



Climate Action Reserve
523 W. Sixth Street, Suite 428
Los Angeles, CA 90014

November 11, 2011

Re: Comments to the Rice Cultivation Project Protocol

Climate Wedge Ltd respectfully submits this comment letter to the Climate Action Reserve ("CAR") during the public consultation period of the development of the Draft Rice Cultivation Project Protocol Version 1.0 ("Protocol").

Climate Wedge is an independent carbon management firm pursuing principal investments and project development in the carbon markets, and providing carbon finance and emissions trading advisory services. Climate Wedge has long been a supporter of CAR and its predecessor, the California Climate Action Reserve, and has contributed to the development of other CAR protocols, most notably the Ozone Depleting Substances protocols. Climate Wedge is offering this feedback to the Protocol development process alongside comments submitted on behalf of CalAg, LLC by Shook, Hardy & Bacon.

We look forward to continuing to contribute to the development and successful implementation of the Protocol, and please do not hesitate to contact Alex Rau, PhD CFA and Principal, at alex.rau@climatewedge.com, if we can provide additional information or perspective on any of the comments or recommendations contained herein.

Comments to the Rice Cultivation Project Protocol:

In general, we have strong reservations about the current draft Protocol's reliance on and use of the proposed denitrification-decomposition ("DNDC") biogeochemical process model for assessing baseline and project GHG emissions as the basis for quantifying associated emissions reductions from qualifying projects. The DNDC model is highly complex, and there are hundreds of variables and degrees of freedom that could introduce errors in the calculation process. The draft Protocol's strategy of applying the DNDC model to each field is too cumbersome to yield acceptable levels of accuracy in estimating emissions reductions. Instead, the process should be simplified by using default factors which are discounted to reflect heterogeneity of fields or other variation in field data and growing situations, even if default factors result in lower carbon yields. Possible approaches could include, e.g., using a set of average GHG emission reduction calculation factors for generalized classes of fields and subtypes and applying strong discounts for conservative assumptions, or developing standardized model runs of the DNDC model that can be applied to a more limited set of typical field and growing conditions.

In addition, we have the following specific comments to offer to improve the viability of the rice cultivation protocol:

1. Section 2.2 – Project Definition

The eligible project activity criteria (Table 2.1) are clearly written from perspective of the emission reduction or carbon credit being generated at the field level. This emphasis requires an excessive level of precision in data collection and emission reduction modeling, and makes it unnecessarily difficult to apply in the context of a rice baling operation. In addition, there are serious flaws in the way individual rice fields are defined in Section 2.2.1. With respect to criteria number 3 in the definition, we do not disagree that water management within a field boundary should be reasonably homogenous. However, defining homogeneity in terms of flood durations of less than 96 hours across the board is unrealistic – many field sizes are such that the time to flood them for planting requires more than 96 hours. And with modern “pin-point” fertilizer application equipment on the increase, fertilizer rates may vary more than +/-15% on any given day.

The Protocol stipulates that the DNDC model calibration must be determined for each field either by soil sampling or using USDA NRCS SSURGO soil survey data. See page 8, para. 2. As suggested above, CAR should instead develop a conservative set of field emissions factors to simplify the data collection/reporting burden and avoid the difficulty of running the DNDC model for each field. Deriving a default set of field emissions factors with some level of granularity to account for the majority of variations in field parameters would lead to a much more streamlined and viable Protocol and a more robust adoption among the rice community in California.

2. Section 2.3 – Project Aggregates

In Section 2.3.1, “project participants” are defined to include only rice growers who elect to enroll in a project aggregate. This definition inappropriately tilts the Protocol in favor of one party among many in the chain of production. Emissions reductions occur only if the entire lifecycle (from planting/flooding to baling/straw end-use) is accounted for.

Section 2.3.1 also requires that Aggregators must notify the land owner with a letter of notification regarding intent to implement a GHG project, even if the grower is a lessee. We would strongly urge CAR to delete this requirement. Notification of the land owner is an unnecessarily burdensome requirement with no clear benefits or advantages to the integrity of the Protocol.

Section 2.3.2 imposes restrictions on entering and leaving an aggregate that unnecessarily prevent fields from changing ownership/tenancy/control during crediting period (5 years). It is a commercial reality that changes in field ownership/tenancy/control occur frequently, often as much as every cultivation cycle. Restricting the ability for such fields to participate in an Aggregate and carbon finance overall will strongly hinder the viability of the Protocol.

3. Section 3.4 – Anaerobic Baseline Conditions

Data reporting requirements in Section 3.4 are burdensome and may undermine the applicability of the entire Protocol, diminishing the incentives for growers and other project participants to implement a rice cultivation GHG reduction project under the CAR Protocol at all.

4. Section 3.5.1 – Additionality (Performance Standard)

Table 3.1 (page 9) indicates that individual fields that have employed baling after harvest for 2 or more times of the last 5 years prior to the project start date would be ineligible to meet the performance standard for post-harvest rice straw removal and baling. It is very difficult to accurately determine which fields may have to meet this criterion. Moreover, the stated penetration rate of rice straw removal is well below a typical performance standard or common practice penetration threshold in most other performance-standard based GHG/carbon offset Protocols (both under the Climate Action Reserve and other standards like the Verified Carbon Standard). We think this is an unnecessarily restrictive condition and unfairly penalizes those rice growers who may have experimented occasionally with baling at some point in the past few years but not committed fully to the practice.

5. Section 3.6 – Regulatory Compliance

The requirement that Aggregators attest that all fields are in material compliance with all applicable laws relevant to the project activities (air, water quality, water discharge, nutrient management, safety, labor, endangered species protection, etc) is impractical and unnecessarily onerous. Aggregators may have no control over the conduct of cultivation operations in the field, and forcing an Aggregator to attest or warrant to the regulatory compliance of another party would undermine the viability of the entire Protocol.

6. Section 5 – Quantifying GHG Emission Reductions

The introduction to this section states that “for reporting purposes, the aggregate reporting period shall be define[d] as starting on October 1, and ending on September 31 of the next year.” See page 20. These dates are set arbitrarily without any relationship to actual conditions in the field. A project’s reporting period must include the complete cultivation cycle on all participant fields, regardless of when the cycle is begun or completed.

7. Section 5.1 – Modeling Primary Effect ERs with the DNDC Model

Section 5.1 requires that projects must use “an approved version of the DNDC model” and run the model for each individual field in the aggregate. It further states that “all approved versions of the DNDC model will be available on the Reserve’s website.” No such models appear to have been made available at this time. It therefore is not yet possible to assess this critical part of the Protocol.

Sections 5.1.1.1 and 5.1.1.2 describe baseline scenario inputs and static input parameters for DNDC modeling to be used in implementing the Protocol. The amount of data collection, reporting and historical records required by these sections (including but not limited to the dates of all fertilizer applications and the dates and depth of all tillage events) is unnecessarily onerous and impractical. Regional and industry-specific averages and factors should be used instead. This would lead to standardized runs of the DNDC model and standardized GHG emissions factors for a more discrete subset of field types and conditions, dramatically streamline the application of the Protocol and increasing its chances of being adopted as a regulatory standard. In addition, CAR should collect and collate static climate input parameters and make them available as standardized inputs to streamline the implementation of the Protocol, since standardized data is available from public weather station data feeds.

The requirements of Sections 5.1.2 (Crop Model Calibration), 5.1.3 (Monte Carlo Simulations), and 5.1.6 (Adjusting Field Model Results for Soil Input Uncertainty) are too complex. Aggregators cannot be expected to run these calibrations on behalf of potentially dozens of fields. This process must be standardized and be made available as a service from CAR or other service providers at CAR’s direction if the final version of the Protocol continues to rely on the DNDC model.

In addition, the acknowledgement of structural uncertainties in Section 5.1.7.6 begs the question of why CAR’s approach is applying a field-specific DNDC model run at all. Instead, CAR should strongly consider deriving a set of more general default emissions factors to apply to fields, and then apply a corresponding structural uncertainty factor. This approach would be simpler and far more robust and credible than the current approach of running the DNDC model numerous times on each individual field, adjusting for input uncertainties, and then requiring the application of an additional, structural uncertainty deduction factor.

8. Section 5.2.2 – Emissions from Rice Straw Residue Management

Given the complexity of applying the Protocol and the DNDC model to each field, the use of generalized default emissions factors for rice straw residue management is inappropriate. The draft Protocol requires only rough default emissions factors for possible emissions from the use of rice straw residues in alternate applications. This is at variance with the overwhelming level of detail required in the field-specific DNDC model approach to calculating baseline emissions reductions above. Furthermore, the precise derivation of these emissions factors (in Appendix A) is unclear.

If a field-specific DNDC model is required for baseline emission reduction calculations, then the Protocol must require a much more detailed and exhaustive calculation and analysis for emissions from rice

straw residue usage. For example, for dairy replacement heifer feed, the Protocol states: “There may be a significant effect on enteric fermentation from replacing wheat straw by rice straw.” It is not clear how this can be summarized with a single default factor if a default factor cannot similarly be used for field-level calculations. Similarly, the statement that “[w]hen used for erosion control, rice straw will decompose aerobically” is entirely unjustified.

Finally, the Protocol should justify much more rigorously how the numbers used in Appendix A were arrived at, and transparently specify which sources were used for the numbers provided and assumptions.

9. Sections 6 – Project Monitoring

We are concerned that the Aggregate-Level Monitoring Plan (AMP) described in Section 6.1 requires detailed procedures to show that all fields pass the Regulatory Compliance Test at all times. This requires an Aggregator to attest to the actions of third parties, which is impractical. The requirements for data collection, reporting and historical records contained in Sections 6.2.2 and 6.2.3 are also unnecessarily burdensome. The requirement for time-stamped digital photographs for field checks of the bailing process seems particularly onerous and unnecessary.

10. Section 7 – Reporting Parameters

Again, we note our concerns about the requirement that Aggregators submit an Attestation of Regulatory Compliance form concerning the behavior of third parties over which they have no control. The requirement in Section 7.2.2 regarding the use of photographs is unnecessary and impractical. Finally, as noted above, the rigid specification in Section 7.4 of an October 1 – September 30 verification cycle is arbitrary and inappropriate.

11. Section 8 – Verification Guidance

Verification appears to be an extremely intensive approach compared to other GHG reduction projects both under CAR and in other GHG crediting schemes such as the Clean Development Mechanism and the Verified Carbon Standard. CAR should provide cost estimates and guidance on timelines for typical verification cycles before adopting a Protocol with these criteria.

Finally, the requirement in Section 8.1 that the same verifier be used for six consecutive years is arbitrary and has no relation to the crediting period (5 years) or to natural growing patterns.

