

(carbon)plan

AUGUST 25 2020

Sami Osman
Policy Director
Climate Action Reserve

Dear Mr. Osman,

Thank you for the opportunity to provide public comment on the August 11 draft of the Soil Enrichment Protocol (the “protocol”). We are submitting our comments today, along with our prior written correspondence, in the hope that you will take seriously the issues we raised with you earlier this spring and to which you promised to give careful consideration.

Unfortunately, neither the Reserve’s response to comments from July [1] nor the updated protocol from August addresses the multiple, technical concerns we raised in our May 18 comment letter and again in a follow-up conversation on June 11 with you and the Reserve’s President, Craig Ebert. Any of these concerns would be enough individually to question the scientific integrity of the protocol. Together, they paint a troubling picture of an opaque protocol development process rife with conflicts of interest and corner-cutting on critical technical issues.

In our view, the draft protocol does not adequately satisfy basic standards for additionality, the accurate quantification of credited climate benefits, or carbon storage permanence. In the face of scientific challenges and uncertainties, the protocol creates complex loopholes that invite the risk of over-crediting non-additional and temporary carbon management practices, rather than generating new information that can be used as the basis for a comprehensive soil carbon management regime that improves over time.

There are many good reasons to support and invest in agricultural practices that improve soil health. But we cannot launch a crediting scheme so disconnected from the science. Doing so risks causing more harm to the climate than good, and is the wrong way to address a tough but important area of carbon management.

Below, we address the same five topics we raised in our May comment letter: (1) Conflicts of Interest, (2) Additionality, (3) Model Selection, (4) Sampling and Verification, and (5) Permanence.

[1] Climate Action Reserve, Summary of Comments & Responses, Draft Soil Enhancement Protocol Version 1.0 (July 2020), <https://www.climateactionreserve.org/how/protocols/soil-enrichment/>



Conflicts of Interest

Although we appreciate that the Reserve has clearly disclosed that its protocol development process is sponsored by Indigo Ag, which intends to earn third-party certified credits under the protocol's final version, we have struggled to get a clear answer from the Reserve about the role Indigo Ag has played in drafting the protocol text and guiding the protocol development process. We ask again because the August draft of the protocol indicates that Indigo Ag has played an even bigger role than the Reserve has so far acknowledged, in apparent contradiction of statements the Reserve made to us earlier this summer.

We asked in our May comment letter whether the Reserve had asked members of the protocol's expert workgroup whether they have any financial conflicts of interest with Indigo Ag, and if so, which members disclosed conflicts. It took a journalist asking you for this information and a follow-up letter from us on June 11 before you surveyed the expert workgroup and disclosed that six of its 22 members had conflicts of interest with Indigo Ag.

This disclosure is critically important to the integrity of the protocol development process because the workgroup forms the entire basis of soil science expertise for the protocol, as the Reserve does not itself have any in-house soil science expertise.

To try and clarify the role of Indigo Ag employees in the protocol drafting process, we asked the following question in a June 11 letter:

3. What role did staff members or consultants working for Indigo Ag play in the drafting of Version 1.0 of the Soil Enhancement Protocol? Out of 100 percent, about what share of the drafting was performed by Reserve staff, the Reserve's expert workgroup, and any staff or consultants working for Indigo Ag, respectively?

Your response in a June 24 letter reads as follows in full:

With respect to your third question, the Reserve has taken the lead on drafting the protocol from the outset. We have borrowed/ adapted a number of concepts from our Forestry protocol and other working land protocols. We have also utilized many other sources, including some information provided by Indigo Ag. It represents only a relatively modest portion of the current draft protocol and it remains to be seen how that may change as we address the comments we have received from the public comment process. Protocol development always depends on constructive inputs from a wide variety of stakeholders and this effort is no different.

This response downplays Indigo Ag's role, describing the Reserve as "tak[ing] the lead" and Indigo Ag providing only "some information" that constitutes "only a relatively modest portion of the current draft

protocol” to complement the Reserve’s expertise. That position appears inconsistent with the situation today, however, as the August draft protocol now recognizes “a financial contribution, research and drafting support” from Indigo Ag and acknowledges eight additional employees of Indigo Ag and two employees from the consultancy Terracarbon LLC.

Given that your June 24 response carefully indicated that the “modest” role from Indigo Ag staff only applied to the April draft protocol and that “it remains to be seen how that [role] may change” in response to public comments, we ask the Reserve to clarify what role Indigo Ag and Terracarbon LLC played in drafting any of the text in the August protocol and in responding to public comments over the summer.

Additionality

Our May comment letter expressed concern and surprise that the Reserve was preparing a protocol that would market carbon credits that had not been screened for additionality.

On our June 11 call, you and Mr. Ebert indicated that financial additionality concerns are not particularly significant in the context of a complex agricultural system in which incentives for individual soil management practices are unlikely to change farmer behavior. You and Mr. Ebert specifically indicated your expectation that no single practice was likely to make financial sense on its own, and that the more likely outcome would be that participating projects would need to “stack” multiple soil management practices together — that is, a project would likely need to adopt multiple, parallel practice changes to make the offsets income large enough to make a difference to decision-making in the agricultural industry. As a result, you indicated that a financial additionality screening test would not be particularly useful in the context of individual soil carbon management practices, but you indicated that you would consider a common practice evaluation to screen out management techniques that are already in regular use.

The updated protocol implements a common practice evaluation. Unfortunately, this approach is easily circumvented by the practices you and Mr. Ebert indicated you expect most projects to use going forward.

Under the protocol’s common practice evaluation, the Reserve will draft a “negative list” of practices that are excluded from eligibility to earn credits (Section 3.4.1.1). If a practice is already employed by at least 50% of the applicable cropland or pasture land in an individual county, then it will be placed on the negative list for that specific county and made ineligible for crediting in that same county — reflecting the logic that commonly implemented practices are not additional. We note that the Reserve provides no justification for its selection of a county-specific 50% threshold and has also not disclosed what the initial list (the “Additionality Tool”) would look like.

We question the sincerity of an additionality screening tool that was

apparently not ready to be shared publicly with this latest protocol revision. Although the current draft describes a process for producing the negative list, neither the protocol nor the Reserve website provides the list. Without a list, it was not possible to review the quality of the common practice assessment from primary data within the two-week window provided for public comment. With a list in hand, we would want to evaluate whether there are any practices that, for example, are commonplace in many applications but not quite at the 50% threshold in some locations — a type of evaluation is required to provide confidence in a common practice evaluation, [2] but not included in the protocol’s technical appendix.

The protocol’s opacity on common practice may not matter in application because the concept of the “negative list” is unlikely to be used by large projects as a result of a major and explicit loophole. The protocol proposes to render eligible any practice on the negative list when it is combined with any other practice — including another practice on the negative list (Section 3.4.1.2). The protocol also enables projects to point to as few as three other fields in a county to justify an exception for a practice that is otherwise on that county’s negative list. These loopholes are so big as to overwhelm the common practice assessment for any project that “stacks” practice changes — as you and Mr. Ebert specifically indicated to us you expect to be common among credited projects under the final protocol.

We do not believe that this additionality standard is credible and therefore we recommend that the Reserve acknowledge instead that the protocol is not testing for additionality. As we have discussed previously, protocols that do not screen for additionality may have important applications in supporting public and private expenditure programs — but they are critically flawed in the context of carbon offsets meant to justify a buyer’s greenhouse gas emissions.

Model Selection

Our May comment letter raised concerns about the kinds of soil carbon models used to calculate projects’ carbon credits in between physical soil carbon sampling at five-year intervals. The earlier draft of the protocol from April provided few constraints on the type of model or modeling framework that could be used.

In contrast, the updated August draft and the accompanying Model Calibration, Validation, and Verification Guidance document contain additional safeguards to ensure that model calibration is based on peer-reviewed evidence and that model calibration reports will be made publicly available. We believe that open access to the basis for crediting methods is essential and sincerely appreciate the Reserve’s willingness to rise to this important standard. Thank you.

[2] Barbara Haya et al., *Managing uncertainty in carbon offsets: insights from California’s standardized approach*, *Climate Policy* (2020), doi: 10.1080 / 14693062.2020.1781035v

Sampling and Verification

Our May comment letter raised a number of concerns about the proposed sampling and verification practices in the draft protocol. Chief among them was our concern that the April draft protocol indicated that project verifiers would not conduct independent soil sampling. This is a significant problem because soil carbon cannot be inferred remotely. The only way to reliably calculate soil carbon content is to physically measure it, and we have concerns about the potential for biased or inaccurate measurement if there is no independent verification.

The biggest change the Reserve made to verification standards in the August draft is to indicate that the question of independent soil sampling is to be left to the determination of the verifier, rather than simply not required. As we noted in our previous comment, placing the burden of choosing rigorous independent sampling on verifiers encourages a “race to the bottom.” With this new optionality, project developers seeking minimal oversight could screen project verifiers by asking whether those verifiers are willing to accept the developers’ soil samples.

Similarly, there is no actual requirement that verifiers physically visit any project sites. All in-person verification visits can be explicitly waived at the Reserve’s discretion, if replaced by third-party attestations or remote visits instead. The August draft retains the loopholes and special permissions by which the Reserve can waive physical site visits on a case-by-case basis in the future, including for the protocol’s sponsor, Indigo Ag.

Finally, we note that the August draft protocol continues to provide that the verification team does not need any expertise in the modeling software a project employs to calculate its carbon credits, so long as the project hires its own expert to do that modeling in the first place. By definition, this is not a reliable means of independently verifying model calculations. It is a system for creating the appearance of third-party verification, when in fact there is none.

Given the lack of independent soil sampling in the verification process, the ability of participating projects to avoid in-person verification site visits at the discretion of the Reserve, and the lack of third-party expert review of model calculations, we believe the protocol fails to function effectively as a third-party standard.

Permanence

Our May comment letter concerned two issues related to the permanence of credited soil carbon benefits — the duration of project-level contracts and the construction of a protocol-level buffer pool to insure against carbon reversals. Under the protocol, the Reserve offers credit buyers a 100-year permanence standard in which credited climate benefits are guaranteed for 100 years, with any project-level failures protected by a protocol-level buffer pool of extra offset credits held by the Reserve for

this exclusive purpose. Thus, understanding the details of project-level contracts and protocol-level buffer pools is essential to evaluating this critical performance standard and marketing claim. We review each issue here in turn.

First, we pointed out in our May comment letter that the Reserve's promised 100-year permanence standard for carbon credits was not implemented in the text of the draft protocol. This is because implementation occurs via the terms of the private contract signed between the Reserve and project developer, which is known as the Project Implementation Agreement (PIA). We pointed out that the PIA could be signed for terms of less than 100 years, which means that projects could end up without contractual obligations to protect their credited climate benefits over the Reserve's stated 100-year permanence horizon. For example, a PIA could be signed with a term of 30 years, not 100 years, in which case the contract wouldn't apply to anything that happens to the credited soil carbon benefits in years 31 through 100. We questioned whether the public would ever be able to learn about shorter PIA terms because the protocol specifically indicated that PIA project terms are private, not public. We also questioned various exceptions for as-of-yet-uninvented remote soil carbon monitoring systems that could, under the protocol terms at the Reserve's discretion, could obviate the need for projects to operate under PIAs in the future.

The August draft protocol retains the same structure, with confidential PIA terms that are explicitly not required to last for the claimed 100-year duration of credited climate benefits. Worse, the Reserve's response to public comments erroneously and misleadingly suggests that protocol implementation will rely primarily on 100-year PIA contracts (see ¶ 37), while the protocol text explicitly retains the option for shorter PIA contract terms (Section 3.5.3).

We believe the risk of misleading prospective buyers is extreme if the Reserve purports to offer 100-year permanence protections while only requiring projects to sign project contracts with shorter and potentially confidential durations. The Reserve must clarify its practices here and ensure those statements are consistent with the protocol text.

Second, we raised concerns about a complex set of calculations that describe what share of a project's credited climate benefits must be set aside for the protocol-level buffer pool, in order to insure against the risk of reversal. We noted that the Reserve's calculations included a series of loopholes that render the vast majority of the calculations irrelevant, including the option for a company to provide a surety bond to a wholly owned subsidiary or parent company — a sign of potential fraud in securities and insurance regulation because closely-held corporate entities can fail together under financial duress. We noted that the choices of parameters for capitalizing the buffer pool contributions were not justified by an evidence, but rather asserted as stated. By taking advantage of the loopholes we identified, a project would only need to set aside 5% of its offset credits for the common buffer pool — a level offered

as sufficient to cover the risk of all reversals over the coming 100 years, from floods to fires to bankruptcies.

In our May comment letter, we recommended:

The Reserve should justify the choice of parameters used to calculate the contribution of its buffer pool and eliminate loopholes that allow private parties to avoid contributing to the buffer pool to mitigate the risk that they might default on their long-term contracts.

Your response to our comments (¶ 37) provided in full:

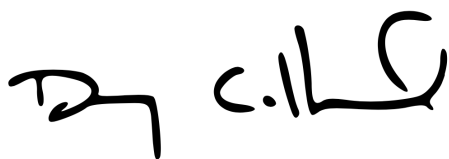
With respect to how we set buffer pool contributions, it has long been our approach to consider a wide-range of factors that contribute to reversal risk, including social and financial drivers. Unfortunately, the exact level of risk for a given project type is largely unknown, particularly when developing a new protocol and particularly when considering the range of potential risks that may arise over 100 years. Thus, these parameters, and the means for reducing risk-based contributions, must largely be policy decisions. The approach taken for [the Soil Enhancement Protocol] is consistent with our approaches taken for buffer pool contributions under the forest and grassland protocols.

These so-called “policy decisions” appear to mean picking numbers without justification or evidence. Despite our extensive technical comments, the new draft protocol makes no changes to the protocol buffer pool structure, retaining both the loopholes we identified and the unjustified parameters. It may well be that this approach is consistent with the approach the Reserve has taken in its forest [3] and grassland protocols, but that consistency would be more revealing about the Reserve’s past practices than comforting about its current approach.

We believe the Reserve needs to explain how a 5% buffer pool would adequately capitalize a buffer pool in the face of 100 years of physical, social, and economic risk.

[3] William R.L. Anderegg et al., Climate-driven risks to the climate mitigation potential of forests, *Science* (2020), doi: 10.1126/science.aaz7005

Thank you for the opportunity to provide comments on the Draft Protocol.

A handwritten signature in black ink, appearing to read "D. Cullenward".

Danny Cullenward, JD, PhD
Policy Director, CarbonPlan
Lecturer and Affiliate Fellow, Stanford Law School (*)

A handwritten signature in black ink, appearing to read "Jeremy Freeman".

Jeremy Freeman, PhD
Executive Director, CarbonPlan

A handwritten signature in black ink, appearing to read "Jane Zelikova".

Jane Zelikova, PhD
Research Scientist, University of Wyoming (*)

(*) Affiliation listed for identification purposes only.

JUNE 11 2020

Craig Ebert, President
Sami Osman, Senior Policy Manager
Climate Action Reserve

Dear Mr. Ebert and Mr. Osman,

Thank you for speaking with us earlier today. We welcome the opportunity to dialog with you about Version 1.0 of the Soil Enhancement Protocol and appreciate your interest in collecting additional feedback from members of the public as you continue your process.

Given that we spent nearly all of today's call reviewing the content of the protocol and the protocol development process — both of which we are familiar with — we are eager to discuss more substantive issues in a future conversation. We appreciate Mr. Osman's generous offer to send a written response around specific changes to the draft protocol based on our feedback. That sounds like a productive way to work through the details.

As we continue to engage on the substance of the protocol, it's important for us to better understand some aspects of the Reserve's financial and working relationship with Indigo Ag. The Reserve has consistently disclosed Indigo Ag's sponsorship, and as a non-profit ourselves, we of course appreciate the need for funding. As part of our mission around the scientific integrity of carbon removal and other climate solutions, however, we want to ensure protocols reflect the best science and data and are not unduly influenced by financial conflicts of interest. You suggested today that this is your first sponsored protocol and that a second may be under consideration, so we would respectfully suggest this could be an opportunity to identify best practices going forward to augment your current disclosure practices.

Because you described the centrality of the workgroup's role in vetting technical issues related to soil carbon science, yet some of the workgroup members might have financial relationships with Indigo Ag, we would appreciate a response to the following questions:

1. Did the Reserve ask its workgroup members to disclose any potential conflicts of interest with Indigo Ag, including paid consulting work, research grants, equity ownership, or any other meaningful financial relationships? If so, which members reported potential conflicts of interest?
2. In an article from [June 3, 2020, MIT Technology Review](#) reported that Indigo Ag provided the Reserve with a list of the Reserve's workgroup members with whom it had worked in the past. Is that report accurate, and if so, which members of the Reserve's workgroup were on that list?



3. What role did staff members or consultants working for Indigo Ag play in the drafting of Version 1.0 of the Soil Enhancement Protocol? Out of 100 percent, about what share of the drafting was performed by Reserve staff, the Reserve's expert workgroup, and any staff or consultants working for Indigo Ag, respectively?

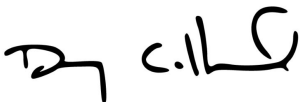
Again, we truly look forward to a conversation about technical protocol design issues, but consider these questions important to a complete understanding of the protocol design process.

We would also like to address your concern about the public nature of this review process. We appreciate the opportunity to provide our feedback to you, but Mr. Ebert implied on our call that CarbonPlan acted inappropriately in sharing our public comment letter with a journalist after we transmitted it to Mr. Osman on May 18, 2020. As a matter of practice, we share our work openly, both with the public and interested members of the press. We hope the Reserve would consider this kind of transparency consistent with its own efforts to run a public development process, rather than grounds for criticism.

Finally, we want to be explicit about CarbonPlan's goals and interests, as that question also came up on our call. CarbonPlan is a California nonprofit public benefits corporation with an interest in ensuring the scientific integrity of carbon removal and other climate solutions, including approaches recognized in carbon offset protocols. Publicly analyzing and commenting on the work of regulatory agencies and private standard-setting bodies like the Reserve is part of our mission, and we aim to do so with objectivity and neutrality. We have [no financial conflicts](#) of interest with the Reserve, Indigo Ag, nor with any of the members of the Reserve's expert workgroup.

We hope this letter, and your responses, will help resolve outstanding questions about the working relationship between the Reserve and Indigo Ag, in order to facilitate a future conversation on the substance of CarbonPlan's technical comments on the protocol. Please consider this letter a public document and we will do the same with any communications you share with us.

Sincerely,



Danny Cullenward
Policy Director, CarbonPlan



Jeremy Freeman
Executive Director, CarbonPlan





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June 24th, 2020

Jeremy Freeman, Executive Director
Danny Cullenward, Policy Director
CarbonPlan

Dear Jeremy and Danny—

Thank you for your time on June 11th and also for your quick follow up to our discussion. First of all, I apologize if the first part of the meeting was not as fruitful as you would have liked. We asked at the outset if it would be worthwhile to review our protocol development process in more detail and thought you were keen to do so. Regardless, we thought overall it was a good first discussion and let's move forward.

In response to your first question, no, we did not ask if any of the Workgroup members did or did not have any current or past financial relationships with Indigo Ag. Our workgroup selection process has always focused on incorporating a wide variety of potential market players, including academics, government officials, NGOs, project developers, verifiers, etc. Frankly, it would not surprise us that given the relatively small community of various experts we work with on a particular issue that there could be past or current working relationships with other participants, including potential funders. We do not believe these types of relationships affect the impartiality or quality of our work.

In response to your second question, you are correct that Indigo Ag did recently provide us with a list of workgroup members and whether or not each individual had ever had any financial relationship with Indigo Ag. A summary of this information is provided below and we also plan to publish this information on our website. According to Indigo Ag, the aggregate compensation for these five engagements was \$90,000 (excluding Max DuBuisson's compensation).

With respect to your third question, the Reserve has taken the lead on drafting the protocol from the outset. We have borrowed/adapted a number of concepts from our Forestry protocol and other working land protocols. We have also utilized many other sources, including some information provided by Indigo Ag. It represents only a relatively modest portion of the current draft protocol and it remains to be seen how that may change as we address the comments we have received from the public comment process. Protocol development always depends on constructive inputs from a wide variety of stakeholders and this effort is no different.

Finally, in response to your sharing your comments publicly, the Reserve is completely in favor of such a practice and we have followed it diligently throughout our history. It is the

very nature of our transparent, public process for developing any protocol. We always share all of the public comments we receive, and our responses, and post them on our website (you can view the entire history for each protocol on our website). Our concern is not that you shared them, it is that you decided to publish a highly critical article working with a journalist with whom you regularly publish on a **draft, interim** work product. Perhaps you are fully comfortable with that approach, but we find it highly unusual. Nevertheless, I think we should all focus on the next steps to improve the quality of the next version of the protocol.

Again, thank you for your comments and we welcome any and all substantive inputs as we continue to develop a Soil Enrichment Protocol. This is an important endeavor and it is critical, like any offset protocol, to have a high degree of environmental integrity. The climate crisis poses an existential threat to humanity and the scientific community has told us that we are virtually out of time to address it before dangerous human-induced climate change is upon us. Perhaps it already is, but the Climate Action Reserve remains committed to bringing innovative, credible market-based climate change solutions that benefit us all.

Regards,



Craig Ebert, President



Sami Osman, Senior Policy Manager

Adam Chambers	USDA Natural Resources Conservation Service	<i>None</i>
Amrith Gunasekara	California Department of Food and Agriculture	<i>None</i>
Bill Schleizer	Delta Institute	<i>None</i>
Christian Davies	Shell	<i>None</i>

Daniel Kammen	University of California, Berkeley	<i>None</i>
Dorn Cox	OpenTEAM	<i>None</i>
Grayson Badgley	Columbia University	<i>None</i>
Jacqueline Gehrig-Fasel	TREES Consulting LLC	<i>None</i>
Jonathan Sanderman	Woods Hole Research Center	WHRC soil lab processed samples from some of Indigo's research sites. Dr. Sanderman also consulted on experimental designs for Indigo's research teams. Both activities were compensated.
Justin Allen	Salk Institute	<i>None</i>
Karen Haugen-Kozyra	Viresco Solutions Inc	<i>None</i>
Keith Paustian	Colorado State University	<i>None</i>
Ken Newcombe	C-Quest Capital	Informal advisor to Indigo as it builds its carbon business
Matt Ramlow	World Resources Institute	<i>None</i>
Max DuBuisson	Indigo Ag, Inc.	Employee
Mitchell Hora	Continuum Ag	Participant in Indigo Carbon, recent small cash prize in the Carbon Cup competition.
Nicholas Goeser	Alliance of Crop, Soil and Environmental Science Societies	<i>None</i>
Patrick Splichal	SES, Inc.	<i>None</i>
Robert Parkhurst	Sierra View Consulting	Paid for consulting services to Indigo on a topic unrelated to the SEP.
Stephen Wood	The Nature Conservancy	<i>None</i>
Tom Cannon	Goodson Ranch LP	Participant in the Indigo Research Partners program, no cash payments.
Tom Stoddard	NativeEnergy	<i>None</i>