Public Consultation Document- CCS Methodology Framework

June 30, 2023

1 CCS METHODOLOGY FRAMEWORK PUBLIC CONSULTATION PROCESS

Verra has published a new VCS methodology for carbon capture and storage (CCS) activities for stakeholder consultation. The methodology was developed by the CCS+ Initiative. Stakeholder feedback can be provided by completing the comment template and submitting it to methodologies@verra.org by Saturday July 29, 2023. Comments will only be accepted in the template. the template. the template. the template.

2 METHODOLOGY FOR CARBON CAPTURE AND STORAGE

The *Methodology for Carbon Capture and Storage* document (the methodology) sets the foundation for CCS projects to generate both emissions reductions and carbon dioxide removals (CDR) under the VCS. The methodology sets applicability conditions and requirements for project eligibility. It is supplemented by tools as well as capture, transport, and storage modules that provide procedures and requirements for specific components of the projects.

To assess additionality in the VCS, methodology developers have the option to propose a project specific approach or a standardized approach. The methodology proposes the project method to assess additionality, relying on an investment analysis. Many projects may require government funding to support their deployment in addition to carbon credit revenue. In some jurisdictions, government funding alone may be sufficient to justify a CCS project. The development team proposes a maximum internal rate of return (IRR) of 21%. This limits the maximum return on investment a proponent can plan to make when investing in a CCS project to be eligible for credits.

A standardized approach (using a positive list based on activity penetration) is an alternative that has been considered to demonstrate additionality. An activity penetration approach would provide proponents with clear and predictable rules with which they could determine eligibility early in their project development lifecycle. This would lead to more projects and more overall climate impact.

The standardized approach using activity penetration also has its challenges. If the projects are commercially viable with public funding alone, activity penetration may not be appropriate. Some assessment of the level of public funding in a project may therefore be important even when using a standardized approach. Finally, another challenge is that there is no obvious sector against which activity penetration can be measured for direct air capture (DAC).

Verra is requesting feedback on the following using the comment template::

i. Can emissions reductions and CDR be addressed under a single framework methodology, or should there be a stand-alone framework methodology for removals? Why or why not?
ii. Given the high capital cost and long investment horizon of CCS projects, do you think a project approach or standardized approach is more appropriate for assessing additionality? Why?
iii. Should a standardized approach using activity penetration be used for assessing additionality for particular project types or capture technologies (such as DAC or other CDR technologies) instead of the project approach using investment analysis? Why or why not?
iv. When establishing a positive list (activity penetration) for assessing additionality, how would the maximum adoption potential of DAC or other capture technologies be measured? What data sources might inform this?
v. When assessing additionality using activity penetration, how would the maximum adoption potential of DAC facility be measured? What data sources might inform this?
vi. Is a maximum IRR of 21% appropriate for the risk-return profile for CCS technologies in the coming 5-10 years? What alternative maximum IRR would you suggest and why?

3 MODULE FOR CO_2 CAPTURE FROM AIR (DIRECT AIR CAPTURE)

The *Module for CO2 Capture from Air (Direct Air Capture - DAC*) document describes:

- the applicability conditions for eligible project activities that capture CO2 from ambient air,
- the baseline scenario for DAC projects,
- the capture module boundary to determine project emission sources for quantification, and
- procedures for quantifying emissions and monitoring capture activities.

Verra is proposing to revise the VCS Methodology Requirements to include upstream and construction emissions that are not de minimis in the project emissions (embodied carbon), including those that may occur prior to the project start date. Accounting embodied carbon in the materials and products used for DAC projects, or emissions before the current definition of the project start date, could improve the integrity of emission reductions or CDR achieved. Conservative and simplified guidance could provide a clear and workable approach for the inclusion of upstream sources, such as standard emission factors for common materials like steel and concrete. In addition, rather than accounting for all the embodied emissions upfront when they are incurred, consideration is being given to allow amortizing these emissions over different time periods.

Separately, Verra is considering a future VCS program revisions to allow off-site renewable energy constructed for, and operated for, long-term power purchase agreements (purpose-built green PPAs). While this is still in the early stages of consideration, the use of purpose-built green PPAs would only be possible with extensive consultation and rigorous safeguards. Projects using clean electricity (e.g., PV solar, wind, hydro, etc.) may be able to use purpose-built green PPAs to lower their emissions while separately they achieve emission reductions or CDR from their project activity. This would encourage the development and use of clean energy as part of project activities and is particularly relevant for DAC which may be reliant on clean energy sources to achieve meaningful atmospheric benefits.

Verra will consider and align feedback on the DAC module with program update feedback on this topic.

Verra is requesting feedback on the following using the comment template:

i. What types of construction, fabrication or production emissions in DAC projects or other projects may be material to the overall emissions quantification and why?

ii. What risks would purpose-built green PPAs pose to credit integrity? How could these be managed? Are there existing standards, regulations, or other sources that provide guidance related to accounting emission benefits of purpose-built green PPAs?

4 MODULE FOR CO_2 TRANSPORT

The *Module for CO_2 Transport* document describes:

- applicability conditions for CO_2 transport and for intermediate storage
- the transportation module boundary,
- procedures for quantifying emissions and monitoring transport activities.

The transport module is optional depending on the project design. The module provides a simplified approach to quantify short transport segments that contribute minimal emissions to the overall project.

Verra is requesting feedback on the following using the comment template:

i. Is a simplified approach to quantifying small transport emission segments appropriate and why? Are the thresholds and emission intensities proposed appropriate? If not, please explain why and include alternatives with data sources.

5 MODULE FOR CO_2 STORAGE IN SALINE AQUIFERS

The *Module for CO_2 Storage in Saline Aquifers* document establishes:

- applicability conditions for CO_2 storage in saline aquifers,
- the storage module boundary,
- procedures to quantify project emissions from a storage site, the monitoring procedures for injection, and monitoring procedures for long term storage site integrity.

This phase of the public consultation includes a module for storage in saline aquifers. Future work may include storage in depleted oil & gas reservoirs and geological mineralization. Using separate modules is proposed to reflect differences in monitoring requirements for each reservoir type. Nonetheless, there are similarities between storage in aquifers and depleted oil and gas reservoirs and combining to a single module may be better.

Verra is requesting feedback on the following using the comment template:

i. What differences in monitoring and long-term risk of reversals exist between storage in saline aquifers and depleted oil and gas reservoirs? Do you think requirements would be different enough to justify having separate modules? Why or why not?