

Regen Registry Internal Review of Removal of atmospheric nitrous oxide (N₂O) using Photocatalytic Technology

Submitted by: Crop Intellect

Date: September 8, 2023

Summary of Internal Review Process

The intent of the [Regen Registry Internal Review](#) is to ensure methodologies submitted to the Regen Registry meet the integrity expected by our community and ensure the document is sufficient to warrant review by Expert Peer Reviewers. The task of an Internal Reviewer is to act as an ally to methodology developers by providing critical feedback to help facilitate an understanding of how to improve the methodology to best serve Earth Stewards while maintaining scientific and community integrity.

The Regen Network Science Team has reviewed the *Removal of Atmospheric Nitrous Oxide (N₂O) using Photocatalytic Technology* to facilitate the creation of a strong methodology which can be submitted to External Peer Reviewers. Our feedback has been provided in two ways:

- 1) **Direct Comments:** To provide targeted constructive feedback to specific sections of your methodology, our team commented directly in your methodology document on what we found confusing, thought needed more definition, or what we thought was out of scope for this methodology. The comments can be found in the [submitted document](#).
- 2) **Overall Reflections:** To provide more generalized feedback to your methodology as a whole, our team provided the additional reflections in this document. Reflections were categorized by reviewers, each of whom had different thoughts on how to improve the methodology. A final combined summary of comments, feedback and suggestions is found in the Combined Summary section.

Internal Review:

Reviewer 1 - Ned Horning:

General Comments:

My comments from the previous review have been sufficiently addressed. The methodology document has improved. Technically, I do not feel qualified to evaluate the methodology further and suggest we solicit expert input.

Comments by Sections:

No additional comments have been added

Final Decision: -

From a technical perspective this is ready for expert review. On a more practical level Regen Registry needs to provide guidelines within which photocatalysts can be applied to be considered “regenerative” and a follow-up meeting should be scheduled before moving forward..

Reviewer 2 - Gisel Booman:

General Comments:

I left some more comments in the Methodology pdf, following the author’s responses. At this point I will defer to the specialists during the peer review to provide further advice on the specifics, as it falls a bit outside of my field of knowledge. I would like to give a quick review of the Methodology and Credit Class documents once split, and so be able to check the content before sending to reviewers.

My main general concern with this Methodology once approved in the Regen Registry is that it can be implemented in non regenerative management projects that could start earning credits while still having a negative net impact on the environment (which could be easily claimed to be greenwashing). We will probably require some eligibility criteria to be well outlined in the credit class document, so that any projects following the Credit Class and Methodology within the Regen

Network's registry are checked to be regenerative or nature positive. In the Methodology document, this might require that further data is required to be collected to check this (management practices proof, and/ or a more holistic assessment of environmental indicators or co benefits). I would benefit from a conversation with the authors so I can ask some more questions and explore some options.

Comments by Sections:

In the verification through DNA PCR analysis section I left a comment, I believe at least randomness of sampling should be guaranteed, or a larger sampling that considers field size to make the number sample points representative .

Final Decision: -

Reviewer 3 - Tica Lubin:

General Comments:

Per the conversation I had with the Crop Intellect team in August I will be checking on reformatting after this round.

Comments by Sections:

Project Boundary - see comments re renaming and clarifying here that I inserted into the PDF

I also added in some notes about referencing other parts of the document

Final Decision: -

Reviewer 4 - Rebecca Harman:

General Comments:

My in-line comments were addressed. The submission is ready for expert review on a technical basis. I appreciate the detail with which the developer responded to all comments.

Comments by Sections:

None

Final Decision: - Although I recommend this methodology from a functional perspective, further discussion will need to take place between the Regen Registry team and authors about eligible and ineligible practices to ensure all projects within this credit class result in net positive for the ecosystem instead of just emission reductions and removals.

Combined Summary/Feedback/Suggestions

General Comments:

We feel there is a solid foundation of a methodology here to measure sequestration but our concern lies in a more holistic view of overall a methodology that we feel ensures ecosystem regeneration beyond just GHG sequestration. That said we feel this lies a bit outside of our expertise and would encourage you to continue to expert peer review once you have resubmitted and reformatted the document into the credit class and methodology. We will then do a final check that current comments have been addressed.

Overall as Gisel stated we feel we could work with this methodology in our registry if there were some "eligibility criteria to be well outlined in the credit class document, so that any projects following the Credit Class and Methodology within the Regen Network's registry are checked to be regenerative or nature positive"