C-Lock Technology Comments on Proposed VCS SALM Methodology (Oct 2009)

C-Lock Technology, as a provider of agricultural project GHG quantification services and the patented GreenCert™ technology platform, is pleased to have this opportunity to provide input on the proposed BioCarbon Fund SALM Methodology.

In general: Although we approve of the outcome-based approach of this methodology, which does not fall into the trap of defining a limited suite of management practices that qualify for crediting and relies on site-specific modeling at least for SOC, we find that its geographic applicability may be limited by the very specific eligibility criteria, which were obviously developed within a particular context and are not globally relevant.

Further comments are provided by Methodology section numbers.

I . Summary and applicability of baseline and monitoring methodology.

I.1. Title, history.

I.2. Baseline approach. The apparent assumption of constant C stocks during the project crediting period seems to rule out a dynamic baseline and doesn't recognize that biological C stocks are always in flux, if not due to changes in management then due to non-anthropogenic influences. We believe that a dynamic baseline is a better representation of reality.

I.3. Applicability. (b) "pressure to remain in agriculture" ? This criterion needs to be better defined. How would such pressure be measured?; (c) How is declining fertilizer use relevant?

II . Baseline methodology description.

II.1. Using the CDM additionality tool: the financial analysis components of the A/R tool are unrealistic and onerous to apply to individual, producer-driven ag projects. There should be provision for using regional common practice and sensitivity analyses .. possibly some regional Investment analysis could also be applied?

II.2. Estimate Baseline GHG emissions & removals.

II.4.1. Fertilizer N_2O emissions: why are there no provisions for the use of nitrification inhibitors?

II.4.5. Specifies that the standard deviation "within each group" should be <10% of the average value. This requires better definition – the uncertainty analysis can be slanted to reduce the SD but that may not be the best estimate of uncertainty. Also, the concept of "equilibrium" with respect to SOC is almost irrelevant in managed systems, since C is always in flux, if not due to management then due to changing climate. It is fine to model a benchmark C stock at project start but one should not expect that stock to remain constant, OR to accurately represent the actual C stocks on specific sites.

II.4.6. Baseline sequestration – is assumed to be 0. This assumption is problematic since in N.Am and Europe agricultural C stocks are tending to rise slowly even under BAU management. This is a fundamental problem with this methodology.

II . Project methodology description.

II.1. Project GHG emissions & removals.

III.1.5. Project equilibrium SOC stock using modeling. While we commend the preference for modeling rather than emission factors, this item needs clarification. Is one really supposed to

model it all the way out? Does this assume that the project will continue to a new equilibrium?

III.1.6. Estimate of project SOC with transitions. This item is confusing but looks like it requires annual SOC estimates based on a linear extrapolation between the project start date and the new equilibrium, which is scientifically shaky because soil C doesn't accumulate in a linear but rather in an asymptotic fashion. Also it puts too much reliance on a stock projection which is decades into the future.

II.2. Leakage. Non-renewable biomass needs to be defined – the vague reference does not actually point to a definition – just a large collection of documents – and this will cause confusion. It may refer to <u>any</u> biomass that comes in from outside the project boundary?

II.3. Net Anthropogenic GHG emissions & removals are calculated from: II.4.7 – III.1.8 – III.2. This looks like *Baseline <u>minus</u> Project?* Shouldn't it be the other way around?

III . Monitoring methodology description.

III.1. Baseline GHG emissions & removals.

IV.1.2. Why are fertilizer prices relevant? And why annually?

III.2.

III.3. Ex-post estimation net anthropogenic GHG emissions & removals.

IV.3.2. Sampling design. The requirement for data items listed in IV.1.2 to be updated at least every 5 years appears inconsistent with the Table in IV.3.3, which requires ANNUAL updates for most management parameters.

IV.3.3. Table of data to be recorded for GHG emissions & removals... should there be a placeholder for “required model data” that is contingent on the model used?