November 11, 2011

Syd Partridge and Kathryn Goldman
Climate Action Reserve
523 W. Sixth Street, Suite 428
Los Angeles, CA 90014

Re: Rice Cultivation Project Protocol, version 1.0

Dear Mr. Partridge, Ms. Goldman and Rice Protocol Stakeholders,

Thank you for the opportunity to comment on the Rice Cultivation Project Protocol version 1.0. We are submitting comments on behalf of the California Climate and Agriculture Network (CalCAN), a coalition of agriculture organizations representing the perspectives and interests of California organic and sustainable producers.

First, we offer some general principles that should guide offset protocol development:

1. We support CAR's intention to develop protocols that result in real, verifiable GHG emissions that do not unintentionally result in greater GHG emissions elsewhere and that reward producers for providing climate benefits.
2. Public health and environmental benefits should be considered in the design of the offset protocols and should be maximized to benefit Californians
3. Protocol design should not create a disadvantage for small and mid-size producers or create perverse incentives to reverse agricultural conservation practices.
4. The California carbon market and the actions of its participants should be transparent and accountable to minimize the potential for gaming.
5. Lastly, market mechanisms should be designed to maximize the financial incentive accrued to producers rather than brokers, verifiers and aggregators, and should minimize the bureaucratic burden on producers.

What follows are our specific comments and questions on the Rice Cultivation Project Protocol 1.0.

1. Evaluation of the full life cycle impacts of the protocol

In complex biological systems such as agriculture, GHG emissions can be displaced and other unintentional negative impacts can be caused if whole farming systems are not considered. The protocol utilizes the DNDC model to assess multiple impacts as summarized on pages 18-19, and we have the following questions and comments about the underlying assumptions in the model.

Post-harvest rice straw removal:

Appendix A states that transportation of bales was not included as a secondary source of CO_2 emissions because the assumption is that "rice straw replaces other straw products transported from a comparable distance." This begs the question about what will be done with the straw products that rice will presumably displace, and whether there will be emissions associated with the new use/disposal of those products. Also, it is acknowledged that there are currently inadequate markets for rice straw bales — which will be a limitation of the feasibility of producers participating in this protocol — and it seems that a best-case scenario is that new markets will be developed. In that case, CO_2 emissions associated with transportation should not be ignored.

Dry seeding with delayed flood:

Since flooding prior to seeding is used for weed control, presumably conventional producers will increase their herbicide applications to compensate for the loss of this weed control tool, and the emissions required to produce and apply those herbicides, as well as on-farm direct emissions connected to using them, should be accounted for just as other sources of secondary emissions are quantified. Does the model include expected increased herbicide use that will accompany dry seeding?

2. Consideration of environmental impacts in addition to GHG emissions

AB 32 explicitly states the market mechanisms used to achieve GHG emissions reductions must "maximize additional environmental and economic benefits for California."[1] In the case of this protocol, there may be unintended environmental impacts.

For example, producers may increase herbicide use to address increased weed pressures that they did not experience when they used flood seeding. As for the straw bale removal protocol, UC Davis research finds that synthetic nitrogen fertilizer rates can be decreased by at least 25 pounds per acre after five years of straw incorporation.[2,3] We would expect conventional producers will increase their applications of synthetic fertilizer to compensate for this loss in fertility and subsequent yield losses. In both cases, the environmental impacts on water and air quality must be assessed in addition to potentially increased GHG emissions from herbicide use or increased fertilizer use.

3. Assessment of crop rotation as an approved project activity

One potential promising area of reducing GHG emissions in rice production that offers important co-benefits is the use of crop rotations. Crop rotations can improve soil

[1] AB 32. Global Warming Solutions Act of 2006. Section 38570 (b)(3).

[2] Eagle AJ, Bird JA, Horwath WR, et al. 2000. Rice yield and nitrogen utilization efficiency under alternative straw management practices. Agron J. 92:1096–103.

[3] Eagle AJ, Bird JA, Hill JE, et al. 2001. Nitrogen dynamics and fertilizer nitrogen use efficiency in rice following straw incorporation and winter flooding. Agron J. 93:1346–54.

quality and carbon sequestration potential as well as reduce methane emissions associated with rice production. We recommend that rotating rice production with other crops, such as safflower, cover crops or wheat be studied and modeled using a full life cycle analysis to determine the GHG emissions reduction potential. The potential for leakage of rice production to other regions would also need to be assessed.

Crop rotations are not currently in widespread use in California; however there are annual fluctuations of more than 100,000 acres removed from rice production when rice prices are low which presumably mean there are other crops grown on those acres. Also, there is historic precedent for growing safflower and wheat in California's rice growing regions. In addition to potential GHG benefits, there may be benefits for farmers to improve resilience of their operation to climate impacts by diversifying their crops, and there may be greater long-term sustainability to be gained in terms of soil health and reducing weed, pest and disease pressures that tend to be challenging in repeated monocrop systems.

4. Accessibility to producers — We believe it is essential that producers have access to information that clearly and explicitly describes the implications of complying with the protocol for their management practices. Merely describing sources, sinks and reservoirs will be insufficient for growers to make informed decisions about the feasibility of participation and economic tradeoffs involved. The complexity, technical nature and length of the protocol as written seems likely to require involvement by a third-party expert, which will drive up administrative costs and present a barrier (see below). It seems to us that it is important to develop tools for growers that overcome these barriers as they initially contemplate participating. For example, a producer handbook may be useful, as well as some scenarios using sample data or pilot project. On a related note, some evidence of "ground truthing" of the protocol will be helpful in shoring up confidence in the rice producer community of its value to their operations.

5. Limits to meaningful levels of producer participation — Several aspects of the protocol appear to limit participation by producers at meaningful levels.

a. The requirement to provide such extensive data inputs for the DNDC model — while necessary for more accurately assessing emissions reductions — is likely to present a barrier to participation, particularly for small and mid-size operations who do not have the capacity to comply with the bureaucratic burden. It is our expectation that this protocol will be utilized by the largest operations with more substantial administrative capacity, and will put others at a competitive disadvantage that, taken to its logical conclusion, could accelerate consolidation. Aggregation of fields under the protocol does not solve this problem because the individual producer is still required to provide significant amounts of data to participate and/or pay high transaction costs to third-party aggregators to participate.
b. The dearth of markets for rice straw will likely present an economic barrier to the rice removal practice since the price of carbon credits may not be sufficient to cover

the costs of baling. While there is a market for organic rice straw (which can be sold as filler for organic dairy feed), organic producers are not expected to be participants in this protocol because they do not have the chemical weed control tools available to implement dry seeding and because they tend to rely on the incorporation of straw residue into their soils for fertility.

c. The requirement for climate parameter inputs may present a barrier to growers who are not located within 20 miles of a CIMIS weather station. In reviewing the locations of CIMIS stations[4] it appears that swathes of rice producing land may not be served by a weather station within a 20-mile radius since there are only six stations (numbers 8, 12, 30, 32, 84 and 195) that are located in the Sacramento Valley north of Roseville.

Thank you for your consideration of this input. We looked forward to your response.

Sincerely,

Renata Brillinger, Executive Director

Jeanne Merrill, Policy Director

[4] http://wwwcimis.water.ca.gov/cimis/cimiSatStationLocation.jsp