset Project Activities Within the Scope of Regulatory Compliance Evaluation”

We recommend that ARB staff provide additional guidance on the types of violations that will be considered relevant to a forest offset project. Forest offset projects have not been afforded the option of isolating the time period that the offset project is out of regulatory compliance, as allowed for certain protocols under §95973(b)(1)(A). Additionally, there have been fewer real world examples under the forest offset protocol to provide insight as to which violations will impact project eligibility. As a result, there is currently a large amount of uncertainty in the Compliance Offset Program related to this topic.

While Appendix E (d) in the Regulation provides some clarity as to the location scope of relevant violations, further clarification is needed. This section states “[all project activities] must be in compliance with all requirements that have a bearing on the integrity of the generated offsets,” but this phrase is not clearly defined. We suggest that ARB staff consider only violations of laws that directly protect forests (trees), wildlife, water quality, or other environmental benefits, and which result in criminal or civil penalties, as having “a bearing on the integrity of the generated offsets.” Violations that are procedural in nature

are not considered to have a bearing on the integrity of the generated offsets, regardless of whether such violations have resulted in a criminal or civil penalty or not.

Compliance Offset Protocols – New project types for consideration and revisions to existing protocols

The Reserve recommends the following new offset protocols, as well as suggested updates to existing Compliance Offset Protocols. We believe that these changes and adoptions will increase the volume of offsets available for compliance use, and will increase the supply of projects that meet DEBS requirements:

1. Avoided Grassland Conversion

- The Reserve's Grassland Project Protocol v2.0 has strong project potential within the State of California, as well as several other Western and Midwestern states. We recommend this voluntary protocol for consideration as a new Compliance Offset Protocol.
- Grassland projects can help conserve important habitat, protect soil health, and avoid air and water pollutants resultant from crop cultivation.
- Ontario and Quebec are currently working to adapt their own protocol for avoided grassland conversion.

2. Nitrogen Management

- The Reserve's Nitrogen Management Project Protocol is currently being updated to v2.0 (expected completion in June 2018). This major revision involves expanded applicability, including into certain crops and regions of California, as well as streamlined approaches to quantification and eligibility.
- While certain crops have made headway with fertilizer reductions in California, there are still major opportunities to reduce N₂O emissions from cropland within the State.
- Ontario and Quebec are currently working to adapt their own protocol for fertilizer management.

3. Forest

- Forest projects have comprised the majority of ARB Offset Credits issued in the program to date. Over half of the compliance offset projects listed and registered with the Reserve under the forest protocol are located within the State

of California. Increasing efficiencies in the existing forest protocol may help improve uptake among smaller landowners and provide additional opportunities for California forest owners to participate in the program. The Reserve adopted its Forest Project Protocol version 4.0 (FPP v4.0) on June 28, 2017. We recommend ARB staff consider the following changes made under FPP v4.0 for application to the compliance offset protocol:

- Including the State of Hawaii as an eligible project location for the Forest COP. FIA data are available, and projects that do not rely on modeling for inventory updates can take place immediately. The Reserve is working on developing a basic growth model for Hawaii to expand the applicability of the protocol to Improved Forest Management (so that baselines may be estimated).
- Updating sequential sampling stopping rules (pertaining to plot carbon values, DBH, and height). We believe this will have the potential to reduce field time for verifiers and may help reduce the overall cost of full verifications.
- Updating the IFM baseline methodology for public lands projects. We believe the new methodology is more straightforward and will improve uptake of offset projects for publicly owned lands.
- Updating the even aged management rules to include a variable retention approach, which allows for increased harvest area commensurate with the level of post-harvest retention.
- Providing additional clarity around defining and verifying a project's geographic boundary, as well as a conservative method for terminating project activities on a portion of an existing project area.
- Removing the terminology of a "logical management unit," as this concept has been difficult to implement and verify. Instead, it should be replaced with project configuration criteria that will help address the concern of "cherrypicking."

4. Urban Forest

- We recommend that ARB staff consider expanding the Compliance Offset Protocol for urban forest projects to include urban forest management projects. We believe this will allow for urban forest projects to move forward at the scale required for financial feasibility under the Compliance Offset Program. We recommend consideration of the latest version of the Reserve's Urban Forest Management Project Protocol. An updated version of this protocol is forthcoming.

The Reserve thanks the Members of the Board as well as the ARB staff for their consideration of these comments and for their continued efforts to improve the Compliance Offset Program.

Sincerely,

A handwritten signature in black ink, appearing to read "Craig Ebert". The signature is fluid and cursive, with a long horizontal stroke at the beginning.

Craig Ebert
President

Attachment A. Protocol-Specific Consideration of DEBS Requirement for Out-of-State Projects



Protocol	Benefits to Air	Benefits to Water
Forest	<ul style="list-style-type: none">Projects will primarily sequester CO₂ emissions. Trees can also reduce the presence of other air pollutants, including particulate matter. The largest impacts to air pollution are likely to be localized, but should be considered relevant when the project area is within an airshed which includes portions of the State of California.	<ul style="list-style-type: none">Forests can benefit water quality by intercepting rainfall, increasing soil water infiltration, and reducing runoff and related erosion.Forest projects protect these benefits by promoting ongoing forest cover. Improved forest management projects can improve forest resilience and reduce potential catastrophic loss to wildfire or pests. Reforestation projects promote a more rapid recovery of disturbed areas to forest cover. Avoided conversion projects protect existing forest cover from conversion to other land use types that may not have these same water quality benefits.The largest benefits to water quality are likely to be localized. However, benefits to stream flow and sedimentation may also have downstream benefits.Out-of-state forest projects should be considered beneficial when they are situated upstream in a watershed which crosses into the State of California.

Protocol	Benefits to Air	Benefits to Water
Urban Forest	<ul style="list-style-type: none"> Projects will primarily sequester CO₂ emissions. Trees can also reduce the presence of other air pollutants, including particulate matter. The largest impacts to air pollution are likely to be localized. Urban forest projects also result in numerous co-benefits, such as the potential to reduce the heating and cooling load on nearby buildings. This, in turn, can reduce the energy consumption of nearby buildings, which may reduce air emissions in other locations (e.g. at the energy source).¹ Thus, urban forest projects may benefit the State of California when they occur in a city which procures electricity from generators within the State. 	<ul style="list-style-type: none"> Urban forest projects can benefit water quality by intercepting rainfall, increasing soil water infiltration, reducing runoff, and reducing evapotranspiration. The largest benefits to water quality are likely to be localized. However, benefits to stream flow and reducing urban runoff may also have downstream benefits. Out-of-state urban forest projects should be considered beneficial when they are situated upstream in a watershed which crosses into the State of California, or when it can be shown that any coastal pollution from that city is carried to the coastal environment of California via ocean currents.

¹ Nowak, David J.; Wang, Jun; Endreny, Ted 2007. Environmental and economic benefits of preserving forests within urban areas: air and water quality. Chapter 4. In: de Brun, Constance T.F., ed. The economic benefits of land conservation. The Trust for Public Land: 28-47.

Protocol	Benefits to Air	Benefits to Water
Livestock	<ul style="list-style-type: none"> Projects will primarily reduce CH₄ and some CO₂ emissions. There may also be some indirect benefits with respect to reduction in volatile organic compounds (VOCs) and odors, when manure is treated in a BCS. The GHG impacts of livestock projects will be global, however any other air emission impacts are likely to be more localized. Livestock facilities located within 5 miles of the California border may be able to demonstrate positive impacts with respect to odors and VOC impacts on California residents.² Where livestock projects generate electricity which is then delivered into the State, it may be considered beneficial due to the avoidance of fossil-derived generation sources within the State. 	<ul style="list-style-type: none"> By containing the liquid manure in a covered lagoon or enclosed vessel digester, the project will remove the threat of raw manure spills from significant storm events. While the material in the effluent pond still contains the initial nutrient load, there are significantly lower levels of volatile solids and pathogens. Livestock projects should be considered relevant to waters of the State of California when they: <ul style="list-style-type: none"> Are located next to surface waters that run into California; Are located next to surface waters that are consumed in California; Are located in a watershed that contributes groundwater to the State of California; Are located in a watershed that feeds into a waterbody that either enters California or is consumed in California; or Supply manure (or digestate) that is land applied to any land which falls into the above categories.

² See work undertaken by University of Minnesota on calculating odor impacts from feedlots: <https://www.extension.umn.edu/agriculture/manure-management-and-air-quality/feedlots-and-manure-storage/offset-odor-from-feedlots/>.

Protocol	Benefits to Air	Benefits to Water
ODS Destruction	<ul style="list-style-type: none"> • ODS refrigerants and foam blowing agents (CFCs and HCFCs) reclaimed from facilities or appliances within California would have been likely to be emitted within California, regardless of where they are ultimately destroyed. • While the effects of CFCs and HCFCs are primarily global (via the destruction of stratospheric ozone and contribution to the greenhouse gas effect), these gases are VOCs that can have localized impacts on air quality³. • Points of Origin within the State can be easily identified via the OPDR for existing projects. 	<ul style="list-style-type: none"> • It is not anticipated that there will be any benefits to water in California.
Rice Cultivation	<ul style="list-style-type: none"> • Projects will primarily reduce CH₄ and some CO₂ emissions. It's not evident that there will be any non-GHG benefits to air in California, for projects located outside of California. 	<ul style="list-style-type: none"> • It is not anticipated that there will be any benefits to water in California, from projects located outside of California, given that rice cultivation outside of the State is generally well beyond watershed boundaries.
Mine Methane Capture (MMC)	<ul style="list-style-type: none"> • Projects will primarily reduce CH₄ emissions, with global impact. It's not evident that there are any MMC projects with sufficient geographical proximity to California to have a direct impact on air quality in California, other than the GHG impacts of projects. • Where MMC projects generate electricity which is then delivered into the State, it may be considered beneficial due to the avoidance of fossil-derived generation sources within the State. 	<ul style="list-style-type: none"> • It is not anticipated that there will be any benefits to water in California, from projects located outside of California.

³ <https://www.epa.gov/indoor-air-quality-iaq/volatile-organic-compounds-impact-indoor-air-quality>

Protocol	Benefits to Air	Benefits to Water
Avoided Grassland Conversion (proposed for inclusion as a compliance offset protocol)	<ul style="list-style-type: none"> Projects utilizing the Reserve's Grassland Project Protocol (GPP) conserve the belowground carbon in grasslands by avoiding crop cultivation, while also avoiding the direct N₂O and CO₂ emissions from that cultivation. It's not evident that there will be any non-GHG benefits to air in California, for projects located outside of California. 	<ul style="list-style-type: none"> Crop cultivation (the activity avoided under the GPP) can have impacts on water quality via runoff from tillage and other agricultural activities. Such runoff generally contributes excess sediment and nutrients, while also contributing to flood events. Those projects located in cross-boundary watersheds provide benefits to the State by controlling surface runoff and filtering groundwater. It is not anticipated that there will be any benefits to water in California, from projects located outside watersheds that flow into the State.
Nitrogen Management (proposed for inclusion as a compliance offset protocol)	<ul style="list-style-type: none"> Projects utilizing the Reserve's Nitrogen Management Project Protocol (NMPP) will primarily reduce N₂O emissions, and may also result in reductions in CO₂ and CH₄ emissions. These impacts are global in nature. NMPP projects may also result in reduced NO_x emissions, the impacts of which are not only global in nature⁴, but can also contribute to ground-level smog formation. There may be some incidental reductions in odor associated with a decrease in the use of synthetic fertilizers, as a result of implementing NMPP projects. However, such reductions may be difficult to confirm, and thus may not be suitable to form the basis of a DEBS claim for NMPP projects located immediately adjacent to the California border. 	<ul style="list-style-type: none"> NMPP projects will result in direct water impacts including improved surface water and groundwater quality and reduced eutrophication/hypoxia. These impacts are likely to be felt in California if NMPP projects: <ul style="list-style-type: none"> Are located next to surface waters that run into California; Are located next to surface waters that are consumed in California; Are located in a watershed that contributes groundwater to the State of California; or Are located in a watershed that feeds into a waterbody that either enters California or is consumed in California.

⁴ Almaraz et. al., 2018. *Agriculture is a major source of NO_x pollution in California*. *Science Advances*. 31 Jan 2018: Vol 4, no 1