

Cookstoves FRC Feedback

-Responses to Stakeholder Questions and Comments-

The following document presents Sylvera's responses to questions and feedback submitted during the Framework Review Committee (FRC) for comments period on the Sylvera Improved Cookstove Rating Framework Version 2.0.

CARBON ACCOUNTING

1. Will you cross check the baseline fuel use with other projects / peer reviewed data / other studies? And how would you define a representative sample?

- Sylvera's Cookstove Framework cross-checks the plausibility project baseline fuel mix against external reference data – WHO Database: Cooking fuels and technologies which captures the proportion of cooking fuels available to populations across countries by fuel type, covering biomass, charcoal, kerosene, LPG, coal, and electricity.
- Baseline fuel consumption volumes reported by the project are assessed based on the quantification approach to determine the likely accuracy of reported values. The Sylvera framework does not require adherence to conservative consumption defaults. Where the reported volume of baseline fuel consumption appears to be an outlier – i.e., significantly higher than usage caps proposed by market stakeholders such as 4C's CLEAR methodology (e.g., 2 tonnes wood per person per year, or 0.2 tonnes charcoal per person per year) – these will be assessed on a case-by-case basis using external data such as representative literature, national statistics, and evidence provided by the project following our developer engagement process.



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- The framework considers a representative sample for assessing baseline fuel consumption to be one where the sample size meets a 90/10 confidence level, and where the project documentation provides evidence that the households sampled share characteristics of the target population, stratification of households has been considered where relevant (e.g., urban vs rural), and that seasonality was accounted for in the sample design.

2. USAGE: How is scoring affected for projects adopting usage rates >90% when they are defined with both SUMs AND usage surveys with representative sampling.

- Where SUMs are included alongside a usage rate above 90%, the usage score is significantly improved.

3. [4C] Sylvera plans to move away from provisional ratings and neutral provisional Carbon Scores (and conceptualizing over-crediting risk under Additionality) to a structure where the scale of over-crediting risks is assessed under the Carbon Accounting pillar.

Feedback: 4C welcomes this new set-up and believes that it contributes to clearer, fairer cookstove ratings.

- The framework reflects this structure as implemented. The overall Carbon Accounting score is derived from two sub-pillar scores – Project Reporting and Carbon Modelling – with ceiling rules applied where specific high-risk conditions are identified in individual components. This ensures that severe over-crediting risks in any single area constrain the overall score, directly embedding over-crediting risk assessment within the Carbon Accounting pillar as described. Sylvera welcomes 4C's support for this approach.



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4. [4C] The Stove Stacking Monitoring Method considers if household surveys to identify stove stacking in sampled households is high quality (e.g. KPTs, in-person vs remote/self-reported).

Feedback: 4C would like to underline that direct fuel consumption measurements through KPTs or continuously tracked energy consumption (CTEC) address stacking. KPTs capture total household fuel consumption and therefore always capture stacking when done correctly. CTEC measures energy consumption on the project stove only. Stacking is captured by back-calculating the baseline consumption displaced by the project stove only. These direct continuous fuel consumption measurements should therefore be evaluated as 'high scoring'.

- The framework scores stove stacking monitoring based on the method used to identify stacking among households. Projects that directly meter all project stoves receive the high score, as the framework recognises that direct metering captures the energy displacement attributable to the project stove only, meaning continued use of other household cooking devices is automatically reflected in lower measured energy savings.
- The framework also awards high scores to KPT-based fuel consumption measurements, recognising that as robust KPTs capture total household fuel consumption, stove stacking is directly accounted for.

5. [4C] fNRB values should reasonably align with MoFuSS values, or follow conservative Tool 33 defaults. A wood-to-charcoal ratio of 4:1 or 6:1, or IPCC charcoal EFs, may be applied. Usage cap of 90% with customer support actions, and 75% with no customer support actions. Leakage: the application of any deduction is considered reasonable and conservative.

Feedback: 4C strongly supports the above-mentioned approaches. They reflect the best available evidence. However, 4C would like to emphasize that the usage caps of 90% and 75% should be waived in case SUMs are used (direct monitoring). 4C also supports the integration of an uncertainty adjustment in the evaluation. The

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emphasis of the evaluation should be on ensuring that relevant uncertainties are taken into account, rather than on maximising deductions.

- The framework implements this approach consistent with 4C's recommendations. The framework considered whether conservative usage caps have been applied and whether customer support activities have been implemented to support usage rates between 75% to 90%. Where direct metering on all project stoves is present, caps are waived. The framework also considers whether SUMs have been used across all project stoves for technology types that do not support direct metering. Projects citing high usage rates (>90%) supported by evidence from SUMs can achieve high scores in this component.
- On uncertainty adjustments, the framework rewards projects that apply a discount factor and incorporate it into their net emission reduction calculations, and penalises those that do not. Sylvera agrees that the emphasis should be on ensuring relevant uncertainties are accounted for rather than maximising deductions, and notes that the framework does not arbitrarily award higher scores to larger uncertainty deductions.

6. [DeLaGua] We welcome rigorous assessment of carbon quantification and believe this is the area where rating agencies can add most value for credit buyers. The fraction of non-renewable biomass (fNRB) is the single most influential parameter in cookstove emission reduction calculations, acting as a linear multiplier in the equation. We encourage Sylvera to assess projects on the basis of the fNRB values they apply, the methodology used to derive those values, and the conservativeness of the approach.

The carbon market is currently undergoing a significant transition in fNRB methodology. Under Verra, all cookstove projects must transition to VM0050 for vintages from 2027 onwards, which currently allows for UNFCCC defaults or Tool30 with a 26% discount to be utilised in generating fNRB figures. Under the Article 6.4 mechanism, the Supervisory Body's draft methodological tool similarly prescribes national default values derived from the same MoFuSS model. Gold Standard's

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TPDDTEC V5.0 methodology update is also tightening baseline and quantification requirements.

We recommend that Sylvera's framework explicitly acknowledges these regulatory transitions and differentiates in its ratings between projects using outdated, potentially inflated fNRB values (e.g., those derived from CDM TOOL30) and projects using the more conservative, MoFuSS-based defaults. This distinction is arguably the single most important differentiator of credit quality within the cookstove sector. However the timing of the adoption of fNRB parameters is critical. MoFuSS adaptations are still being made and many project developers are simply waiting for clarification before transition. We believe that there may be a justifiable window for PPs to take to transition their projects.

- Sylvera agrees that fNRB is the single most influential parameter in cookstove emission reduction calculations, and the framework reflects this by weighting the fNRB assessment most heavily within the Fuel Emissions Quantification component, which itself is the most heavily weighted sub-component within Carbon Modelling. The framework compares project-reported fNRB values against MoFuSS national or regional estimates, alignment with MoFuSS benchmarks achieves the highest scores, exceeding MoFuSS benchmarks lowers the score in proportion to the degree of divergence. Where some divergence is noted, if this falls within the error bounds of the MoFuSS benchmark values, scoring deems the value to be reasonable and awards high scores.
- Sylvera notes DelAgua's point about accepted methodologies and transition timing and agrees that the sector is in a period of methodological transition. The framework's design – comparing applied fNRB values against a MoFuSS benchmark rather than requiring a specific methodology – means that projects can receive strong scores under any methodology that produces conservative results relative to the MoFuSS reference. Sylvera extracts the approach used to derive fNRB values. Other methods, such as applying a conservative default value of 30%, and Tool30 derived values with a 26% uncertainty deduction will be deemed acceptable, if falling within the error

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bounds of MoFuSS benchmarks. Further assessment of fNRB values may be conducted pending developer engagement.

7. [DelAgua] Usage rates and stove performance are critical determinants of real-world emission reductions. We encourage Sylvera to give significant weight to the quality and frequency of monitoring data, including kitchen performance tests (KPTs), digital usage monitoring, and stove adoption surveys. Projects with robust, ongoing monitoring – particularly those employing stratified sampling by stove age and demonstrating awareness of stove stacking behaviour – should be differentiated from projects relying on initial distribution data alone.

DelAgua operates digital monitoring systems across our programmes, tracking real usage over time. We conduct biennial performance-KPTs stratified by stove age and have invested in household visit coordination programmes to verify continued stove adoption. We believe frameworks that reward this level of monitoring rigour will drive improvements across the sector.

- The framework gives substantial weight to monitoring quality across several components. Within Project Reporting, stove usage monitoring is assessed on the method used, the robustness of the sampling approach, and the frequency of monitoring – with more rigorous and frequent monitoring approaches scoring more strongly than those relying on infrequent surveys or initial distribution data alone.
- The framework specifically distinguishes between more robust methods (fuel/energy metering and direct measurements of fuel consumption [KPTs]) and lower-quality approaches (e.g., survey-based approaches, estimated consumption based on efficiency differences) which directly rewards digital metering and field measurements that DelAgua describes. These factors are a key driver of the overall Rating. Projects using robust KPTs or continuous metering (where project technology allows) can score much higher than those that do not employ these methods.

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ADDITIONALITY

8. [4C] Sylvera uses market penetration as a factor to consider Common Practice.

Feedback: While market penetration can provide useful background information, it should be interpreted with caution when used as an indicator of additionality. A technology may be present in the market or adopted by a substantial share of households, yet still remain inaccessible to other segments of the population due to affordability, distribution, or awareness barriers. We therefore recommend applying a high threshold for market penetration indicators and evaluating them in combination with other evidence.

- The Common Practice assessment combines several factors. Market penetration is one input within the Common Practice assessment. The prevalence of comparable project activities in the country, the credibility of the claimed baseline scenario, and the adoption barriers facing the target population, and access to clean fuels are all considered alongside market penetration to arrive at the final score.
- Market penetration alone does not determine the Common Practice score, and the framework applies a high threshold before market penetration is considered to negatively affect additionality, consistent with 4C's recommendation.
- Furthermore, where there is evidence that target populations face specific additional barriers to adopting clean cooking technologies, that would indicate national or regional level market penetration trends are not representative of the target population, this evidence is factored into the score and given a higher weighting than wider market trends.

9. [4C] Sylvera uses the WHO cooking fuel and technology database to assess if the claimed baseline scenario is plausible, and if the population already has access to clean cooking fuels and technologies of similar, or higher efficiency as the project technology.



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Feedback: The WHO database is not suitable for this use for multiple reasons. First, the data is typically available only at the national level, and has no disaggregation beyond a rural/urban split. Second, the database is fuel based rather than technology based. We strongly suggest including other sources/references for this assessment, such as national energy household surveys, census data, or other representative market studies. Additionally, when assessing access to clean fuels, it is important to ensure that the access statistics are not inflated by the technologies deployed as a result of any voluntary carbon crediting activity.

- The baseline scenario credibility assessment uses the WHO cooking fuels and technology database to provide a general overview of the proportion of the target population that relies on the claimed baseline fuel type, segmented by whether the project targets rural, urban, or both populations. A higher proportion of the target population relying on the baseline fuel results in a higher score, reflecting that the claimed baseline is more plausible; lower proportions result in lower scores.
- Sylvera acknowledges 4C's concerns that this database is available only at national level, is fuel based rather than technology based, and that it is difficult to determine where access has increased due to carbon market activity. Sylvera's Common Practice and Additionality assessment includes several components; Additionality is not determined by access to clean fuels alone. Where there may be specific local barriers to access, or the project technology may provide a significant technological upgrade, these aspects may be factored into other elements of the score (e.g., Adoption barriers, Project activities common practice).
- Sylvera acknowledges the potential for locally specific adoption barriers and difficulties disaggregating the effects of carbon market activities from spontaneous energy market transitions, as such high thresholds are applied before access to clean fuels has any negative affect on Common Practice scores, and this effect can be further moderated by other scoring factors.

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10. [4C] Sylvera uses access to clean fuels to assess additionality.

Feedback: Sylvera appears to use access as a synonym for uptake. However, access and uptake are not necessarily equivalent, and access levels often exceed actual uptake. For example, metrics based on the number of electric connections do not account for the barriers to using that electricity for cooking. Access numbers should therefore be interpreted with caution.

- Sylvera would like to clarify that the definition of the “Access to clean fuels and technologies for cooking” dataset is “the proportion of total population primarily using clean cooking fuels and technologies for cooking.” – this metric only considers the proportion of the population that already uses clean cooking technologies, and does not consider wider metrics based on access such as electrification networks, fuel distribution networks, etc.
- When referring to “access” in the framework, this is only in reference to insights provided by this metric that represent actual usage, or uptake, by the population. Additional metrics around energy access are not factored into the framework, only proportional usage is considered. Sylvera will ensure that this is clarified in all framework documentation and Rating’s commentary.

11. [4C] Sylvera considers adoption barriers and assesses whether project stakeholders face barriers to adopting cleaner cooking technologies at scale by reviewing national government indicators, country poverty rates, and locally-specific challenges.

Feedback: We welcome the consideration of poverty rates in the assessment of additionality. In many contexts, cooking with unimproved biomass stoves is a manifestation of poverty. Many cookstove projects are inherently highly additional because they are engaging households with the lowest resources. This should be recognised and should be a key factor in additionality assessments.

- Adoption barriers are assessed through a combination of the country's GNI classification and national poverty rates, both drawn from World Bank data.



Low-income countries and those with high poverty rates score most strongly on this component, reflecting the significant financial barriers that households in these contexts face to independently adopting improved cookstove technology.

- Poverty and income level are directly considered in the additionality assessment as key factors. These elements are given high weightings, providing a distinguishing feature of cookstove additionality for projects engaging the lowest-resource populations with the highest barriers to uptake.

12. [4C] Sylvera includes the presence and success of policies and regulations in the additionality assessment.

Feedback: 4C agrees that cookstove projects shall go beyond what would occur due to enforced legal or regulatory requirements. However, it is important to realize that households use unimproved cooking because they lack resources or access to services for improvement. It is highly unlikely that a cookstove project will be practically non-additional due to policy/regulation. In the additionality assessment, the most emphasis should therefore be placed on poverty.

- The Policy and Regulations sub-pillar assesses whether applicable mandates or incentives in the project country could drive adoption of improved cookstoves without project support. The framework's structure ensures that strong performance on Common Practice and Financial Additionality – both of which are heavily weighted towards poverty, income levels, and market-level barriers – can offset the influence of the policy assessment. Sylvera confirms that poverty-related factors carry substantial weight in the overall additionality determination.

13. [4C] Sylvera assesses indicators from the World Bank's Governance Indicators (WGI) to capture government effectiveness.



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Feedback: While 4C thinks this approach is conceptually compelling, we suggest that the idea of using WGI scores needs to be thoroughly road-tested to see if it has any actual relationship to cooking energy transitions originating from country policies, regulations or mandate (e.g. Botswana and Namibia have the highest government effectiveness scores in Africa, but the majority of rural households rely on wood for cooking).

- Sylvera would like to clarify that WGI scores are not used in the framework to represent any causal link between good governance and clean cooking technology uptake. Additionality scores are never decreased due to strong national governance.
- WGI scores are only ever used as a positive modifier within the Policy and Regulations. Where a policy or regulation is in place to support clean cooking uptake, low WGI scores (weak governance) indicate potential challenges in effective implementation can reduce the impact those policies or regulations have on the score. The score is used as a proxy for effective policy implementation to fairly account for contexts where defined policy or regulatory aims may be less effectively implemented.

14. [DelAgua] We support Sylvera's assessment of additionality as a core rating pillar. For cookstove projects in sub-Saharan Africa, additionality remains strong: the target populations are predominantly low-income rural households who would not otherwise have access to or be able to afford improved cookstoves. Carbon finance is typically the primary or sole revenue mechanism enabling stove distribution at scale.

We encourage Sylvera to consider geographic and economic context in its additionality assessments. A cookstove project in a Least Developed Country with minimal existing clean cooking infrastructure faces a fundamentally different additionality profile than one in a middle-income country with established government subsidies for clean cooking technologies.

- Sylvera agrees that geographic and economic context are central to how the framework assesses additionality. The Adoption Barriers component directly

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reflects country income level and poverty rates as primary additionality indicators, with projects in low-income countries and those with high poverty rates scoring most strongly.

- The financial additionality assessment also incorporates the country GNI classification as an input, recognising that the barriers to independent stove adoption are fundamentally different across income contexts. Projects in Least Developed Countries with predominantly low-income rural target populations will therefore reflect this context in their additionality scores.

15. FINANCIAL ADDITIONALITY: For projects having income no other than carbon revenues, does the rating consider simple cost analysis rather than IRR?

- For projects that are unable to provide IRR data – the framework falls back to a simple financial viability assessment, which uses a set of proxy indicators to evaluate the plausibility of financial additionality.
- This assessment is composed of three elements. The project's business model for stove distribution is considered (i.e., donation based distribution, and the sale of stoves at subsidised prices) to assess whether carbon revenue is likely required to cover the cost of distribution. The retail price of distributed stoves and cooking technologies is also considered – higher-cost stoves imply greater capital requirements and stronger reliance on carbon revenue. GNI metrics, reflecting the World Bank income classification of the project country at the time of project inception are also considered to assess the target population's ability to purchase clean cooking technologies without donations or subsidy.

16. FINANCIAL ADDITIONALITY: When IRR is used for financial additionality, is there any specific consideration for defining Hurdle Rates & IRR e.g. CDM/PACM6.4 Tools?



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- When IRR data is provided, the framework compares both a business-as-usual IRR (without carbon revenue) and a project IRR (with carbon revenue) against defined hurdle rates. The framework operates with two hurdle rate fields: a project-reported hurdle rate, and a Sylvera independently calculated hurdle rate. The use of both allows the framework to assess not only whether the project's own financial case is internally consistent, but also whether Sylvera's independent financial estimates lead to the same conclusion.
- The scoring logic rewards alignment between the two assessments. The highest score is assigned where the project-reported BAU IRR falls below the project-reported hurdle rate, the project IRR with carbon credits exceeds the hurdle rate, and Sylvera's independently calculated figures confirm the same directional result.

PERMANENCE

17. [4C] Sylvera welcomes comments on the Permanence score approach for projects reducing biomass fuel use.

Feedback: Even if one chooses to assess permanence for cookstove projects, it is important to recognize that there is currently no unified scientific consensus on robust methods to assess reversal risks. As a result, practical tools or datasets to quantify permanence risk are not yet sufficiently mature to be implemented. Including a permanence score without a proven, workable, and broadly accepted approach would undermine the credibility of the overall score. We therefore suggest either applying a default permanence score for biomass-baseline projects, or excluding permanence from the rating framework until more robust and broadly accepted methodologies become available.

- The Permanence pillar currently assesses a range of physical climate-related risk factors that may cause significant biomass losses in the country or region where cookstove activities that reduce biomass fuel demand are located. For non-biomass-baseline cookstove projects, Permanence is not considered a risk factor.

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- Sylvera recognises the debates around the assessment of permanence for biomass-baseline cookstove projects and the issue raised by 4C regarding the absence of scientific consensus on how reversal risks should be defined and quantified for demand-side biomass reduction projects. Sylvera has decided to retain the Permanence pillar as an element of the Rating, but is given a low weighting in the overall Rating grade, and is not a primary determinant of the score. Sylvera is actively engaging with external experts from academia to determine the most appropriate handling of permanence and reversal risk in biomass-baseline cookstove projects. A final decision on whether to retain, modify, or suspend the permanence score for biomass-baseline cookstove projects in future framework iteration will be informed by this expert consultation, and Sylvera commits to sharing its conclusions with stakeholders ahead of any framework iteration.

18. [4C] As part of the anthropogenic risk component of the permanence assessment, Sylvera states that it "assesses the cookstove operational life and how it compares to the project duration."

Feedback: Given that most cookstove projects have crediting periods of 5-10 years, it would seem unfair to penalize projects based on stove lifetime relative to project duration. If the concern is that stoves may stop functioning before the end of the project period, it is more appropriate to focus on factors such as customer support, maintenance, and repair/replacement systems. Moreover, if stoves stop working, they should simply no longer be counted toward emissions reductions and would therefore not generate credits.

- The Design Risk component considers the operational lifetime of the distributed stove technology relative to the project's crediting period, and any customer support and maintenance activities in place. Stoves with longer lifetimes relative to the project duration score more strongly on the technology longevity component, while projects with comprehensive customer support, maintenance, and repair/replacement systems score more

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strongly on the support component. Whether the project has the operational plans to ensure continued stove use are highly weighted in this component.

- Sylvera also acknowledges 4C's observation that stoves ceasing to function would no longer generate credits, as this outcome is already captured within the Carbon Modelling pillar, provided project monitoring approaches are robust and capture ongoing usage and fuel consumption well. Sylvera would like to note that the Design risk component is not factored into the overall Rating, but provides a more holistic view on the potential for the project to sustain long-term positive impacts and credit delivery through continued uptake (e.g., continued emission reductions and crediting volumes, and continued no-carbon benefits for communities using project technologies). Sylvera is currently developing a "Delivery Risk" module that may better capture these dynamics in future framework iterations.

19. PERMANENCE: Related 'Design Risk' – What kind of implemented mitigation risks are expected? Can you please elaborate.

- The Design Risk component considers customer support activities to promote continued uptake and mitigate against stove abandonment. The framework evaluates whether the project has implemented activities to support households in properly using the distributed cookstoves throughout the project lifetime. The types of mitigation activities expected include: conducting pre-project research to understand the needs and cooking practices of the target population; providing education and training on how to operate and maintain the distributed cookstoves; and making available a mechanism for target households to request support, maintenance, or repair.

20. [DelAgua] 1.1 Emission Reductions vs. Carbon Removals



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Our primary concern with Sylvera's current framework is the application of permanence risk assessment to improved cookstove credits. We understand that Sylvera's current approach defines permanence as the risk that sequestered carbon will later be reversed and released back into the atmosphere, and assesses six potential causes of carbon stock loss (fire, drought, storms, pests and pathogens, floods, and anthropogenic risks) at the sub-national level.

While we acknowledge that Sylvera's framework currently assigns low permanence risk to cookstove projects due to their large geographical scale, we believe the more fundamental issue is whether permanence should be assessed for these projects at all. The core argument is as follows: Improved cookstove projects generate emission reductions, not carbon removals. They reduce the quantity of greenhouse gases emitted by decreasing the combustion of non-renewable biomass fuel. This is mechanistically equivalent to an energy efficiency project in the fossil fuel sector – no reasonable framework would assess the "permanence" of emission reductions from a factory that installs more efficient boilers. The emissions simply never occur. There is no carbon stock to reverse.

The confusion arises because the avoided emissions are calculated via the fraction of non-renewable biomass (fNRB), which relates to forest carbon stocks. However, the climate benefit is the avoided combustion of that biomass – the CO₂ that would have been released through burning but was not. The project does not claim to sequester carbon in forests; it claims to prevent its release through combustion. These are fundamentally different mechanisms, and applying a permanence framework designed for sequestration-based credits (REDD+, afforestation/reforestation, biochar) to avoidance-based credits conflates two distinct carbon accounting paradigms.

Within the current methodologies risk of permanence is already captured through the fNRB figure and the 5% leakage figure.

- Sylvera acknowledges and takes seriously DelAgua's conceptual argument, which is well made and shared by a number of participants in this consultation. However, Sylvera's position is that the question of whether cookstove emission reductions are inherently permanent is not yet fully settled. Sylvera's own research team has simulated scenarios to interrogate this question,

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comparing two independent scenarios – one with and one without a project intervention – across a multi-decade horizon, tracking the interaction between finite non-renewable biomass stocks, the pace of technology transition, and household behaviour following the end of the crediting period. The simulation finds that where households revert to traditional cooking practices, or catastrophic natural forest loss occurs after a project ends and the biomass that was not burned during the crediting period remains available and is subsequently consumed, the project may have delayed rather than permanently avoided those emissions. Under certain plausible parameter combinations, a substantial portion of credited reductions may represent temporal displacement rather than permanent avoidance.

- Sylvera also notes that the distinction between emission reductions and sequestration is not the only relevant boundary for thinking about reversal risk. REDD+ projects, for example, are also emission reduction projects – they reduce deforestation-related emissions rather than sequestering carbon – yet they are widely understood to carry reversal risk because the forest carbon stock they protect can subsequently be lost. The analogy to cookstoves is not identical, but it illustrates that the reduction versus removal distinction does not on its own determine whether reversal risk is relevant.
- Sylvera agrees with DelAgua that the fNRB parameter and leakage deduction already capture some aspects of the risk that the claimed emission reductions are not fully realised, and projects with conservative fNRB values and appropriate leakage deductions are rewarded accordingly within the Carbon Accounting pillar. However, Sylvera's view is that these parameters address the accuracy of the credit quantity at issuance rather than the question of whether the climate benefit persists over time.
- Sylvera has made the decision to maintain the Permanence pillar as a component that is displayed in the Rating to indicate there may be some risk that reductions may represent non-permanent temporal displacement to the market, but the component is not highly weighted in the final Rating grade.

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Scores are primarily driven by Carbon Accounting and Additionality considerations.

- Sylvera is actively engaging with external experts from academia to determine the most appropriate path forward on this question, and commits to sharing its conclusions with stakeholders ahead of the next framework iteration.

21. [DeLaGua] 1.2 Comparison with Peer Approaches

It is instructive to compare Sylvera's approach with that of BeZero Carbon. BeZero has acknowledged that assessing permanence for cookstove projects is a nuanced process with a high degree of uncertainty. They explicitly recognise that without data regarding the location of household-level fuelwood collection, both pre- and post-project, it is not possible to monitor the permanence of "saved" carbon stocks. This is a candid acknowledgement of the conceptual difficulty of applying permanence frameworks to these projects. However, we would go further than BeZero's position. The question is not merely one of data availability or monitoring capability – it is that the permanence concept is inapplicable to the mechanism by which cookstove credits generate their climate benefit.

This differing approach to permanence is also shared by Calyx Global who currently do not assess permanence in their cookstove ratings. Instead, they argue that this risk is accounted for in their assessment of leakage and in their assessment of the fNRB. Calyx do consider that a reversal could occur if the reductions in household biomass consumption caused by the project resulted in increased wood harvesting, but they make clear that this would still be classed as leakage and assessed on that basis.

- Sylvera acknowledges that BeZero Carbon and Calyx Global have reached different conclusions and approaches on this question. Sylvera respects these approaches while holding a different view – not that permanence is necessarily a large risk for cookstove projects, but that the question of whether it is a relevant risk at all is not yet sufficiently resolved to be dismissed entirely.



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- On Calyx's framing that reversal risk from increased wood harvesting would be captured under leakage, Sylvera notes that the framework does assess leakage as a component of Carbon Accounting, and rewards projects that apply conservative deduction factors. However, Sylvera's view is that leakage – which is assessed at the point of credit issuance – and post-project reversal risk – which concerns what happens to the preserved biomass stock after the crediting period ends – are conceptually distinct, and that treating the latter entirely as the former may not fully capture the temporal dimension of the risk.

22. [DelAgua] 1.3 Recommendation

We recommend that Sylvera's updated framework either (a) exempts emission reduction credits, including those from improved cookstove projects, from permanence assessment entirely, or (b) replaces the permanence pillar for these project types with a "continuity of practice" assessment that evaluates the likelihood that the fuel-switching or efficiency behaviour continues through the crediting period. This would be a more intellectually coherent and practically useful metric for buyers seeking to understand the durability of the climate benefit.

If permanence is retained as a pillar, we request transparency on how a score derived from forest carbon stock reversal risk (fire, drought, storms, etc.) is weighted in the final rating for a project type whose credits do not depend on the maintenance of those stocks.

- Sylvera welcomes both of DelAgua's constructive recommendations. The suggestion of a continuity of practice assessment is conceptually aligned Design Risk component, assessing stove operational life and the presence of customer support, maintenance, and replacement mechanisms as proxies for continued uptake. Sylvera is currently developing a "Delivery Risk" module that can frame these considerations more explicitly as an alternative or complement to the permanence assessment in future framework iterations.



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- Sylvera commits to publishing a Cookstove framework white-paper explaining how the final rating grade is arrived at and the interaction of the Carbon Accounting, Additionality, and Permanence scores in the final rating matrix.
- As noted above, Sylvera is consulting external academic experts on the permanence question and will share its conclusions ahead of the next framework iteration.

SAFEGUARDING AND CO-BENEFITS

23. [4C] Sylvera assesses whether an environmental impact assessment (EIA) was conducted prior to implementation.

Feedback: 4C agrees with Sylvera's observation that, 'for cookstove projects, assessments are typically proportionate to their low environmental risk', and therefore questions the value of including EIAs as a considered safeguard in this assessment.

- The EIA assessment sits within the Safeguarding and Co-benefits pillar, which is scored independently and does not feed into the Rating grade. Sylvera notes 4C's question about the proportionality EIAs as a safeguarding indicator for cookstove projects given their typically low environmental footprint. The presence of EIAs is a consistent check made across all project types and frameworks. However, due to the low likelihood of environmental harms for cookstove project activities, the absence of an EIA is not considered a significant risk and is not highly weighted in the overall Safeguarding assessment. High scores can be achieved without an EIA assessment.

24. [4C] Sylvera assesses co-benefits through the lens of the UN Sustainable Development Goals (SDGs).

Feedback: 4C supports this approach, although the rigor and approaches to demonstrate co-benefits are often poor or lacking. For example, simple surveys about



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perceived symptoms are a very poor measure of health benefits. There should be differentiation between projects which use stronger approaches and those that are simply checking a box. Additionally, the SDGs do not directly account for SLCP benefits such as reductions in black carbon (BC). Some 30-50% of global BC emissions come from the residential sector.

- The Community Co-benefits score combines two elements: an assessment of how well the project's activities align with and contribute to relevant national SDG priorities, and an assessment of whether the project has a credible monitoring plan with reliable metrics in place to track those contributions. The monitoring plan assessment considers whether metrics can reliably assess the claimed SDG benefits, including health benefits (SDG 3).
- Sylvera shares the concern that surveys about perceived health symptoms, or assumed health outcomes from higher-efficiency burning are a poor measure of health benefits (SDG3). Sylvera would like to clarify that the framework aims to address this issue. When assessing contributions to SDG 3, we extract information on the distributed stove model, including ISO performance tiers where available. Stoves with high ISO Carbon Monoxide and Particulate Matter emission tier ratings are awarded higher SDG 3 scores. Stoves with low ISO emission tiers or stoves for which no ISO tier data is available are penalised and scored lower. Similarly, stoves with high ISO thermal efficiency ratings are weighted more strongly on SDG 7. The framework does not rely on self-reported health outcomes. Sylvera acknowledges that there are still limitations to this approach as clear indicators of meaningful improvements in health outcomes such as indoor air quality measurements and disease incidence are still not measured. The approach aims to use ISO tiers as a proxy for potential relative impact across projects.
- Regarding short-lived climate pollutants and black carbon, Sylvera notes that the ISO Particulate Matter tier assessment is correlated with black carbon output. However, we acknowledge there are still limitations in this approach as black carbon concentration in indoor environments is not directly measured. Sylvera will consider how SLCP co-benefits, including black carbon reductions,

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can be more explicitly surfaced in the framework commentary for high-performing stoves

Other Comments

DOUBLE COUNTING AND OVERLAPPING CLAIMS

25. [DelAgua] We note the growing attention to the risk of overlapping carbon claims between cookstove projects and REDD+ or forest conservation projects operating in the same jurisdiction. This is a legitimate area of concern, and we encourage Sylvera to incorporate assessment of this risk into its framework.

Verra's VM0050 now requires project proponents to assess and disclose the risk of double counting with existing or planned REDD+ projects, though this remains a reporting-only requirement. VCS Version 5, effective January 2027, will require proponents to conduct complementary analyses to identify overlapping or competing claims. We recommend that Sylvera's ratings reflect whether projects have proactively addressed this risk, particularly in jurisdictions where both cookstove and REDD+ projects operate.

- Sylvera acknowledges this as an important and growing area of concern. The risk of overlapping claims between cookstove and REDD+ projects operating in the same jurisdiction is not currently a component within the Cookstove Rating Framework, but Sylvera agrees with DelAgua that as VM0050 requirements and VCS Version 5 bring greater disclosure obligations, this risk is becoming increasingly material for credit quality assessment.
- Sylvera will consider how overlapping claims risk can be incorporated into a future version of both the Cookstove and REDD Ratings Frameworks, including the presence or absence of a proactive assessment by the project developer.



ALIGNMENT WITH COMPLIANCE MARKET REQUIREMENTS

26. [DeLaGua] As carbon credit buyers increasingly seek credits eligible for CORSIA Phase 2 (2027–2035) and potential Article 6 compliance pathways, we encourage Sylvera to consider how its ratings interact with these eligibility requirements. CORSIA Phase 2 has already excluded cookstove projects that calculate fNRB according to CDM TOOL30, going above and beyond the VM0050 requirements. Projects that have proactively aligned with these compliance requirements demonstrate forward-looking quality that should be reflected in ratings.

Similarly, Article 6.4 corresponding adjustment requirements represent a significant quality signal. Projects operating in jurisdictions where host-country authorisation is available or being pursued under Article 6 offer buyers additional assurance against double claiming at the national level.

- Sylvera notes the important signals that compliance market alignment, and alignment with other quality standards (e.g., CCP) provides about credit integrity. One of Sylvera's core aims when conducting this framework update was to align higher Ratings grades with the recent more stringent requirements and converging views on integrity across carbon standard methodologies, independent bodies (e.g., ICVCM) and compliance markets.
- On Article 6.4 corresponding adjustments and host-country authorisation, Sylvera agrees that this represents a meaningful quality signal for buyers, specifically in relation to national-level double claiming. This dimension is not currently a scoring component of the framework, as Sylvera's frameworks aim to provide an independent assessment of credit quality, rather than an assessment of alignment with other rules. However, we have aimed to align our quality signals with other robust approaches in the market to provide consistent and complementary quality signals for market stakeholders. The Sylvera Project Catalogue includes "tags" identifying projects that are eligible under compliance schemes (CORSIA, Article 6.4) and that have achieved CCP labels for stakeholders to make informed decisions.



GENERAL COMMENTS

27. [4C] It would be helpful to clarify how the final score is derived, including how different assessment components are weighted and aggregated. Greater transparency on the scoring approach would improve the interpretability of the ratings and may also incentivize project developers to strengthen overall project quality.

- The final rating is produced through a structured, multi-pillar assessment. Carbon Accounting and Additionality are each scored independently, and their combination determines an overall impact score. This impact score is then combined with the Permanence score to produce the final letter rating. Within each pillar, sub-components are weighted according to their significance for over-crediting or integrity risk, with ceiling rules ensuring that very poor performance in any critical area constrains the overall rating. Co-benefits and Safeguarding is assessed and reported as a standalone output that does not affect the integrity rating.
- Sylvera will publish a framework white-paper explaining scoring logic in full so that stakeholders can understand how performance across individual components translates into the final rating.

28. [4C] It would be useful to clarify the extent to which analysts exercise discretion when determining scores, how such judgments are guided and documented, and what training or guidance is provided to ensure consistent and reliable application of the framework as cookstove projects have characteristics and challenges that are different from other carbon projects. 4C is available to provide input or support if deemed helpful.

- Sylvera aims to produce ratings frameworks that are repeatable and allow for consistent, universal quality indicators across projects to avoid analyst bias. The majority of scoring is driven by consistent extraction of data and information from project documentation in defined fields; these data fields are



converted to input fields that are scored within a deterministic framework made up of consistent rules. Several scoring elements rely on externally sourced benchmark datasets, including data on fNRB, income levels, poverty rates, market penetration, access to clean fuels, and ISO stove performance tiers. Analyst judgment is exercised primarily in interpreting qualitative evidence where project documentation is ambiguous, populating inputs that require contextual reading of project materials, and producing commentary that contextualises the computed scores.

- Data extraction steps include consistent guidance prompts for analysts to reference specific evidence, when additional locally specific context or data may be more representative than benchmark sources, and flag where additional context is needed. All assessments are subject to internal review processes to promote consistency.

29. How much weighting do all the components weigh in the overall rating?

- The Rating is produced through a series of nested matrices rather than a single linear weighting. At the top level, Carbon Accounting and Additionality scores are produced and combined through an impact matrix, with the resulting impact score then combined with the Permanence score through a second rating matrix to produce the final letter rating from AAA to D. Co-benefits and Safeguarding is assessed as a separate standalone output and does not feed into the integrity rating.
- Sylvera will publish a framework white-paper explaining Ratings matrices and scoring logic in detail.

