

## Public Comment on Climate Action Reserve - Soil Enrichment Protocol V1

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### Summary Comment:

- 1) SEP relies heavily on third-party models for reserve tonne estimation. The “peer reviewed journal” standard of acceptance is relatively low. Journals and their reviewers do not necessarily abide by similar publication standards nor have equivalent qualifications or lack of conflicts of interest.
- 2) The models referenced in the SEP have been shown in research to produce both under and over estimation. Models inherently are built upon assumptions and data limited in spatial, temporal, and agronomic scope and resolution. Without robust out-of-sample testing and comparison against actual measurements, their accuracy, error, and appropriate application is limited to those assumptions and data from which they were built upon.
- 3) These processes and the assumed GHG changes are not as easily modeled or verified via remote sensing as forestry. More frequent verification through on-site testing is necessary to assess the accuracy of the model and its application.
- 4) All of the prior noted risks are at least additive to each other and at worst multiplicative.

**Consideration 1:** An independent third party committee (“Model Committee”) be created by the Reserve to develop through a public process more explicit standards for developing experimental data, model development, model evaluation, and model application. Without standardizing this process CRTs and their innate values will invariably have much more risk.

**Consideration 2:** The risk of model failure and negative GHG change is non-zero. As such, a third risk term ( $R_{MF}$ : Risk - Model Failure) should be considered to be added to the risk pool that covers model risk.  $R_{MF}$  can vary depending on out-of-sample model performance metrics determined by the Model Committee. Levels could also be varied based on frequency of on-site monitoring and testing.

**Consideration 3:** Reversal mechanisms account for the value associated with the unrealized reduction in GHG. The “Uncertainty Deduction” attempts to account for this, but the protocol is driven by the rarity of adequate experimental designs and data and not by a greater level of confidence in the error estimate. The Model Committee ought to provide guidelines and requirements to more accurately quantify model error for project developers.

**Consideration 4:** Similar to other commentators, the Reserve should narrow focus on a specific scenario (crop, region, agronomic practice). The initial implementation will provide lessons for an improved step-wise, expansion. While the one-size fits all, broad rollout may appease other stakeholders, it puts at risk confidence in the carbon market.