Regen Registry Internal Review of Watershed Nature-Based and Green Infrastructure Activities Avoiding Emissions from Water Management Gray Infrastructure Construction and Operations Methodology v1.0

Internal Review Round 1
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Reviewers: Sam Bennetts
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Summary of Additional Round 1 Internal Review Process

The Regen Network Science Team has provided an additional review of the *Regen Network - Watershed Carbon_June 6th Version* to facilitate the creation of a strong methodology which can be submitted to External Peer Reviewers.

Reviewer 1 - Sam Bennetts:

General Comments:

Great job! This methodology was a very informative read. It's clear to me that green infrastructure projects require navigating a labyrinth of complex regulatory, environmental, logistical, financial, and technical variables. I think you did a good job striking a balance between inclusivity and specificity. The methodology is broad enough to encompass a diverse range of projects that can be developed under this protocol, yet maintains sufficient detail to outline the approach project proponents should take to develop a project.

My review of this methodology primarily focused on the programmatic rules and requirements of the credit to ensure that, both from the perspective of the registry and prospective project developers, the methodology and credit class present a clear and easy to follow set of instructions to register a project to generate carbon offsets. Given the scope and complexity of these projects it's hard to be overly prescriptive about setting a standardized set of granular instructions all projects must follow, but I think additional specificity would help to strengthen the

methodology both for project developers and from a carbon accounting perspective. I think the additional specificity will also help clarify with whom and where responsibility lies in the project development process (i.e. how counterparty project management is being handled within the regulatory and MRV process) and how risk is managed from a carbon accounting perspective, both of which are important for both project actors and buyers.

With that in mind, I would primarily categorize my review in two areas: updating the methodology to add more specificity to the methodology and restructuring of the methodology and credit class documents to make it more clear for project developers what they're required to report and when. I think this is especially important in thinking about scaling this program; we want to make the methodology as clear and easy to understand to minimize hand-holding, while building a system that can leverage the automation tools our team is currently building (which rely on the machine readability of data).

I documented all of my comments in this document. I also attached my own version of your credit class document as a proposed restructuring of the two documents you have created. In this restructured version you will notice that I moved a lot of the methodology into the credit class according to the following differentiation:

- **Methodology**: A methodology outlines the processes and procedures a project should follow to calculate, monitor, report, and verify the greenhouse gas (GHG) reductions and additional co-benefits a project achieves. This can include everything from how to calculate a project's baseline emissions to how to monitor and report on the project's impact over time. While a methodology might specify some conditions a project must meet to use that particular methodology (such as the type of project or the geographic area it's located in), it generally doesn't provide detailed instructions on how to register the project with a particular credit class.

- **Credit Class**: On the other hand, credit classes offer a more comprehensive framework that includes project registration instructions and outlines the entire project cycle, from inception to the issuance of credits. A credit class defines the set of criteria and procedures that ensure the quality and credibility of the carbon credits by providing a framework for the validation, verification, and issuance of credits. They should include rules around key concepts, such as project eligibility requirements, additionality, permanence, and buffer pool management. Thus, the credit class should include instructions on how to:

    1. Register the project, including performing project eligibility checks (land tenureship, regulatory, etc…), defining project actors, specifying the project

activity and estimating project emissions reductions and costs, and creating a Project Design Document (PDD)
    a. This includes rules and requirement for the inclusion of aggregated projects (if applicable)
2. Temporal boundaries for the project, including crediting term, permanence period, lookback period for historical credit issuances
3. Monitoring, Reporting, and Verification requirements, including the schedule, frequency, and monitor and verifier requirements. This could also include project validation instructions if the credit class requires an independent evaluation of the PDD against the credit class rules
4. High-level GHG accounting rules and requirements around the inclusion and handling of additionality, leakage, permanence, and specific instructions for what to include in the project plan if additionality needs to be proved prior to project registration.
5. Carbon credit issuance schedule, including buffer pool allocation and permanence pool requirements (if applicable)

Speaking to the structuring of your methodology and credit class, following this framework to differentiate between the programmatic rules and requirements of the credit and the actual MRV process should help accommodate for the diversity of projects we can expect in that we can update or append to the scientific components of the methodology without having to update the framing of the overall crediting process (i.e. credit class) which should remain relatively the same over a long period of time. Some examples of this (to help frame my thinking) could include:

- Adding an appendix or mini-methodologies for measuring effects of reforesting a riparian zone to provide shade to the water and improve ecosystem function, and outlining the process for MRV according to the practice.

Done - however we have provided these as guidance only, per the clarification in the methodology and credit class that carbon credits are associated with net GHG reductions and not with sequestration.

- Adding data reporting standards for specific types of green infrastructure projects.

Verifying the design approach for the green project is out of scope both because it would it would be really hard given the variability in design and regulations, and because the carbon credits aren't associated with the design, see explanation in the methodology.

- Updating the methodology to adopt more modern scientific practices or tools

In each scenario we would just update the methodology as opposed to the broader crediting framework.

Methodology Comments by Section:

Section 1 - Methodology Overview

I found the diagram very helpful in understanding the flow of how the methodology works, but was a bit confused at the credit issuance step. Right now the diagram doesn't indicate if the credits issued at the beginning and end of the project are the same, or if new credits are issued at the end. With that in mind, I would recommend you indicate that the credits issued are ex-ante which mature into ex-post after verification to reflect the crediting process that you outline in the credit class and methodology.

I also was a bit confused why credits were issued prior to identifying green infrastructure project activities and not after the project developer decides on what other land management activities they want to implement. I also mention this below in the Credit Calculations section.

We've dramatically simplified this now, all credits are ex-post only, see revision at end of credit class doc.

Section 1.2 - Applicability

Move to Credit Class.

Done

Section 1.3 - Normative Resources

Should they also be looking at ISO 14064-2 for GHG Accounting?

Added clarification

Section 1.5 - Definitions

We intend to update our definitions in the Regen Registry Guide for project proponent and project developer as follows:

- Project Proponent: The individual or organization that advocates for a project, identifies its requirements, and drives its initiation. The project proponent serves as the main point of contact with the registry and is responsible for submission of project documentation to the registry, ensuring correctness, completeness, and compliance with standards

outlined in the Credit Class and Methodology to ensure underlying credit quality, and coordination of project actors. The project proponent receives the credits upon issuance and is responsible for coordinating sale and distribution to project actors.
- Project Developer: The project developer is the individual or organization responsible for the detailed management of the project. The project developer, who can be the land steward or a third party, handles detailed planning, design, construction and implementation of the project.

Section 1.5 - Co-Benefits

This section should be moved to the credit class. In terms of what to include in the methodology as it relates to co-benefits, I would specify what tools of frameworks the project developer should use to measure project co-benefits, and how they should be reported.

In terms of the “Soil Health and Carbon Sequestration” co-benefit, do you intend to include carbon sequestered in the credits issued? If so, I think there should probably be a section in here outlining how those credits will be issued and accounted for.

We’ve moved co benefits

We’ve also said project proponents can use other methodologies if they are appropriate, but I think it would be redundant and perhaps really confusing to try to actually map them into this.

If a project happens to also sequester soil carbon, a project developer can fill out that project plan and verification paperwork too to get those credits without confusing everyone by entangling it with the avoided electricity calculations.

Section 2.1 - Spatial Boundaries

I think the Geographic Scope makes sense to include in the methodology, but Land Use, Ownership, and Exclusion should be moved to the credit class as they have less to do with the monitoring and reporting of the project benefits and more to do with the programmatic elements of the crediting program (i.e. what rules project actors need to follow to ensure compliance with land tenureship).

Done

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Section 2.2 - Temporal Boundaries

Move to credit class.

Done

Section 3 - Additionality

Move to credit class.

Done

I think this section can be more specific about the different methods of proving additionality.

- Pre-Permit Action: As far as I understand, and please correct me if I'm wrong, "pre-permit action" refers to the installation or implementation of the green infrastructure solutions that take place before the necessary approvals or permits have been secured from regulatory bodies, and additional carbon revenues act as a motivator or risk-reduction incentive to avoid potential disapproval. With this in mind, I'm curious how one would prove how a project enables pre-permit action when this should be reported. Figure 1 (in the Methodology Overview Section) indicates that this is something that would be proved after project registration. If that's the case, I think it would be worth explicitly mentioning that in this section and indicating its effect on credits maturing to ex-post (i.e. what happens if a project proponent is unable to prove this? Are credits still issued? Does additionality need to be proved another way?)

We devolve responsibility for this down to the regulated entity - they're the ones that know what their permit says, and what their permit-writer is likely to allow. What we're envisioning is that regulators may allow a pre-permit baseline that would deploy private capital (carbon credit advance purchases) to do the work, then the regulator says, "ok it worked, here's your permit". Right now that doesn't happen.

But it's extremely complex and different for every utility and every state, so we need to, in our view, let the utility take on this responsibility.

- Performance Risk-Reduction: In this context, it seems "performance risk-reduction" refers to reducing risk or uncertainty associated with the actual performance of the green infrastructure solutions via revenues generated by the sale of carbon credits. Again, my question here is how should project proponents prove performance risk reduction, and how frequently?

See proposed solution in renewal period section

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- Additional Demonstrated Benefits: I think it would be worth including what the additional benefits are and how you would prove them, both for the primary benefit and co-benefits.

The main one we're thinking about is monitoring - right now, these kinds of projects actually don't typically require water quality monitoring, only the land-based monitoring. We have been talking to some existing projects that are either happening or already happened, and yet they don't know if the water quality has actually improved. So we think bringing additional capital to the table that would require (since our meth requires it) better monitoring, could allow improved programs.

Section 4.1.9 - Credit Calculations

I think it's ok to keep the methodology intentionally broad when it comes to calculating emissions in the baseline and project scenarios assuming determining the GHG emissions for a gray or green infrastructure is quite complex and there are likely many variables which contribute to emissions. However, I think you should include some high level equations, tables, or references to help guide understanding of the GHG pools which you account for in credit calculations. Right now it's unclear:

1) If you're going to discount secondary/one-time effect emissions associated with the construction, installation, and establishment of the project activity (i.e. green infrastructure project). The WRI Project GHG Protocol provides a nice outline of when and how to include these. There are also some CDM tools which cover this as well.
2) If uncertainty discounts are included in the credit calculations.

Uncertainty discounts are not included in the methodology as this introduces complexity that is not required and additionally are not a standard practice. The LCA of gray and green infrastructure is straightforward and does include some potential nuances (example: co-product credits) but nothing that is outside of standard LCA practice. Additionally, ISO 14040 does not include uncertainty discounts and is the standard by which LCA are currently done.

3) If additional carbon sequestration measured via co-benefits are included in the credit calculations, calculated and credited separately, or just not included in credit generation.

I think this has to stay in separate methodologies and not copied over

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Section 4.1.10 - Reporting and Critical Review of the LCA

I think this section looks good, but I would recommend in the future to the best of your ability, you develop templated data reporting schemas for specific types of green infrastructure projects as they are implemented to help guide future project developers in identifying reporting requirements. This will also help automate the process in the long-run.

Section 5 - Green Infrastructure Project Activity Identification

It's a bit unclear to me when Green Infrastructure Project Activity Identification occurs in relation to the ex-ante credit issuance. In Section 4, you outline the process to ex-ante credits based on a comparison between the gray and green infrastructure, but then in this section (Section 5) you are outlining the process to identify the green infrastructure project activities. Is there something I'm missing? Or are you actually issuing credits for something else prior to the project activity identification?

The above comment aside, I would recommend migrating the first part of Section 5 to the credit class as it has more to do with one-time project activity identification which needs to happen prior to project registration as opposed to the implementation of the project itself.

We've dramatically simplified both the project design and the credit issuance sections in both the meth and credit class doc, please review

Section 6 - Implementing Watershed Program

In this section you state that site preparation could involve, "activities such as removing vegetation, grading the land, and installing erosion control measures." Going back to my comment in *Section 4.1.9 - Credit Calculations* I think it would be worthwhile to identify major sources of emissions in developing the green infrastructure and include that in your credit calculations, such as including a table of the carbon pools measured. This would allow you to delegate power to local experts to define the sources and the accounting method for each source and thus not be prescriptive while including the core pieces expected by buyers and third parties reviewing the methodology.

The LCA does include calculating project emissions now

Credit Class Comments by Section:

These comments are based on the proposed restructuring of your credit class, linked here.

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Section 2.2 - Co-Benefits

In the credit class you say there are three approved co-benefits but list four. Also in the methodology you state "additional co-benefits". I made changes accordingly.

Fixed

Section 3.4 - Crediting Term

I think it is important to list the minimum crediting term for projects. In the credit issuance section you state that, “All credits issued between the Project Initial Monitoring Date and Project Initial Monitoring Date plus five years (60 months) are based on the fraction of the initial avoided GHG emissions estimates identified in the Credit Release Schedule,” then state that the project can receive credits every 5 years after the initial project monitoring date. With that in mind I would set the minimum maybe at 10-years. This is important to include because projects expect a fixed date at which they will end (and when they can renew), and is standard in the space. It also is important to include because it provides assurance to buyers about the project’s commitment and longevity and is a standard in the space.

We’ve revised this and simplified it

Section 3.4 - Regulatory Compliance

This section didn’t exist but I added it. I would assume that there's probably a bit more about what should go into regulatory compliance given these are complicated projects which probably involve municipalities so you should document it accordingly. I would also add in what the regulatory compliance requirements are needed at the project eligibility stage, especially given you are navigating pre-permit action.

Good thanks

Section 4.1 - Aggregated Projects

I’m curious if you actually anticipate aggregated projects and if you want to include them in this credit class, or if you want to exclude it. If it’s the former, I would separate requirements for project aggregation into two main categories:

1. Eligibility requirements for project aggregation
2. Monitoring requirements for project aggregation

Right now your credit class should more explicitly specify the applicability conditions/requirements that projects must meet to register as an aggregate.

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As far as I understand (and correct me if I'm wrong), it would make most sense for this credit class to implement what CAR defines as an aggregated project (as opposed to a project aggregate), meaning that you would register a single project which would encompass many plots of land which would collectively share data for MRV and split credits associated with the project.

If this is the case I would follow this example to define the aggregate project requirements. The example is for agroforestry, but should give you a good idea of what to include

> *"Aggregate projects can be defined as, [insert definition as specified above]. Project aggregation allows [insert explanation of benefits].*
>
> *This credit class allows for multiple farms to register together as an aggregate project if the following applicability conditions are met:*
> - *Farms have similar conditions (soil and agroforestry management, for example),*
> - *Farms are geographically located in the same geographical bioregion*
> - *Farms share the same phytophysiognomy & management practice*
> - *[insert any other requirements]*
>
> *The requirements above ensure differences in carbon content in different farms can be scientifically explained by differences in the fact they share areas have different climate and soil characteristics.*
>
> *To register as an aggregate project, the Project Proponent must submit a report proving that the above applicability conditions have been met as part of the Project Plan. The report should include:*
> - *[Insert requirements and recommendations on how they can prove it (i.e. farm management data, soil reports, etc…)]*
>
> *Projects registered as an aggregate project must submit their own baseline and measurement reports as specified in the Approved Methodology."*

See proposed text

Section 5.2 - Project Renewal

This section didn't exist but probably should. I would just include what documentation needs to be submitted at the end of the crediting term to renew a project.

See proposed text.

Section 5.2 - Leakage

I would probably provide a justification as to why this is, just to highlight to prospective buyers why leakage doesn't matter or is relevant for this type of project

See proposed text

Section 5.3 - Permanence Period

You say this is in Section 7, but I didn't see it so I would include it. Here you want to define what the permanence period is for the project.

See proposed solution

Section 5.4 - Permanence Approach

You say this is in Section 7, but I didn't see it so I would include it. In terms of what to include, I would add in the permanence pool allocation (as a percentage of credits issued).

See proposed solution

Section 5.4 - Buffer Pool

You say you aren't using a buffer pool and I'm curious why. Buffer pools are traditionally one of the stronger risk mitigation tools in carbon markets, as they provide insurance to the project proponent to cover losses which might occur in reversal events (problems with infrastructure, forest burning down, climactic events, omissions and errors during MRV, etc…). I would recommend re-evaluating this as it will be helpful in covering losses as a project developer. Also it will provide a lot more assurance to buyers that they are making a safe investment in purchasing these offsets in knowing there are risk mitigation tools in place.

Our rationale - A buffer pool is not required for this credit class as all credits are issued only upon ex-post requirements being met.

Section 5.6.1 - Verifier Requirements

I would specify here what the verifier requirements are. Do they need to have ISO certifications? Can it be anyone?

Added

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Section 6 - Credit Verification & Release Schedule

I think this section is great! It really helps to highlight the overall process and I would recommend leaning on this to upgrade the methodology overview and overall structuring of the methodology. Like we mentioned in our last call, I think there's some work to do in figuring out the technical requirements associated with the types of credits issued (ex-ante vs ex-post), but this is a great start!

We revised this extensively, to discuss.

Pass or Needs Revision:

Overall, great job! I would recommend incorporating updates and resubmitting prior to passing this off to expert peer review.