CLIMATE ACTION RESERVE

601 W. 5th Street, Suite 650 | Los Angeles, CA 90071
T: (213) 891 1444 | F: (213) 623 6716
www.climateactionreserve.org

April 22, 2013

Climate Action Reserve Comments on Addition of New Offset Protocols to the California Greenhouse Gas Cap-and-Trade Program

The Climate Action Reserve is very supportive of the California Air Resources Board's (ARB) efforts to develop and approve new offset protocols for use in California's cap and trade program. The Reserve is a private non-profit carbon offset registry that has pioneered credible market-based policies and solutions since 2008, and has developed protocols for both rice cultivation and coal mine methane through its rigorous and transparent stakeholder-driven development process. We are very willing to share our experience, insights and resources from those processes with you. We are confident that the project activities and quantification methodologies contained within our rice cultivation and coal mine methane protocols can provide regulatory-quality offsets for California.

We see that ARB is considering expanding eligibility for both project types beyond what the Reserve included in our versions of these protocols, and want to express our willingness to share with ARB the work we did to assess those additional project activities. We include a brief summary of our reasoning and conclusions on these project activities below, with links to documents that can provide further background and supporting analyses. We also highlight some additional issues we urge ARB to consider and investigate as part of its development processes for these protocols.

We also want to highlight the eight other protocols[1] the Reserve has developed that we strongly believe can provide the same level of high quality offsets beyond the four protocols ARB has already adapted from our program and the additional two protocols being discussed now. We would encourage ARB to consider these protocols (which are currently being implemented by some 235 projects) in new offset protocol development processes in the near future.

The Reserve is committed to ensuring the environmental integrity and viability of emission reduction projects, and we look forward to actively participating in these protocol development processes to help realize these goals for California's approved offset projects as well.

[1] Article 5 ODS Project Protocol, Mexico Livestock Project Protocol, Mexico Landfill Project Protocol, Nitric Acid Production Project Protocol, Nitrogen Management Project Protocol, Organic Waste Composting Project Protocol, Organic Waste Digestion Project Protocol, and US Landfill Project Protocol.

CLIMATE ACTION RESERVE

601 W. 5th Street, Suite 650 | Los Angeles, CA 90071
T: (213) 891 1444 | F: (213) 623 6716
www.climateactionreserve.org

Coal Mine Methane

Inclusion of pipeline projects: From May 2009 to August 2011, Reserve staff worked with its coal mine methane (CMM) multi-stakeholder workgroup[2] to develop a performance standard approach that would define eligibility for CMM drainage projects that send gas to pipeline ("pipeline projects"). This project type was excluded from Version 1.0 of the Reserve's CMM Protocol because the data available and analyzed at that time did not support establishing a performance standard for such projects (see *Development of a Common Practice Standard for a Coal Mine Methane Project Protocol*, May 2009).

Following the initial analysis in this 2009 report, Reserve staff developed two distinct performance standard approaches based on new datasets gathered directly from coal mine operators and owners – one based on gas quality (see *Summary of CMM Gas Quality Analysis*, October 2009) and one based on well-level gas volume and "well life"[3] data (see *Well Level Analysis Summary Memo*, October 2010). Neither approach garnered the support of the majority of the workgroup.

The Reserve concluded that the data available, even with the addition of the new data collected by the Reserve since May 2009, did not support a viable performance standard for pipeline projects that both ensured environmental integrity and allowed feasible participation by project developers.

Additional well- and mine-level data is expected to become available from the U.S. Environmental Protection Agency Greenhouse Gas Reporting Program (GHGRP) in the coming months that may allow for new analyses. One major shortcoming of data collection efforts to date has been that while some mines were able to provide CH_4 concentration data at the well level, they were not able to provide flow rates. Since the Reserve believes gas volume plays a pivotal role in the decision to send gas to pipeline, flow rates would be a critical part of new analyses. The Reserve recommends ARB carefully review the analyses and conclusions reached during the Reserve workgroup process to inform its own efforts to establish appropriate eligibility tests for pipeline projects.

Inclusion of abandoned mines: The Reserve considered project activities at abandoned mines during the scoping process for the CMM Protocol in 2009. Our research led us to

[2] Workgroup included representatives from Biothermica Technologies, Cliffs Natural Resources, Colorado School of Mines, CONSOL Energy, Alpha Natural Resources, Green Holdings, Harworth Energy, Megtec, Raven Ridge Resources, Ruby Canyon Engineering, U.S. EPA Coalbed Methane Outreach Program and Verdeo Sindicatum.

[3] Well life refers to the time period from when the borehole is drilled until it is reached by the working face of the mine.

CLIMATE ACTION RESERVE

601 W. 5th Street, Suite 650 | Los Angeles, CA 90071
T: (213) 891 1444 | F: (213) 623 6716
www.climateactionreserve.org

conclude that there were not sufficiently accurate methodologies available to quantify, and predict the timing of, baseline emissions (i.e., when and in what quantities would the methane have been released from the abandoned mine in the absence of the project). Furthermore, a 2008 U.S. EPA report (*U.S. Abandoned Coal Mine Methane Recovery Project Opportunities*, July 10, 2008) details 44 methane recovery projects already in place at abandoned mines. In comparison, there are only 23 methane recovery projects in place at active mines. While 44 is still a small number in comparison to the thousands of abandoned mines in the U.S., we did find a high correlation between recovery and certain site-specific factors, namely gassiness of the mine when it was active (over one mmcf of methane/day) and time of abandonment (post-1990). These are issues that will need to be closely examined in order to establish that drainage projects at abandoned mines are additional to what would have happened in the absence of the incentive from the carbon market.

Inclusion of surface mines: The Reserve also considered project activities at surface mines during the scoping process for the CMM Protocol in 2009 and decided not to pursue surface mines as an eligible mine type under the protocol. Our research found limited information available on current practices and activities and limited opportunity for potential emission reductions. This is because coal surface mines are, by definition, not deep underground mines and thus do not have the same methane profile or "gassiness" as underground mines. Furthermore, the one area in the U.S. where surface mines had been pre-drained was also quite active for coal bed methane recovery (i.e. recovering methane from coal seams and surrounding strata as one would recover methane from a natural gas field without actually mining the coal). This raises questions of additionality for that region, as it would appear viable to pre-drain surface mines based on the methane sales alone.

Trona mines: From the information presented by ARB to date, trona mines do not appear to be under consideration for the new protocol. We urge ARB to consider the eligibility of project activities at gassy trona mines. The Reserve CMM Protocol allows for projects at trona mines that are classified by MSHA as a Category III gassy underground mine (Section 2.2). During the protocol development process, it was brought to our attention that these mines are similarly gassy, are regulated in the same manner, and utilize the same mining, ventilation and drainage techniques as coal mines. The United States has the world's largest known reserve of trona, with some deposits located here in California, and no additional work needs to be done regarding quantification or monitoring to include trona mines in the protocol. Excluding trona mines would unnecessarily reduce the potential offset credits available from this sector.

CLIMATE ACTION RESERVE

601 W. 5th Street, Suite 650 | Los Angeles, CA 90071
T: (213) 891 1444 | F: (213) 623 6716
www.climateactionreserve.org

Rice Cultivation

Inclusion of the Mid-South rice growing region: The Reserve supports ARB's effort to make its Rice Protocol is as broadly applicable as possible within the United States. While the Reserve's Rice Cultivation Project Protocol (RCPP) is limited to the California rice growing regions, this limitation is due to the fact that the DNDC biogeochemical process model used for quantification in the protocol had not yet been calibrated for rice outside of California at the time the protocol was developed. The Reserve believes there is good potential in the Mid-South region and, prior to commencement of the ARB process to develop a rice cultivation protocol, was considering expanding the RCPP's geographic eligibility to that region.

Inclusion of early drainage as an approved practice: The Reserve encourages ARB to include "early drainage at the end of the growing season" as an approved practice in its protocol, even though it is not currently included in the Reserve's RCPP. This practice was brought to our attention late in the protocol development process and was not able to be included in Version 1.0 of our protocol. The Reserve believes it is promising with respect to potential emission reductions and the fact that, according to data we reviewed, it is not common practice.

Inclusion of staggered winter flooding in the Mid-South: The Reserve believes the issue of conserving wildlife habitat, including the surrogate habitat provided to waterfowl by flooded winter rice fields, is of critical importance. The Reserve excluded the practice of reduced winter flooding from our protocol due to the potential negative impact of this practice on that surrogate habitat. Though the phenomenon of rice fields providing surrogate habitat has been better studied in California's Pacific Flyway, preliminary research suggests that stakeholders in the Mid-South will likely have similar concerns about the impact of staggered winter flooding on waterfowl habitat in the Central and Mississippi Flyways. Additional resources on this issue can be found in the reference list below:

Eadie, John M., Chris S. Elphick, Kenneth J. Reinecke, and Michael R. Miller. "Wildlife Values of North American Ricelands." Section 1. *Conservation in Ricelands in North America.* 2008. Published by The Rice Foundation. Available at: http://www.usarice.com/doclib/198/4712.pdf

Elphick, Chris and Lewis Oring, "Conservation implications of flooding rice fields on winter waterbird communities,"Agriculture, Ecosystems, and Environment. 94 (2003). 17-29

Petrie, M., & Petrik, K. (May 2010). Assessing Waterbird Benefits from Water Use in California Ricelands. Report prepared by Ducks Unlimited for the California Rice Commission. Sacramento, CA. Available at: http://www.calrice.org/pdf/DucksUnlimited.pdf

CLIMATE ACTION RESERVE

601 W. 5th Street, Suite 650 | Los Angeles, CA 90071
T: (213) 891 1444 | F: (213) 623 6716
www.climateactionreserve.org

Sterling, J., & Buttner, P. (2009) Wildlife Known to Use California Ricelands. Report prepared by ICF Jones & Stokes for the California Rice Commission. Sacramento, CA. Available at: http://www.calrice.org/pdf/Species+Report.pdf

Importance of aggregation: The Reserve strongly feels that aggregation is critical to ensuring uptake of a rice cultivation protocol. The mitigation potential per acre per year for rice projects is substantially lower than the potential for other offset projects, and we strongly believe that without the cost savings achieved through aggregation, it will be very difficult for projects to move forward. Verification, particularly site visits, will likely be the largest single cost to developing rice projects, so it is important to design the aggregation model to allow for economies of scale (e.g. reduced site visit requirements as the number of fields enrolled in a project increases). The Reserve believes random sampling and strict penalties for non-compliance with the protocol can help ensure aggregated projects are providing the same levels of assurance as non-aggregated projects. The Reserve encourages ARB to consider the aggregation methodology included in our RCPP, as well as the aggregation model in our Nitrogen Management Project Protocol, which is somewhat different for the largest of projects.

DNDC: The Reserve recognizes that many stakeholders are concerned about the difficulty of running the DNDC biogeochemical process model. However, the Reserve strongly believes that DNDC is the best quantification methodology available for estimating rice cultivation emissions at this time. Further, the Reserve believes that over time, project developers will develop internal DNDC expertise that will allow them to run the model more effectively. The Reserve also believes that a number of tools could be developed by ARB to make the user interface of DNDC easier, as well as to automate a number of the more time consuming DNDC processes (such as Monte Carlo analysis).

Early Action Protocols

In an effort to stimulate offset supply, the Reserve encourages ARB to review and make determinations regarding suitable early action protocols for each sector as early as possible in the process. Lack of certainty about the specific requirements of ARB CMM and rice cultivation protocols has and will likely continue to be a barrier for new projects. Additionally, the Reserve strongly encourages ARB to reconsider the early action registration deadline currently in the regulation (i.e. early action projects must be registered with ARB prior to January 1, 2014). This deadline is unrealistic as the new protocols will not likely be effective until 2014. We encourage ARB to delay this date by at least one year and/or consider changing the early action requirement such that the early action project must be registered with an ARB Offset Project Registry prior to January 1, 2014.