

SUMMARY OF PUBLIC CONSULTATION

VMD0059 CO₂ Capture from Bioenergy (BECCS), VT0012 Accounting Non-VCS CO₂, and VT0013 Differentiating Reductions and Removals in CCS Projects

A draft of the documents listed above was open for public consultation between March 1, 2024, to April 15, 2024. This document includes a list of all comments received and the developer’s response. In cases where the same comment was provided multiple times by the same organization, only the first instance of that comment is addressed.

KEY QUESTIONS

Q1: In what ways could the proposed method for assessing project and leakage emissions associated with BECCS projects be improved? Are there existing standards, regulations, or other sources that could provide guidance on better accounting for these emission sources, especially market leakage, from the use of biomass feedstocks?

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#	Organization	Comment	Developer’s Response
1	E.ON SE	We would ask for an overview to be provided to increase usability across all documents - we would like to understand which are all the documents which are relevant and applicable for our project and which need to be considered. For example, in this new consultation, there is no input on construction/embodied emissions, where as it is mentioned in both the VCS program document and the CCUS methodology document (with different recommendations). This could result in lack of overview from	VM0049 uses a modular approach, with each module covering a specific project activity providing users with a more straightforward path to find the requirements specific to the activities of their projects. Emission sources, requirements, or equations relevant across modules are covered in VM0049.

Q1: 1. In what ways could the proposed method for assessing project and leakage emissions associated with BECCS projects be improved? Are there existing standards, regulations, or other sources that could provide guidance on better accounting for these emission sources, especially market leakage, from the use of biomass feedstocks?

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		project developer and thus a full scoping view of all project and leakage emissions would be extremely useful.	We believe it is reasonable to expect projects to understand which activities are included in their projects and consult the relevant modules or tools.
2	Usinas Itamarati S.A.	We welcome the effort of the methodology to provide specific guidance on CDM Tools to calculate leakage emissions from biomass cultivation. We believe, however, that land-specific tools and resources to calculate leakage emissions from biomass cultivation should be preferred to complement or even replace the CDM Tools, should they be available and endorsed from reputable organisations and/or peer-reviewed publications. Our suggestion is to adopt CDM Tools as a default and, if project proponent has access to tools with higher quality data, the proponent should be allowed to use them, if approved by verifier.	Thank you for your comment.
3	C0280	Using tool 16 for calculating leakage from processing of biomass could put onerous requirements on project proponents. In practice, it would mean that project proponents would need to monitor fuel usage for thermal & mechanical processing (monitoring requirement for tool 3) at the suppliers they source their biomass from. For biomass residues, this would be even more complicated as thermal & mechanical processing would need to be monitored specifically for the biomass residue collection & processing. We suggest including an option to use regional data from government sponsored research labs. To illustrate, the paper <i>'Regionalized Life Cycle Greenhouse Gas Emissions of Forest</i>	Thank you for your comment. The final version of VMD0059 (v1.0) includes guidance on the treatment of biomass feedstocks, informed by the feedback received.

Q1: 1. In what ways could the proposed method for assessing project and leakage emissions associated with BECCS projects be improved? Are there existing standards, regulations, or other sources that could provide guidance on better accounting for these emission sources, especially market leakage, from the use of biomass feedstocks?

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		<i>Biomass Use for Electricity Generation in the United States'</i> from Argonne National Lab already includes processing emissions in its supplements for twelve states where bio-energy is likely. The NREL is currently also conducting an MRV project that will likely lead to the inclusion of biomass emissions factors in an updated GREET model. Adding a provision to calculate processing emissions based on these reputable sources, balances in our opinion granularity (i.e. data at state level) with making projects practical to pursue.	
4	Santos Limited	A recent article published in One Earth provides a holistic assessment of direct and market leakage (doi: 10.1016/j.oneear.2023.05.024) and may provide some useful insights.	Thank you for your comment.
5	Anonymous #3	Specific cultivation of biomass should not be incentivise, unless the biomass is a waste or byproduct of a usable food source. De incentivize cultivation of biomass and prioritize biomass from waste. A complete life cycle assessment of all fuel sources (including biomass) should be taken to ensure accuracy.	Thank you for your comment.
6	Eni S.p.A.	Considering that Sustainable Biomass is defined according to International Sustainability and Carbon Certification (ISCC) rules in "TOOL FOR DIFFERENTIATING REDUCTIONS AND REMOVALS IN CCS PROJECTS", no further comments are necessary	The final version of VMD0059 (v1.0) includes guidance on the treatment of biomass feedstocks, informed by the feedback received.
7	Drax	Drax in general supports the treatment of market leakage related to the land sector, where leakage can be said to be zero subject to demonstration of the biomass in question's compliance with	The final version of VMD0059 (v1.0) includes guidance on the treatment of biomass feedstocks, informed by the feedback received.

Q1: 1. In what ways could the proposed method for assessing project and leakage emissions associated with BECCS projects be improved? Are there existing standards, regulations, or other sources that could provide guidance on better accounting for these emission sources, especially market leakage, from the use of biomass feedstocks?

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		<p>relevant regulations or certification bodies. However, as these certification and regulations do not typically directly acknowledge leakage, CCS+ should provide further translation of relevant provisions to ensure clarity. We recommend that appropriate mitigations required both a 'supply level' and a 'system level' mitigation. For instance:</p> <p>Supply level – Biomass is not from sources that are a main driver of land use and/or negative land use change events in the region (e.g. forest biomass shall not be sourced from material suitable for sawtimber)</p> <p>System level – The broader land base impacted by the project is either directly analysed to ensure physical depletion of carbon stocks is not occurring and/or processes are in place at the regional/jurisdictional level (e.g. laws/management systems) to prevent carbon stock declines (e.g. the LULUCF criteria)</p> <p>As a quantification 'backstop' i.e. where leakage cannot be adequately mitigated, we advise on relying on standard estimates from reliable third-party assessment wherever possible due to the complexity of modelling (e.g. use of economic models). Relying on quantification by the project proponent has numerous risks/impacts:</p> <ul style="list-style-type: none"> Ø Significantly increases the resource burden on the project proponent Ø Requires highly specialised expertise that may not be available Ø Necessarily provides flexibility in approach/assumptions, but at the risk of introducing bias <p>Relevant data includes 'ILUC factors' laid out in jurisdictional legislation e.g. EU RED. Moreover, taking such an approach can be expected to increase alignment with the EU CRCF.</p>	

Q2: In what ways could the proposed methods for differentiating baseline emissions and allocating project and leakage emissions between emission reductions and removals be improved?

Key Question Q2: In what ways could the proposed methods for differentiating baseline emissions and allocating project and leakage emissions between emission reductions and removals be improved?

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8	Santos Limited	The proposed methods are fit for purpose.	Thank you for your comment.
9	Anonymous #3	A full life cycle approach for quantifying emission should be taken. Going through the methodology, emissions from temporary storage, transporting and operational usage of your treatment system was not mentioned. For example, emissions associated with the CCS plant chemicals needed for CO2 capture.	Emissions from capture materials are accounted for in the main leakage equation and in Table 1.
10	Eni S.p.A.	The mass balance approach seems the most applicable because of explicit quantification (B1 method)	Thank you for your comment.
11	Drax	<p>Drax's preferred approach to quantifying net removal outcomes is to adopt a full life cycle assessment of emissions in a project's value chain. This will include the emissions typically captured in project-based accounting, such as emissions owing to the implementation of the project. Crucially, full life cycle assessments should also include all other emissions associated with the stream of carbon dioxide removed, including those upstream of the project, to deliver cradle-to-grave accounting.</p> <p>In the BECCS module, it would appear that such a life cycle assessment would only be necessary in instances where there is an increase in biomass consumption owing to the implementation of the project. Drax's recommendation is that any emissions owing to the operational supply chain of biomass</p>	VMD0059, when used with VM0049 and the transport and storage modules cover upstream emissions resulting from project activities as leakage.

Key Question Q2: In what ways could the proposed methods for differentiating baseline emissions and allocating project and leakage emissions between emission reductions and removals be improved?

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		should be quantified and deducted from the net removals, irrespective of whether the biomass consumption has increased or not relative to the baseline.	
12	Usinas Itamarati S.A.	<p>There might be a mistake in Equation (5) of the document "VT00XX Tool for Differentiating Reductions and Removals in CCS Projects".</p> <p>In current form, the fraction of CO2 stream eligible for removals (frem-CO2,c,y) is directly based on the Weighted average mass fraction of carbon in non-traceable biomass type b in year y on a dry basis (wsb,b,bc,y) captured by capture facility (see above), which does not lead to the intended value.</p> <p>We believe that the caption of wsb,b,bc,y is incorrect (it should be referring to weighted average mass fraction of carbon in traceable/sustainable biomass type b in year y on a dry basis). The fraction of non-traceable biomass should be linked to reductions calculations, as it is found for wnt,b,bc,y in equation 14.</p>	<p>VT0013 has been revised.</p> <p>This comment no longer applies.</p>
13	CO280	One of the scenarios for B1 is that an existing capture facility would be decommissioned in the absence of the project. This indicates that in the absence of the project, CO2 would have been emitted into the atmosphere, which contradicts what the B1 baseline should represent. We suggest changing the scenario so that in the absence of the project, an existing capture plant would stay operational.	The baseline scenarios have been updated in the final version of VMD0059 (v1.0).

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		The baselines also don't seem to include a scenario where in the absence of the project, a new source facility would have come online (e.g. energy prices or new regulation could be a driver for developing a new bio-energy facility without CCS, or the source facility could be part of larger process that has other financial incentives to be built, e.g. pulp and paper mills). We suggest including a scenario in B2 where in the absence of the project, the source facility would have been built anyway.	
14	Santos Limited	The proposed methods are fit for purpose.	Thank you for your comment.
15	Anonymous #3	A full life cycle approach for quantifying emission should be taken. Going through the methodology, emissions from temporary storage, transporting and operational usage of your treatment system was not mentioned. For example, emissions associated with the CCS plant chemicals needed for CO2 capture.	VMD0059, when used with VM0049 and the transport and storage modules cover upstream emissions resulting from project activities as leakage. Emissions from capture materials are accounted for in the main leakage equation and listed in Table 1.
16	Eni S.p.A.	The mass balance approach seems the most applicable because of explicit quantification (B1 method)	Thank you for your comment.
17	Drax	Drax's preferred approach to quantifying net removal outcomes is to adopt a full life cycle assessment of emissions in a project's value chain. This will include the emissions typically captured in project-based accounting, such as emissions owing to the implementation of the project. Crucially, full life cycle assessments should also include all other emissions associated	Thank you for your comment. VMD0059, when used with VM0049 and the transport and storage modules cover upstream emissions resulting from project activities as leakage.

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		<p>with the stream of carbon dioxide removed, including those upstream of the project, to deliver cradle-to-grave accounting.</p> <p>In the BECCS module, it would appear that such a life cycle assessment would only be necessary in instances where there is an increase in biomass consumption owing to the implementation of the project. Drax's recommendation is that any emissions owing to the operational supply chain of biomass should be quantified and deducted from the net removals, irrespective of whether the biomass consumption has increased or not relative to the baseline.</p>	

Q3: What are the limitations or gaps in the current approach used to demonstrate the sustainability of biomass feedstocks and safeguarding against potential negative environmental and social impacts from their use? What specific challenges or complexities do you anticipate in applying this approach in a global context?

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18	Ørsted Bioenergy and Thermal Power A/S	<p>The main limitation is that this methodology tries to be a global standard that allows all and every type of biomass and use case. This makes it very hard to define sustainability principles and documenting these - because biomass sustainability is always very context specific. Using sawmill residues from a European country is vastly different than using agricultural biomass from newly converted areas close to the amazon. There is, however, no</p>	<p>The final version of VMD0059 (v1.0) includes guidance on the treatment of biomass feedstocks, informed by the feedback received.</p>

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		<p>simple way to solve these issues except restricting geographical or type applicability and applying relevant sustainability governance in a narrower scope. This could be completed by starting out with a narrower scope - e.g. Europe and North America and only allow forest biomass and agricultural residues. Documentation could thus be restricted to only a few certification schemes and RED. Any experience gained could then be applied in a second step where other geographies and biomass types are included.</p> <p>The current sustainability principles are not very detailed nor operational. They are high level and difficult to verify against. For comparison, certification scheme standards are often 20-50 page documents with additional guidance information. This becomes a problem if a VVB should verify biomass or a certification scheme against these principles - it is not possible to do rigorously. This is perhaps not a big issue for BECCS P/H where only regulatory compliance and certification can be used for documenting compliance, but the principles are not fit for purpose to evaluate a biomass against.</p> <p>As suggested elsewhere we propose competent auditors from the allowed certification schemes should be used to evaluate biomass sustainability. "Normal" VVBs are not always competent to perform this task.</p> <p>There is no easy fix for sustainability governance - certification schemes and regulators have spent many years developing existing schemes and regulations in multi-stakeholder processes and they are still criticized by stakeholders and riddled with inconsistencies. Our suggestion would be to make the</p>	

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		sustainability principles a document that is easy to adapt and update when society and criteria develop. This could include a multi-stakeholder body responsible for the principles, mandatory 5 year updates, an aim of setting the bar as high as possible etc.	
19	E.ON SE	What is unclear is how to demonstrate regulatory compliance for example with REDII. Would compliance be to a specific REDIII article number that relates to the specific sustainability principle? i.e. principle 2: sustainable forest management related to Article 29.9 (REDII). Would it be an option to state this specifically within the methodology?	The final version of VMD0059 (v1.0) includes guidance on the treatment of biomass feedstocks, informed by the feedback received.
20	Usinas Itamarati S.A.	<p>The methodology proposes as methods to prove the sustainability biomass the regulatory compliance and sustainability certification. In this regard, we welcome the effort of methodology for a comprehensive description of sustainability certifications outside European territory (RenovaBio, from Brazil, is cited for instance). However, this is not the case of regulatory compliance, for which regulations only from European countries have been cited.</p> <p>An extensive list of regulatory compliance in other countries would promote more consistency for projects developed outside the mentioned jurisdictions (UK and EU countries). It could be mentioned for the Brazilian jurisdiction the Low-Carbon Agriculture Plan (ABC Plan, 2010–2020 cycle, Law 12.167/2009), the new Forestry Code, including the Rural Environmental Registry (CAR in the Portuguese acronym), and the Environmental Compliance Program (PRA) (Law 12.651/2012).</p>	The final version of VMD0059 (v1.0) includes guidance on the treatment of biomass feedstocks, including optionality for regions where certification schemes are not available , informed by the feedback received.

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		<p>We recognise, however, that this regulatory framework may not be enough to provide evidence of compliance with all biomass sustainability criteria indicated in current methodology. Additional certificates will potentially lead to extra efforts from project proponent, making a potential BECCS project time- and cost-inefficient, thus reducing its attractiveness and potentially hindering its progress. Therefore, our suggestion to ensure adequate sustainability compliance and preserve BECCS project financial attractiveness is to allow project proponents to provide evidence of adherence with sustainability criteria by combining several tools and methods (such as regulatory compliance to the relevant principles in that jurisdiction, in addition to literature review, internal studies, etc.).</p> <p>It is stated in page 34 that ""Regulatory compliance is relevant where the source facility is in a jurisdiction in which the regulation applies"". However, not mentioning relevant regulatory in other jurisdictions may ""force"" projects outside the mentioned jurisdictions to comply with those regulations in order to receive proper perceived value from potential credit buyers, indirectly penalizing those projects (most of them taking place in developing countries) in financial and regulatory scopes. This should be avoided in our point of view by revising current text.</p>	
21	CO280	<p>The current language for B states that the biomass has to be certified, implying the content must originate from certified forests and tracked in conformance with a certified chain of custody standard, which is a much more stringent criterion than regulatory compliance. Certifying forests is a complex and costly process, which is very difficult to accomplish for small and</p>	<p>The final version of VMD0059 (v1.0) includes guidance on the treatment of biomass feedstocks, including those considered waste informed by the feedback received.</p>

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		<p>medium-scale forest landowners. Furthermore, secondary forest biomass is almost never certified under chain of custody. Existing certification schemes recognize this reality and allow for uncertified material within their certification to ensure fair competition & the valorization of residual biomass. To illustrate, FSC Mix Certification can include up to 90% of uncertified materials (depending on region) but they need to meet the standards set for sourcing from uncertified sources (FSC Controlled Wood). These standards exclude raw materials from the following categories: i) wood that has been illegally harvested, ii) wood from genetically modified trees, iii) wood from areas that have negative social impacts (e.g. not respecting rights of indigenous communities), and iv) wood from uncertified high conservation value forests. Operations that comply to a biomass certification scheme, need to provide evidence that the raw materials meets these criteria. Under the current language, almost no biomass outside the one that meets the regulatory compliance criterion, can be used for carbon removal projects.</p> <p>As such, we suggest changing the criterion to: B - Certification Scheme Compliance Biomass that is compliant with an approved certification scheme from legislative bodies or international bodies such as the European Union,⁴ CORSIA,⁵ or national/state governments are considered to meet the abovementioned sustainability principles. Proponents must provide evidence that the biomass is compliant with a certification scheme. For forest biomass, this evidence can include:</p> <ol style="list-style-type: none"> 1. Certification of the biomass, including Forest Stewardship Council (FSC 100% & FSC Mix), Program for Endorsement of Forest Certification (PEFC), Sustainable Biomass Program (SBP), 	

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		<p>Sustainable Forestry Initiative (SFI) and similar.</p> <p>2. Confirmation from an accredited certification body that the biomass meets the certification's risk-based standards, such as FSC Controlled Wood Sources & PEFC Controlled Sources</p> <p>3. Certification of the operation in which the biomass is the feedstock, including Forest Stewardship Council (FSC 100% & FSC Mix), Program for Endorsement of Forest Certification (PEFC), Sustainable Biomass Program (SBP), Sustainable Forestry Initiative (SFI) and similar. (applicable for pulp and paper CCS)</p>	
22	FS Fueling Sustainability	<p>Requiring sustainability certifications or regulatory compliance for every sustainability principle for the entire supply chain is impractical. Not all countries will have regulations capable of verifying compliance across the entire supply chain, nor will these regulations cover all principles. Additionally, the costs associated with certifying all producers in the supply chain are prohibitively high, rendering BECCS project certification economically unfeasible. Project Proponents should have the flexibility to demonstrate compliance with sustainability criteria to VVBs through a combination of methods or tools. In addition to these two methods for demonstrating compliance with sustainability principles, it should also be feasible to provide evidence through complementary studies and literature reviews.</p>	<p>The final version of VMD0059 (v1.0) includes guidance on the treatment of biomass feedstocks, including those considered waste.</p>
23	Santos Limited	<p>Experience in the biofuels industry has demonstrated that the sustainability of biomass feedstocks is an extremely broad and complex topic. Moreover, it is well beyond the scope of a single CCS module.</p> <p>Santos supports biomass feedstocks used in BECCS projects</p>	<p>The final version of VMD0059 (v1.0) includes guidance on the treatment of biomass feedstocks, including those considered waste.</p>

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		conforming to the eight sustainability principles, and requiring project proponents to determine the applicability of each principle and the suitability of each demonstration method for their specific biomass type(s). Project proponents should be encouraged to leverage well-established, credible certification schemes to demonstrate sustainability certification where possible and available, such as those from legislative and international bodies (e.g., EU, CORSIA, etc.). In all other instances, a qualified third-party should be engaged to verify that biomass feedstocks conform to the eight sustainability principles.	
24	Anonymous #3	<p>A whole life cycle assessment approach should be taken to demonstrate the sustainability of the biomass feedstock, this would ensure potential negative environmental/social impacts are identified. Waste stream biomass should be considered before any other source as you want to avoid incentivising premature deforestation.</p> <p>Non-tracible biomass should not be allotted to generate a credit. Non-traceable biomass should not be allotted emission reduction.</p>	The final version of VMD0059 (v1.0) includes guidance on the treatment of biomass feedstocks, including those considered waste.
25	Eni S.p.A.	Applying the most update version of the International Sustainability and Carbon Certification (ISCC) can be considered a sufficient approach to assess the sustainability of biomass	Thank you for your comment.
26	Drax	Drax welcomes the approach to sustainability of biomass which allows for demonstration through compliance with relevant regulations or certification bodies. However, there are some suggestions provided in this document to help clarify the text.	Thank you for your comment.

Key Question Q3: What are the limitations or gaps in the current approach used to demonstrate the sustainability of biomass feedstocks and safeguarding against potential negative environmental and social impacts from their use? What specific challenges or complexities do you anticipate in applying this approach in a global context?

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		Equally, we have identified some potential gaps which are also noted.	

Q4: The tool seeks to incentivize projects to reduce the use of non-traceable biomass over time in two ways: 1) by discounting the reductions generated by projects that exceed a decreasing annual limit of non-traceable biomass consumption in the first crediting period and 2) making non-traceable biomass ineligible to generate reductions after that. Do you believe this approach is adequate to incentivize the reduction of non-traceable biomass use over time? If not, are there any adjustments or considerations you would suggest? Is this approach equitable or will some projects experience outsized impacts?

Key Question Q4: The tool seeks to incentivize projects to reduce the use of non-traceable biomass over time in two ways: 1) by discounting the reductions generated by projects that exceed a decreasing annual limit of non-traceable biomass consumption in the first crediting period and 2) making non-traceable biomass ineligible to generate reductions after that. Do you believe this approach is adequate to incentivize the reduction of non-traceable biomass use over time? If not, are there any adjustments or considerations you would suggest? Is this approach equitable or will some projects experience outsized impacts?

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27	Ørsted Bioenergy and Thermal Power A/S	<p>Is this really a relevant question here? As far as I understand, only traceable biomass is allowed under BECCS Power and Heat.</p> <p>It is the clear opinion of Ørsted that only traceable biomass should be allowed to be included for both removals and reductions. Allowing any non-traceable biomass incentivizes unsustainable biomass production and consumption. This opinion also applies when the products tool that is being developed - this sector should not be allowed to use non-traceable biomass.</p>	Thank you for your comment.

Key Question Q4: The tool seeks to incentivize projects to reduce the use of non-traceable biomass over time in two ways: 1) by discounting the reductions generated by projects that exceed a decreasing annual limit of non-traceable biomass consumption in the first crediting period and 2) making non-traceable biomass ineligible to generate reductions after that. Do you believe this approach is adequate to incentivize the reduction of non-traceable biomass use over time? If not, are there any adjustments or considerations you would suggest? Is this approach equitable or will some projects experience outsized impacts?

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		As also argued elsewhere, the CCS+ methodology will most likely become the world's first BECCS-methodology and will become the focus of great scrutiny from stakeholders. Thus, it should live up to best in class sustainability governance, including traceability. This is the only way to ensure it's credibility and the value of the credits. If non-traceable biomass is allowed it will be possible to find examples where non-sustainable biomass, such as from primary forests or similar, is used to generate credits. This will seriously impact not only the project proponent, but also the methodology owner.	
28	Usinas Itamarati S.A.	<p>Traceability is a challenging matter when CO2 suppliers that process biomass do not control the entire part of the agricultural process of their feedstock. This is the case of corn biomass cultivated in mid-west Brazil. We believe that a certain degree of penalty is needed to stimulate the use of sustainable and traceable biomass when capturing CO2. This is already been applied very stringently when removals from non-traceable biomass are classified instead as reductions and with the discount rate when a 10% reduction in non-traceable biomass is not achieved in a yearly-basis.</p> <p>Another point to be mentioned is the proposed ineligibility of non-traceable biomass after first crediting period (currently 7-years for non-AFOLU projects). We are afraid that this aspect in conjunction with stringent targets for traceable biomass mentioned above may lead to a significant reduction of available traceable feedstock for potential project proponents in regions with limited biomass supply. This can lead to potential market leakage by increasing demand and costs of traceable biomass, thus reducing potential CO2 removals by imposing financial difficulties when procuring eligible biomass to the CO2 removal project.</p>	<p>Thank you for your comment.</p> <p>VMD0059 and the associated tools are intended to provide existing operations with time to improve the traceability of their supply chains.</p> <p>Verra recognizes that local market conditions may present challenges in some regions; however, the methodology is designed to encourage progressive improvements in traceability over time.</p> <p>Verra considers it important to prioritize safeguards against deforestation and other negative impacts associated with unsustainable biomass</p>

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		Considering the challenges in local market for traceability of some crop cultures, the potential risk of market shifting leakages and of increasing the crop cost, our suggestion is to revise the proposed thresholds of maximum of 30% of non-traceable biomass and of limiting the use of non-traceable biomass only to the first crediting period. The current form of the text leaves a high penalty to emerging markets, not promoting the core intention of this methodology, which is ensuring high-quality CO2 removals/reductions with BECCS to contribute to limit global warming.	sourcing, even where this may limit participation by some BECCS projects.
29	CO280	We believe this is an elegant & fair approach to reduce the use of non-traceable biomass, on the condition that traceability requirements for biomass are updated (see answer to question 3).	Thank you for your comment.
30	Santos Limited	<p>The proposed measures would be expected to have an impact on incentivising VCS project proponents to reduce or cease consuming non-traceable biomass. This is important for the long-term integrity of BECCS as a decarbonisation lever and in-line with the growing emphasis on procuring sustainable feedstocks in the biofuels industry. However, incentivising a shift away from non-traceable biomass within the VCS program could lead to the non-traceable biomass being consumed elsewhere (leakage).</p> <p>The proposed changes may have an outsized impact on certain projects, including those consuming a high fraction of biomass that does not meet the traceability requirements or those where biomass satisfying the sustainability criteria is unavailable in sufficient quantities. BECCS project proponents may be able to address traceability concerns by working with their supply chains, but this could be a lengthy process. The proposed measures could even prevent some</p>	<p>Thank you for your comment.</p> <p>Leakage from market-shifting is considered in VMD0059.</p>

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		BECCS projects from reaching a FID. A balanced approach may deliver the best overall outcome in the short to medium term.	
31	Anonymous #3	<p>The approach is not adequate to incentivize reduction of non traceable biomass. Non-traceable biomass should not allow for credit generation. There already exists a good path to using traceable biomass from waste streams, there should not be an allotment made for non traceable biomass.</p> <p>Note a hierarchy system for the types of biomass should be established. Consideration and rank should be given to biomass that is the least disturbing to the environment (example waste source biomass), to biomass that uses land for fuel (example ethanol).</p>	<p>Thank you for your comment.</p> <p>The final version of VMD0059 (v1.0) includes guidance on the treatment of biomass feedstocks, including those considered waste.</p>
32	Eni S.p.A.	Non - traceable biomas should be exluded from the beginning of the project	Thank you for your comment.

GENERAL FEEDBACK – VMD0059

Section 1 - Sources

VMD0059 Section 1 - Sources			
#	Organization	Comment	Developer's Response
33	Ørsted Bioenergy and Thermal Power A/S	In all sections and pages, there is a general problem with punctuation. Missing periods, mistaken commas, etc. We suggest you thoroughly review this and be consistent with the punctuation.	Thank you for your comment. We have reviewed and corrected all the formatting and grammatical errors detected.
34	Ørsted Bioenergy and Thermal Power A/S	There is also a general problem with format. There are randomised sentences that may be in "bold", "underline" or "italic" format og differently coloured not purposefully. We suggest you review this and remain consistent.	Thank you for your comment. We have reviewed and corrected all the formatting and grammatical errors detected.

VMD0059 Section 2 – Summary Description			
#	Organization	Comment	Developer's Response
35	E.ON SE	General comment on usability of various module documents and program documents. The amount of different but applicable documents make it confusing navigate and to consult various aspects which are relevant. A visualisation of all relevant documents would be useful for the reader to understand what applies. Additionally, when referring to the previous public consultation documents, we do not know if there have	<p>Thank you for your comment.</p> <p>The modules under VM0049 cover a single type of activity. Projects need only use the modules relevant to the activities of their projects.</p> <p>Each module references the connections with other modules or tools as appropriate.</p>

VMD0059 Section 2 – Summary Description

#	Organization	Comment	Developer's Response
		been proposed changes which could affect the new documents open for public consultation now (e.g. debate on inclusion of construction emissions.)	Emissions sources, reporting requirements, etc. that apply across modules are detailed in VM0049 as appropriate. We invite project developers to carefully review the most recent version of all of the documents relevant to their projects to ensure alignment with their project design.

VMD0059 Section 3 – Definitions

#	Organization	Comment	Developer's Response
36	Agroicone	Considering that CO2 does not have a guaranteed market and its actual market value does not represent an aggregate value, combustion, and fermentation should be treated as waste, classifying according to the waste classification of the RSB and ISCC guidelines. Could the CO2 be classified as waste/residue? Both classifications are required. Additionally, waste/residue should not be associated with ILUC. Additionally, no leakage or biomass upstream emissions should be considered, even for greenfield plants.	<p>Thank you for your comment.</p> <p>VMD0059 categorizes the mitigation outcomes based on the type of biomass feedstock from which the CO2 originates.</p> <p>Leakage calculations only apply when there is an increase in biomass consumption relative to the baseline.</p> <p>The emissions associated with upstream sources such as transportation and processing cannot be ignored, even for waste feedstocks.</p>
37	Agroicone	European regulation does not consider regional specificities, so it is not appropriate for the ILUC approach. For example, it excludes palm oil from all countries, including Brazil, where the area expansion can only occur on unused land.	The safeguards for and the reporting requirements for biomass will continue to be refined as part of revisions to the VCS Standard.

VMD0059 Section 3 – Definitions

#	Organization	Comment	Developer's Response
38	Agroicone	The high-iLUC approach of RED II has faced intense criticism for presenting challenges and uncertainties during its implementation. The high ILUC risk of palm oil was contested by Indonesia and other countries in the World Trade Organization (WTO). Indonesia stated that "the measures in question were adopted without any adequate statement on the underlying scientific evidence or impact assessment" and that the "report offers no adequate (scientific) basis for the definition of high ILUC risk." They also argue that "the special needs of developing countries were not considered."	Thank you for your comment. The point raised relates to broader policy considerations rather than the requirements of this module, and no change was made to the module on that basis.
39	Agroicone	Concerning the EU-Malaysia Palm Oil Dispute (DS600), although the Panel confirmed the overall WTO compatibility of the RED II legal framework, certain aspects of the implementation and design of an EU Delegated Act under the Directive were inconsistent with WTO rules. According to the Panel, the EU did not apply the measures in an even-handed manner because: OK a. The EU did not use data that was sufficiently up-to-date; b. The exception to the high ILUC-risk categorization under the ILUC-low risk certification scheme was too vague and ambiguous, which raised serious doubts about the efficiency of these criteria; c. The 10-year limit on the eligibility for the low ILUC-risk certification (after which the benefit of the certificate would automatically be withdrawn to incentivize productivity gains) was disadvantageous to perennial crops, currently only from oil palm, in a manner that constitutes arbitrary and unjustifiable discrimination.	Thank you for your comment. The point raised relates to broader policy considerations rather than the requirements of this module, and no change was made to the module on that basis.
40	Agroicone	In the case of the EU and Certain Member States – Palm Oil (Malaysia), the Panel found that the measures on palm oil-based biofuels had a detrimental impact on the competition conditions for	Thank you for your comment.

VMD0059 Section 3 – Definitions

#	Organization	Comment	Developer's Response
		that product category. While the RED II framework stimulates demand for biofuels, it withdraws the incentives for palm oil-based biofuels. As a result, the Panel identifies this situation as discriminatory, significantly reducing imports of palm oil-based biofuels into the EU	The point raised relates to broader policy considerations rather than the requirements of this module, and no change was made to the module on that basis.
41	Agroicone	Despite the Panel Report confirming the ability of WTO Members to pursue regulatory measures to reduce greenhouse gas emissions, it is worth noting that it was recognized that deficiencies in the implementation of the low ILUC-risk procedure have created unnecessary obstacles to international trade.	Thank you for your comment. The point raised relates to broader policy considerations rather than the requirements of this module, and no change was made to the module on that basis.
42	CO280	I suggest replacing 'existing bioenergy source facility' with 'existing biomass combustion facility' and changing the description as per below. "A facility that combusts biomass or a mixed feedstock with biomass to generate power, to co-generate heat and power, or as part of an industrial process, and from which CO2 originates that started operation more than 12 months before the project start date." In this way, the methodology is more inclusive of other biomass combustion purposes that meet all the methodology requirements.	Thank you for your comment. We considered this suggestion during the revision process. The final terminology was retained to maintain consistency with the scope and applicability of the module.
43	FS Fueling Sustainability	Definition: High ILUC risk biomass "Biomass that is determined to have high indirect land-use change (ILUC) according to the criteria in Article 3 of the Delegated	The reference to the definition in Article 3 has been removed. The module now refers to Section 5 of CORSIA Default Life Cycle Emissions Values

VMD0059 Section 3 – Definitions

#	Organization	Comment	Developer’s Response
		<p>Regulation on indirect land-use change ((EU) 2019/807). High ILUC-risk biomass is ineligible for use in this module."</p> <p>We do not support a definition for high iLUC risk biomass be based in Article 3 of the Delegated Regulation on indirect land-use change ((EU) 2019/807).</p> <p>The current methodology does not clearly explain how to apply the criteria for determining the high indirect land-use change-risk feedstock established by Article 3 of RED II. It is unclear whether the project proponent should apply the Article 3 criteria on a project-specific basis, or if they should rely on the results presented for each biomass in the table included in the Annex (page 7).</p> <p>It is important to note that RED II is a specific regulation for EU countries, but this methodology doesn't. It is part of a global stakeholder initiative and should create its own approach to define high iLUC risk feedstock. Below some important issues:</p> <p>(1) This regulation is continually updated, posing challenges in adopting it as eligibility criteria for a methodology under the voluntary market, which should be applicable to a diverse range of participants located in various countries with differing realities. For instance, projects currently using biomass deemed eligible by the RED II for having a threshold lower than 10% may suddenly become ineligible if a study shows that the threshold is higher than 10%. Therefore, an eligibility criteria for a methodology under Verra cannot totally</p>	<p>for CORSIA Eligible Fuels where ILUC is concerned.</p> <p>We considered the suggestion to develop a project-level approach for assessing ILUC risk. However, the final approach retains standardized criteria to support consistency and independent assessment across projects.</p>

VMD0059 Section 3 – Definitions

#	Organization	Comment	Developer's Response
		<p>depend on another program over which the standard itself or the methodology proponents have no control or influence.</p> <p>(2) European regulations often fail to consider regional variations, making them less effective for the ILUC approach. For example, the regulation bans palm oil from all countries, disregarding Brazil's specific practice where palm oil expansion is limited to previously unused lands. This one-size-fits-all approach may not reflect local agricultural practices accurately, potentially leading to ineffective or unfair policy outcomes. Therefore, projects should be evaluated on a local/regional scale rather than on a global scale as suggested by the RED II approach.</p> <p>(3) The high-iLUC approach of RED II has faced intense criticism for presenting challenges and uncertainties during its implementation. The high ILUC risk of palm oil was contested by Indonesia and other countries in the World Trade Organization (WTO). Indonesia stated that "the measures in question were adopted without any adequate statement on the underlying scientific evidence or impact assessment" and that the "report offers no adequate (scientific) basis for the definition of high ILUC risk." They also argue that "the special needs of developing countries were not taken into account."</p> <p>Proposal: Suggested to have our own ILUC approach that addresses indirect land-use change risk at the project level to avoid the use of biomass considered high ILUC risk, provide significant scale for CCS projects worldwide and to avoid harming a specific feedstock or jurisdiction.</p>	

VMD0059 Section 4 – Applicability Conditions			
#	Organization	Comment	Developer's Response
44	Anew Climate	The applicability criteria in Section 4 provide that "This module is not applicable under either of the following conditions: 1) Project activities use oxy-fuel combustion capture for power generation.". However, it is not clear whether "oxy-fuel combustion" means only the project in which fossil fuel is exclusively combusted to generate power. Is this criteria also meant to apply to the project in which fossil-fuel and biomass are co-combusted for power generation?	Thank you for your comment. Oxy-fuel combustion is not the same as simple combustion. The module is applicable to projects activities the capture of CO2 from the combustion of biogenic and mixed feedstocks.
45	Anonymous #1	There is little guidance on what is considered a refurbishment.	Thank you for your comment.
46	Santos Limited	Santos supports the exclusion of project activities that use ineligible biomass, including high-ILUC feedstocks. This has been a controversial area in the biofuels industry, often undermining the integrity of the emissions reductions.	Thank you for your comment.
47	Anonymous #3	Current language under 4) the project activity must transfer biogenic carbon from short-term to long-term carbon pools. Proposed change: add a definition for "long-term". Is it 50, 100, 1000 years? Recommendation is 100 year minimum, a global warming potential of 100 years.	Thank you for your comment. Storage requirements are covered in VMD0058 and in the Geological Storage Requirements document.
48	Anonymous #3	Current language: This module applies to project activities that capture CO2 from the flue gas of facilities generating, or co-generating, heat and power from biomass or the biomass component of a mixed feedstock.	Thank you for your comment.

VMD0059 Section 4 – Applicability Conditions

#	Organization	Comment	Developer's Response
		Proposed language: add definition around heat and power. Currently the language does not allow for differentiation between heat (just general heat) or heat as part of a steam plant.	

VMD0059 Section 5.1 – Module Boundary

#	Organization	Comment	Developer's Response
49	Evero	<p>Evero is developing a carbon capture project (known as InBECCS) in the UK's Hynet industrial cluster on an existing energy from waste wood plant (Ince Bio Power). The project will include novel steam handling measure to improve overall carbon capture process efficiency. It is important that additional process hardware is not considered an 'additional facility' and/or otherwise results in eligibility issues.</p> <p>We can't share more information on our steam handling method as it is proprietary IP. We could discuss this with you in a call though.</p>	Please feel free to reach out to Verra at secretariat@verra.org .
50	Evero	- We think the document could benefit from defining what it means by leakage prior to the Quantification of leakage section, so the reader can better understand the concept	<p>Thank you for your comment.</p> <p>We appreciate the suggestion to provide additional introductory explanation of leakage.</p> <p>While the module is primarily intended to provide requirements rather than explanatory guidance, clarity improvements were considered in the final drafting.</p>

VMD0059 Section 5.1 – Module Boundary			
#	Organization	Comment	Developer's Response
51	Anonymous #1	Figure 2: Why are leakages not considered for CO2 transport here, as it is not captured in Draft Storage documentation?	Transportation of CO2 is outside of the boundary of this module. Emission sources associated with transportation are accounted for in VMD0057 CO2 Transport for CCS Projects.
52	Anonymous #1	Baseline Scenario – Does land use change modification affect the calculation of baseline if different agricultural crops were previously grown on that land prior to conversion to bioenergy crops? Or is this adequately captured within the “fuel consumption” Project Source portion?	Upstream emissions from biomass feedstocks, including those from cultivation, are considered in Section 5.4.
53	Santos Limited	Santos supports the exclusion of transportation segments from this module, recognising that CCS value chains can be extremely complex and some segments will require separate treatment.	Thank you for your comment.

VMD0059 Section 5.2 – Baseline Scenario			
#	Organization	Comment	Developer's Response
54	Drax	<p>Text: CO2 would not be emitted into the atmosphere in the flue gas of a bioenergy source facility. Carbon stored in biomass feedstocks that would have been relevant to the project remain in a fast carbon cycle, decaying and remitting to the atmosphere in the short term.</p> <p>Comment: We understand the intention is to note that CO2 originates from sources that are part of pre-existing managed lands, where the carbon would ultimately be re-emitted back to the atmosphere through a multitude of potential end fates. Not to limit use of biomass to those</p>	<p>Thank you for your comment.</p> <p>The descriptions for the baseline scenarios have been revised in the final version and the text referred to no longer appears.</p>

VMD0059 Section 5.2 – Baseline Scenario

#	Organization	Comment	Developer's Response
		<p>sources that would only be left to decay. Equally, the current example ignores the situation where biomass demand creates additional growth. Accordingly, we suggest the following amendment:</p> <p>'CO2 would not be emitted into the atmosphere in the flue gas of a bioenergy source facility. Carbon stored in biomass feedstocks that would have been relevant to the project either:</p> <ul style="list-style-type: none"> • remains in a fast carbon cycle, decaying or otherwise remitting to the atmosphere in the short term, or, • remains in the atmosphere 	

VMD0059 Section 5.3 – Quantification of Project Emissions

#	Organization	Comment	Developer's Response
55	Evero	- Can you be clearer about what you mean when you talk about "on-site" and "off-site"? For a retrofit BECCS project, where the project will be a different legal entity to the existing unabated biomass plant, would "on-site" mean anything in relation to the CCS project only or the existing biomass plant as well? It might be that this needs to be tied to aspects of the document that describe the project boundary.	<p>Thank you for your comment.</p> <p>The introductory paragraph in Section 5.1 – Module Boundary states that the bioenergy facility generating the emissions captured by the project activities is not included in the module boundary.</p>
56	Anonymous #1	What is the definition of 'pre-project period'? How do we calculate the energy consumption for pre-project period, yearly average of x number of years, or consumption in the year before project start date?	There is no requirement to calculate energy consumption for the 'pre-project period' in the final version of VMD0059 (v1.0).

VMD0059 Section 5.4 – Quantification of Leakage Emissions			
#	Organization	Comment	Developer’s Response
57	Evero	<p>- Is there a way to make a clearer distinction between leakage emissions from upstream fuels for electricity consumption (7.2.2) and project emissions from electricity consumption (7.1.3) ? A clear definition of leakage and clarification of what's meant by onsite / offsite (as per the previous comment) would assist.</p> <p>- By way of example EFElec,s includes upstream emissions from electricity generation and transport. Is this a potential duplication of term EFUpstream_Elec in the leakage section?</p>	<p>Thank you for your comment.</p> <p>Project emissions occur from actions within the project boundary resulting from the activities of the project.</p> <p>Leakage emissions occur from actions outside the project boundary resulting from the activities of the project.</p>
58	Evero	<p>We have not been able to identify whether and how the methodology approaches quantification of biomass supply chain emissions for different biomass types. For example, do all types of biomass have to assess cultivation emissions or only types of biomass explicitly grown for BECCS? Could the methodology more explicitly state the approach for different types of biomass. In the case of our carbon capture project retrofitted to an energy from waste wood site, we would not envisage quantifying supply chain emissions further upstream than the point the material became a waste i.e. we would not include original cultivation and transport emissions when the material was originally a timber product.</p>	<p>The final version of VMD0059 (v1.0) includes guidance on the treatment of biomass feedstocks, including those considered waste.</p>
59	Evero	<p>We understand that market leakage from lost electricity generation of existing biomass plants with CCS retrofits is an area of interest in MRV methodologies. There are other proposals in the public domain including from Drax and Stockholm Exergi (see Appendix D in https://www.drax.com/wp-content/uploads/2023/10/BECCS-Methodology-Drax-and-</p>	<p>Thank you for your comment.</p> <p>While the module does not assess or compare external methodology proposals, its requirements were developed based on Verra’s</p>

VMD0059 Section 5.4 – Quantification of Leakage Emissions

#	Organization	Comment	Developer's Response
		<p>Stockholm-Exergi-v0.9F.pdf).</p> <p>We are not clear from the drafting of 7.2.2 whether the CCS+ initiatives proposal aligns or deviates from this existing proposal from two market leading projects.</p>	<p>methodological framework and the feedback received through this consultation.</p>
60	Environmental Services Association (ESA)	<p>We have not been able to identify whether and how the methodology approaches quantification of biomass supply chain emissions for different biomass types. For example, do all types of biomass have to assess cultivation emissions or only types of biomass explicitly grown for BECCS? Could the methodology more explicitly state the approach for different types of biomass. In the case of our carbon capture project retrofitted to an energy from waste wood site, we would not envisage quantifying supply chain emissions further upstream than the point the material became a waste i.e. we would not include original cultivation and transport emissions when the material was originally a timber product.</p>	<p>The final version of VMD0059 (v1.0) includes guidance on the treatment of biomass feedstocks, including those considered waste.</p>
61	Santos Limited	<p>Santos supports the use of CDM TOOL12 to determine leakage emissions from the transportation of biomass to an emissions source facility.</p>	<p>Thank you for your comment.</p>
62	Anonymous #3	<p>Emissions from solvent use should be included. Although emissions from solvent use are small, there is some loss and it would it be consistent to include emissions from solvent use.</p>	<p>Thank you for your comment.</p> <p>Solvent use in the upstream stages of biomass feedstock lifecycle are captured in the leakage categories considered in the module.</p>

VMD0059 Section 6.1 - Data and Parameters Available at Validation

#	Organization	Comment	Developer's Response
63	Orsted	In the data and parameter tables, it is inconsistent whether there is written "None", "N/A" or nothing in the comment section. Be consistent with what you label it is as.	Thank you for your comment. "N/A" is used where a field is not applicable, whereas "None" is used where no entry is required. Both terms therefore appear where appropriate.
64	Orsted	Define what "PPA" is. Foonote 7 states "For PPAs, seperate guidelines to be developed (in progress)." This sentence could also be formulated better "For PPAs, seperate guidelines are to be developed (in progress).".	Thank you for your comment.
65	Orsted	msb base b and mnt base b <ul style="list-style-type: none"> • We suggest to also allow using draft surveys for biomass delivered on ships. It is the most accurate way to measure biomass. • Another way to estimate the baseline consumption of biomass is to say that it is equal to the consumption that would satisfy the heating demand in the district heating network connected to the CHP. The project scenario demand is then the consumption needed on top of this (to provide process heat). This is the most accurate way to estimate the baseline consumption. • If this avenue is not possible, it should be allowed to adjust the baseline demand with degree days (i.e., adjust for temperature). Just taking the average of the last three years before the project start date would lead to inaccurate results. CHPs have a lot of data on heat demand and production, and it would pose no issue to estimate as outlined above. • If three-year averages are required – there should be an option 	Thank you for your thoughtful comment. These parameters are measured on a dry or calculated from receipts or invoices in the final version of VMD0059 (v1.0).

VMD0059 Section 6.1 - Data and Parameters Available at Validation

#	Organization	Comment	Developer's Response
		to base them on energy units. The mass of biomass is very dependent on moisture content which can fluctuate from year to year. It is already allowed to estimate fossil fuels based on energy units. The same should apply to biomass.	

VMD0059 Section 6.2 – Data and Parameters Monitored

#	Organization	Comment	Developer's Response
66	Anonymous #1	Page 25/26 – Both the CH4 and N2O emission factors for combustion of fuel (Page 25 and 26 respectfully) state that data provided by the fuel supplier is one of the data sources that can be used. Is that data peer reviewed or audited by a third party? How do you know the quality of that data?	Thank you for your comment. All data sources used by the project are subject to review by a qualified VVB accredited in scope 16 projects.
67	Anonymous #1	Page 27 – Emission factor for upstream sources related to fuel type used in the capture facility - third source of data that can be used is “emission factors published in peer-reviewed literature that are representative of the BECCS plant operation both temporally and geographically” o How is temporally and geographically defined?	Temporally representative – regarding the time of biomass production Geographically representative – regarding the location of biomass production All data sources are subject to review by a qualified VVB accredited in scope 16 projects.

VMD0059 Section 6.2 – Data and Parameters Monitored

#	Organization	Comment	Developer’s Response
68	Anonymous #1	Page 27 – Emission factor for upstream sources related to fuel type used in the capture facility - “In the case of peer-reviewed literature, the literature must have been published within a year of reporting project emissions and must be temporally and geographically representative of the capture facility.” o Is within a year reasonable?	All data sources used by the project are subject to review by a qualified VVB accredited in scope 16 projects.
69	Anonymous #1	Page 28 – fuel receipts are noted as an acceptable data source. Is this properly auditable?	All data sources used by the project are subject to review by a qualified VVB accredited in scope 16 projects.
70	Anonymous #1	Page 40 – biomass yield data can be estimated based on historical yield data adjusted for known factors o Is specific modeling or statistical efforts required, or left to individual contributors to deem appropriate?	All data sources are subject to review by a qualified VVB accredited in scope 16 projects.
71	Santos Limited	Santos agrees that the LCA for quantifying the embodied emissions factor for biomass should be performed by a third-party in accordance with ISO 14040 using a relevant functional unit.	Thank you for your comment.

GENERAL FEEDBACK – VT0012

VT0012 Section 4 – Applicability Conditions

#	Organization	Comment	Developer’s Response
72	E.ON SE	The applicability condition seems redundant. This condition is met by Non-VCS CO2 definition	The Applicability Condition serves to limit the use of VT0012 to projects using VM0049, which is not covered in the definition.

VT0012 Section 5.1 – Determining Quantity of non-VCS CO2 Injected

#	Organization	Comment	Developer’s Response
73	E.ON SE	There are fugitive emissions during transport. Eq (2) will generate a higher quantity of non-VCS CO2 injected than in reality. I understand that this is a conservative approach. But this would lead to proponent losing quite some credits, especially when the quantity of non-VCS CO2 is much larger than that of VCS CO2. Would not it make more sense to calculate this based on fugitive emissions allocation?	Thank you for your comment.

VT0012 Section 5.2 Determining Non-VCS CO2 Project and Leakage Emissions

#	Organization	Comment	Developer’s Response
74	Anew Climate	It is not clear how proponents must allocate project leakage emissions where non-VCS CO2 streams enter and/or leave the boundary of projects that generate both removals and reductions. The framework methodology provides that Q_non-VCS, CO2 must be deducted from injected quantities to determine the BE_y, and provides no guidance as to the accounting of project and leakage	The rules for allocating emissions between VCS and Non-VCS gas and between reductions and removals have been updated based on the feedback received and are outlined in VT0012 and VT0013 respectively.

VT0012 Section 5.2 Determining Non-VCS CO2 Project and Leakage Emissions

#	Organization	Comment	Developer's Response
		<p>emissions allocated to non-VCS streams using the proposed Tool 02, which also does not provide such guidance.</p> <p>Resolving this issues will require: 1) that project/leakage emissions allocation boundary for segments are consistent between Tools 1 and 2; 2) that an allocation-segment specific non-VCS to VCS CO2 ratio is determined for each segment identified in Tool 2; and 3) that the ratio is applied to each the project/leakage emissions attributable to reductions and/or removals for each allocation segment in Tool 1.</p>	
75	Anonymous #1	<p>The methodology utilizes the differences between the non-VCS flows to calculate non-VCS flow going to a reservoir. Given the potential size of non-VCS flows vs. VCS flows, the errors in measurement of non-VCS flows would cause a big issue in the attributed VCS flows. Ideally, in an existing system, we would like any added VCS capture and new storage to be attributed to VCS flows – so if I was to add capture of 500 KTA, I would need to add 500 KTA of storage and it would be attributed to VCS flows. This injection/storage should be allowed anywhere on the system but should be additional (added with the capture unit)</p>	<p>The rules for allocating emissions between VCS and Non-VCS gas have been updated based on the feedback received and are outlined in VT0012.</p>
76	Santos Limited	<p>Santos expects the three options for allocating project emissions and leakage are likely to cover a range of scenarios relevant to different types of CCS projects and value chains.</p>	<p>Thank you for your comment.</p>
77	Santos Limited	<p>Option 1 for allocating project emissions and leakage needs to be considered in the broader context of the non-VCS CO2 stream. In cases where the non-VCS CO2 stream is being credited in parallel</p>	<p>The rules for allocating emissions between VCS and Non-VCS gas have been updated</p>

VT0012 Section 5.2 Determining Non-VCS CO2 Project and Leakage Emissions

#	Organization	Comment	Developer's Response
		under a non-VCS program, project emissions and leakage would need to be accounted for in a certain way; they could not simply be allocated to the VCS stream. Moreover, in cases where proponents are already reporting non-VCS emissions under a regulatory framework, it would be prudent to use the same data in calculating non-VCS crediting and hence Option 1 would not be relevant.	based on the feedback received and are outlined in VT0012.

GENERAL FEEDBACK – VT0013

VT0013 Section 3 – Definitions

#	Organization	Comment	Developer's Response
78	E.ON SE	European regulation does not consider regional specificities, so it is not appropriate for the ILUC approach. For example, it excludes palm oil from all countries, including Brazil, where the area expansion can only occur on unused land.	Thank you for your comment. The final version of VMD0059 (v1.0) includes guidance on the treatment of biomass feedstocks, including those considered waste. The reference to EU Article 3 has been removed in the final version of the document.

VT0013 Section 4 – Applicability Conditions

#	Organization	Comment	Developer’s Response
79	Agricone	Limiting BECCS from specific feedstock production is contrary to the IPCC. CCS (BECCS) contributes to the cost-effective achievement of emission reduction requirements for limiting warming to 1.5°C.	Thank you for your comment.

VT0013 Section 5.1 – Categorizing Captured Emissions

#	Organization	Comment	Developer’s Response
80	E.ON SE	<p>The section provides clarity on the accounting of combustion of non-traceable biomass, combustion of non-biogenic waste, and the combustion of fossil fuels as emissions reductions: "CO2 captured from the combustion of non-traceable biomass, the non-biogenic fraction of waste, and fossil fuels must be accounted for as emission reductions."</p> <p>However, the section does not provide clarity on - or reflect the approach later presented for - the accounting of CO2 captured from the conversion of non-traceable and/or non-sustainable biomass.</p>	<p>Thank you for your comment.</p> <p>The process for categorizing the captured CO2 is presented in Section 5.1 of the final version of VT0013 (v1.0).</p>

VT0013 Section 5.2 – Determining the Fraction of Reductions in a CO₂ Stream

#	Organization	Comment	Developer's Response
81	Orsted	The fraction "44/12" is unspecified. Suggestion is to define why it is used and potential source. Relevant for Equation (5) and Equation (14).	The equations have been revised and this comment no longer applies.
82	Orsted	CO ₂ needs to be written with "2" as a subscript in the definitions of the paramters. See definition of Equation (7) and (8). Suggestion to review that this also is done consistently throughout the tool.	Corrected.
83	Vantaan Energia Oy	<p>It is not possible to estimate the mass of biogenic components of a waste stream by other means than relying on statistical data (average factors) for the composition of municipal and mixed wastes. Statistical averages refer to waste composition in certain regions or countries. Since waste delviered to a WtE plant is a mix of different wastes, it is not possible to weigh the biomass fraction within the waste.</p> <p>Last June the European Parliament approved the inclusion of municipal incinerators in the scope of the EU ETS as of 2026. As of 2024, EU countries have to measure, report and verify emissions from municipal waste incinerators. With this requirement already in place, the methodology could refer to the same requirements as set out by the EU, instead of defining new and different requirements.</p>	<p>Thank you for your comment.</p> <p>In Section 5.2, VT0013 allows projects to choose between emission source analysis and mass balance to determine the potion of captured CO₂ derived from biomass.</p>
84	Vantaan Energia Oy	If it is not allowed to use default factors that determine the biogenic share of the carbon content of the waste, the	Thank you for your comment.

VT0013 Section 5.2 – Determining the Fraction of Reductions in a CO2 Stream

#	Organization	Comment	Developer's Response
		<p>calculation model should be changed.</p> <p>The only way to determine the biogenic CO2 content of the flue gases would be by measuring the biogenic CO2 concentration within the flue gases through radiocarbon isotope analyses (14C, C-14, Carbon-14).</p> <p>The methodology should define how often such measurements need to be performed (sampling frequency).</p>	<p>In Section 5.2, VT0013 allows projects to choose between emission source analysis and mass balance to determine the portion of captured CO2 derived from biomass.</p>
85	E.ON SE	<p>Eq (5), why is mass fraction of non-traceable biomass used? Not that of sustainable biomass? Cannot Eq (5) also be used for waste to energy project?</p>	<p>Thank you for your comment.</p> <p>The organization of VT0013 has been changed to focus on determining the portion of the captured CO2 eligible for removals based on the feedback received.</p>
86	Usinas Itamarati S.A.	<p>There might be a mistake in Equation (5) of the document "VT00XX Tool for Differentiating Reductions and Removals in CCS Projects". In current form, the fraction of CO2 stream eligible for removals is directly based on the mass fraction of carbon in non-traceable biomass captured by capture facility (see response of Key question no. 2 for more details).</p> <p>We believe the removal fraction of CO2 stream should be linked to the mass of carbon in sustainable biomass, as defined in Appendix 2, or linked to the remaining of carbon linked to non-traceable biomass.</p>	<p>Thank you for your comment.</p> <p>The organization of VT0013 has been changed to focus on determining the portion of the captured CO2 eligible for removals based on the feedback received.</p>
87	Anew Climate	<p>Section 5.2.1.1 provides the accounting of removals for CO2 captured from the combustion of biomass. Equation</p>	<p>Thank you for your comment.</p>

VT0013 Section 5.2 – Determining the Fraction of Reductions in a CO2 Stream

#	Organization	Comment	Developer's Response
		<p>5 provides that the fraction of removals is quotient of a) the sum of the total carbon content of the mass of each type of sustainable biomass (on a dry basis) generating emissions at a capture facility in the period; to b) the total mass of carbon dioxide captured at the capture facility in the period.</p> <p>It seems that the divisor was selected (understandably) to facilitate ease of quantification and monitoring by allowing developers to consolidate monitoring of total CO2 captured at a site to a single point of measurement. For the quotient to represent the fraction of removals in the monitored stream, the numerator must correspond with the total carbon emissions from the combustion of sustainable biomass. However, the method provided in the numerator assumes that the entire carbon content of the sustainable biomass is captured as CO2 - i.e., the complete combustion of the biomass; it does not reflect that there may be carbon contained in particular matter that is removed during the treatment of the biomass combustion flue gasses prior to the single point of measurement for the captured CO2 stream at the facility. This may lead to overestimation of the fraction removals in the captured CO2 stream.</p> <p>Hence, the first proposed changes is to account potential for incomplete conversion of sustainable biomass into CO2 in the numerator of Equation 5. Here, monitoring and/or sampling of carbon content of treatment refluxes/solvents may be required, though Verra should allow flexibilities to the capture sites for which no fossil CO2 streams are captured. For the those sites, the</p>	<p>The organization and equations of VT0013 have been changed based on the feedback received.</p>

VT0013 Section 5.2 – Determining the Fraction of Reductions in a CO2 Stream

#	Organization	Comment	Developer's Response
		<p>fraction of removals can be expressed as the quotient of the total carbon content of the sustainable biomass (as the sumproduct of the masses and carbon contents of only the respective sustainable biomasses) to the total carbon content of all biomass (as the sumproduct of the masses and carbon contents of all respective biomasses). This approach reasonably assumes that each biomass feedstock generates residual carbon at equal rates, and eliminates the necessity to account for the residual carbon that is not captured accounted in the total CO2 captured and measured by the project.</p> <p>The second proposed change is a correction to the typo in the description for (and suggested by the subscripts of) $w_{sb,b,c,y}$ ("Weighted average mass fraction of carbon in non-traceable biomass type b in year y on a dry basis, captured by capture facility c").</p>	
88	Anew Climate	<p>Similarly, Section 5.2.1.2 provides the accounting of removals for CO2 captured from waste-to-energy processes. Equation 6 provides that the fraction of removals is quotient of a) the sum of the total carbon dioxide seaparated from the total gas yielded from the conversion of sustainable biomass (on a dry basis) at a capture facility in the period; to b) the total mass of carbon dioxide captured at the capture facility in the period.</p> <p>Additionally, for anaerobic digestion/gasification/pyrolysis, Equation 7 provides that the CO2 yield for biomass feedstock is estimated based</p>	<p>Thank you for your comment.</p> <p>The organization and equations of VT0013 have been changed based on the feedback received.</p>

VT0013 Section 5.2 – Determining the Fraction of Reductions in a CO2 Stream

#	Organization	Comment	Developer's Response
		<p>on the volatile solids content, biogas yield per mass unit volatile solids, the CO2 separation efficiency, and the volumetric CO2 fraction. This volumetric CO2 fraction also appears in both Equation 8 and 10. There are two potential issues with these approaches. First, the volumetric CO2 fraction (%CO2_vol(stp)) is the same CO2 fraction that is monitored as per the framework methodology (i.e., at the point of capture). Where a capture site also captures fossil CO2 that is included in both Q_CO2,c,y and %CO2_vol(stp), applying %CO2_vol(stp) (which again would necessarily include the fossil CO2 content) to determine the fraction of CO2 in the gas stream will result in an overestimation of the fraction of removals in the captured CO2 stream.</p> <p>Second, the sources of data permitted for the separation efficiency of CO2 from the total gas yield (also present in Equation 8) include values that are not project specific, such as industry benchmarks and/or experimental data (literature). That this parameter may vary significantly across the allowed sources, and may not accurately represent the CO2 separation efficiency at a capture site means that the parameter could introduce significant uncertainty/errors into the estimation of the fraction of removals at a capture site, that should be avoided if at all possible. Further, similar to the conflicting unit-process boundaries described above (with respect to %CO2_vol(stp)), the specifications provided for the separation efficiency parameter are not sufficiently clear - a proponent could feasibly understand the efficiency of separation to mean the efficiency of separating CO2 from all gas streams, instead of exclusively from the gas</p>	

VT0013 Section 5.2 – Determining the Fraction of Reductions in a CO2 Stream

#	Organization	Comment	Developer's Response
		streams associated with the conversion of biomass/waste as intended.	
89	Anew Climate	The methods presented in 5.2 do not consider that non-biogenic sources of removals may be captured together with fossil CO2, as allowed per draft DAC module Section 4: "Project activities must capture atmospheric CO2 from ambient air. They may co-capture CO2 from on-site point sources including oxy-fuel combustion."	Thank you for your comment. The organization and equations of VT0013 have been changed based on the feedback received.
90	Anew Climate	<p>Fundamentally, the above omissions and/or issues with the prescribed approaches for determining the fraction of removals in Section 5.2.1 exist mostly because of inconsistently applied unit process boundaries, and could be mitigated by requiring project developers to monitor streams of fossil-based CO2 for mass flow and composition prior to commingling with streams of removals (wholly or in-part).</p> <p>If the tool were to instead include such requirements, the simplicity/ease and accuracy of monitoring and quantifying removals from a capture site would be substantially improved. With this approach, a strict mass balance on (volatile) carbon content on the input feedstock streams to a unit process would be all that is needed to determine the fraction of the output streams from that process which is attributable to sustainable biomass (i.e., removals) and - if tool/methodology were to require that CO2 mass flow and composition measurement must occur after intermediate gas treatment/separation (such as for all W2E except</p>	Thank you for your comment. The organization and equations of VT0013 have been changed based on the feedback received.

VT0013 Section 5.2 – Determining the Fraction of Reductions in a CO2 Stream

#	Organization	Comment	Developer's Response
		alcoholic fermentation) and before the boundary of a transport module (which includes dehydration/treatment for transport/sequestration) - would also eliminate the efficiency of separation of CO2 (and it's potential associated error) from monitoring and quantification.	

VT0013 Section 5.3 – Determining the Fraction of Removals in a CO2 Stream

#	Organization	Comment	Developer's Response
91	E.ON SE	<p>German law sets out specific requirements for determining the biogenic fraction of CO2 in different biomass type. One option is to assign standard percentages between 5-10% as fossil carbon, depending on origin. Could a third option iwithin the methodology for determining fossil content in fluegas be via a standardised value in a similar fashion?</p> <p>Source: Ordinance on Emissions Reporting under the Fuel Emissions Trading Act for the Years 2023 to 2030 (Emissions Reporting Ordinance 2030 - EBeV 2030) Annex 2 (to § 6 (1), (3) and (4), § 7 (1), (3) and (4), § 8 (1) and (4), § 9 (1), (3) and (4), § 10 (2), § 11, § 12 (4) and (6), § 15 (6), § 16 (1) and (2), Section 17(1) Determination of fuel emissions</p>	<p>Thank you for your comment.</p> <p>In Section 5.2, VT0013 allows projects to choose between emission source analysis and mass balance to determine the potion of captured CO2 derived from biomass.</p>
92	CO280	(This comment refers to Section 5.2 - Determining the Fraction of Removals in a Stream, but the options in column b refer to reductions in section 5.2.) 5.2.1 (Mass	Thank you for your comment.

VT0013 Section 5.3 – Determining the Fraction of Removals in a CO2 Stream

#	Organization	Comment	Developer's Response
		Balance) & 5.2.2 (Emission source Analysis) don't seem to include a scenario in which i) the quantity of sustainable biomass feedstocks is known AND iii) the mixture only contains traceable biomass.	<p>In the scenario described, the captured CO2 stream would consist entirely of removals because sustainable biomass is traceable biomass.</p> <p>As a result, the fraction of removals would be 1/1 and VT0013 would not apply, consistent with Section 4.</p> <p>The organization of VT0013 has also been revised to focus on determining the portion of captured CO2 eligible for removals based on the feedback received.</p>
93	E. ON SE	What approach shall be used if the quantity of sustainable biomass in the mix is not known AND the mixture includes non-traceable biomass? The options provided in the explanation do not allow for this combination.	<p>Thank you for your comment.</p> <p>In this case, a mass balance approach can be used.</p> <p>Where total biomass consumption and non-traceable biomass consumption are known, the quantity of sustainable biomass can be determined as the difference between the two.</p>
94	C0280	In Equation (5), the description for Wsb,b,c,y likely needs to be adapted to the weighted average mass fraction of carbon in sustainable biomass type b rather than non-traceable biomass.	<p>Thank you for your comment.</p> <p>The organization of VT0013 has been changed to focus on determining the portion of the captured CO2 eligible for removals based on the feedback received.</p>
95	C0280	The current tool calculates the reduction fraction based on the removals fraction. In some cases however (e.g. multi-fuel power boilers), there is more accurate data on fossil fuel usage (e.g. gas metering) while the data on biomass usage is more rough (e.g. amount of trucks). We suggest for the methodology to allow for a calculation of the reduction fraction first, based on equation 5 but	<p>Thank you for your comment.</p> <p>The organization of VT0013 has been changed to focus on determining the portion of the captured CO2 eligible for removals based on the feedback received.</p>

VT0013 Section 5.3 – Determining the Fraction of Removals in a CO2 Stream

#	Organization	Comment	Developer's Response
		adapted for fossil fuel. The removal fraction can then be determined using an adapted equation 11.	

VT0013 Section 5.4 – Allocation of Baseline

#	Organization	Comment	Developer's Response
96	E.ON SE	Example for non-traceable biomass?	Non-traceable biomass are biomass feedstocks that cannot demonstrate meeting the traceability requirements outlined in Appendix 1 of VMD0059 CO2 Capture from Bioenergy.
97	Usinas Itamarati S.A.	<p>We welcome the idea to stimulate project proponents to change from non-traceable biomass into traceable biomass. However, it is important to evaluate the potential market shifting effects that such measure can cause, especially in projects where CO2 supplier do not control entirely the biomass cultivation (an example is the cultivation of corn in Mid-west Brazil as second-crop with soybean cultivation). This aspect was mentioned in our feedback of key question no. 4.</p> <p>In addition to that, we would like to clarify the impacts of traceability/sustainability of biomass supply for combustion for bio-CCS projects based on CO2 capture from alcoholic fermentation. For example, in case of sugarcane-based ethanol, the residue of the sugarcane biomass (i.e., the bagasse) that origins the juice to be</p>	VMD0059 does not apply to biomass conversion.

VT0013 Section 5.4 – Allocation of Baseline

#	Organization	Comment	Developer's Response
		<p>fermented into ethanol also feeds the boilers that produce steam/heat and electricity used in the process.</p> <p>In the case of corn ethanol produced in Brazil, boilers for steam and electricity production are fed with an additional biomass, which is not originated from corn plantations. Instead, biomass burned in boilers for corn-ethanol production may come from sugarcane bagasse, eucalyptus chips, among others biomass types.</p> <p>Therefore, in case of a capture of CO2 released from alcoholic fermentation, are traceability requirements mandatory only for the biomass directly processed to be converted to ethanol or are the requirements also mandatory for the biomass feeding the boilers that are used within the ethanol production process?</p>	
98	Anew Climate	<p>The descriptions for determining the discount for non-traceable biomass do not align with the provided quantification approaches. Is the statement "no more than 30 percent of the total biomass used may be non-traceable biomass in the first year of a project." meant to describe that projects which use more than 30% of non-traceable biomass will have an associated discount (i.e., the function of Equations 14, 15, and 16 as included), OR, is this meant as a condition of eligibility (i.e., that the projects for which the non-traceable biomass used in any year is greater than 30% of the total biomass used in the same year are ineligible)?</p> <p>Similarly, is the statement "No credit can be generated from non-traceable biomass after the first crediting period." meant to describe that projects which use non-traceable biomass in subsequent crediting periods will have an associated discount factor, or is this again meant to as a condition of eligibility (i.e., that the projects</p>	<p>Thank you for your comment.</p> <p>CO2 captured from excess non-traceable biomass is considered a NON-VCS CO2 flow and is now dealt with in VT0012, Section 5.1.1.1.</p> <p>The phrasing of the guidance has been improved for clarity.</p>

VT0013 Section 5.4 – Allocation of Baseline

#	Organization	Comment	Developer's Response
		<p>which use non-traceable biomass in subsequent crediting periods are ineligible)? If the former, this statement should be reflected in the section "determination of base value (m_bv,b,c)" and would require another approach for determining m_bv,b,c in all crediting periods except the first. Here the tool might instead provide two equations for determining m_bv,b,c: the first is applicable to projects in their first crediting period and is determined using the existing equation 16; the second is applicable to projects in subsequent crediting periods and assigns a value of 0 to m_bv,b,c.</p> <p>Our recommended approach is to allow use of non-traceable biomass in any period or quantity (here, a clarification is required in the Tool) and apply deductions that increase in time (here, only the abovedescribed change to m_bv,b,c in later crediting periods is required for the Tool).</p>	
99	Anonymous #1	<p>Page 13 – 5.4.2.1 – Discount for Non-Traceable Biomass</p> <ul style="list-style-type: none"> • Suggest including in the document why a 30% threshold for total non-traceable biomass in Year 1 of the project was used. 	<p>Thank you for your comment.</p> <p>CO2 captured from excess non-traceable biomass is considered a NON-VCS CO2 flow and is now dealt with in VT0012, Section 5.1.1.1 which explains that this threshold was included to incentive the move away from non-traceable biomass over time as the transparency of supply chains improves.</p>
100	Anonymous #1	<p>Page 13 – 5.4.2.1 – Discount for Non-Traceable Biomass</p> <ul style="list-style-type: none"> • In Equation 14, the ratio of molecular weight of carbon dioxide to 	Clarification added.

VT0013 Section 5.4 – Allocation of Baseline

#	Organization	Comment	Developer's Response
		that of carbon (44/12 multiplier) should be directly explained in the document.	
101	Anonymous #1	<p>Various obstacles hinder traceability in Brazil, including the scarcity of publicly available information, the reluctance of intermediaries to share data due to confidentiality concerns and the nature of the commercial contracts themselves, which are often short-term. These issues are currently being revisited at the Brazilian regulatory level. Renovabio, the National Biofuels Policy, which is a notable example of this legislative approach, establishes annual decarbonization targets for the fuel sector through incentives for the production and use of biofuels. Additionally, RenovaBio is recognized as a route to prove sustainability certification for agricultural biomass to 11_CCS-Tool01_Removals-Reductions_final.</p> <p>Therefore, it is reasonable to request a review of the conditions for using non-traceable biomass outlined in 11_CCS-Tool01_Removals-Reductions_final (Section 5.4.2.1). This is important for the application of the BECCS methodology framework, as it should consider the local/regional context to increase its credibility. Below we suggest some possible changes to the applicability conditions:</p> <p>i. "No more than 30 percent of the total biomass used may be non-traceable biomass in the first year of a project"</p> <p>We request greater transparency regarding the 30 percent threshold in order to identify the rationale for this limit or even the exclusion of this threshold. The exclusion of the limit for non-traceable biomass is justified because CO2 from non-traceable biomass also contributes to the net reduction of emissions, and is essential in the context of nature-based and technological solutions to combat</p>	<p>Thank you for your comment.</p> <p>VMD0059 and the associated tools are written to provide existing operations time to improve the traceability of their supply chain.</p> <p>We believe it is reasonable that biomass purchasers have the agency to demand better traceability in their supply chains over time.</p> <p>Verra believes that it is vital to avoid deforestation and other negative impacts of unsustainable biomass sourcing, even if that comes at the expense of registering BECCS projects.</p>

VT0013 Section 5.4 – Allocation of Baseline

#	Organization	Comment	Developer's Response
		<p>climate change. By imposing this limit, the scope of BECCS activities might be restricted, which could considerably reduce the positive impact of these projects on climate change mitigation, especially considering that the project's CAPEX is on top of the total injection capacity.</p> <p>ii. "No credit can be generated from non-traceable biomass after the first crediting period."</p> <p>Given the above, we suggest repealing the limitation on claiming reductions only in the first crediting period, with the extension to the entire crediting period due to the difficulty of adequately proving traceability.</p>	
102	Santos Limited	Santos encourages the use of a discounting factor for non-traceable biomass as well as limits on its use as an incentive for proponents to transition to sustainable biomass feedstocks. Further information has been provided in our response to Key Question #4	Thank you for your comment.
103	Anonymous #3	No credits should be generate from non-traceable biomass. Allowing for non-traceable biomass dilutes the quality of voluntary credits. Additionally, non-traceable biomass puts sustainable sourcing in question as well.	<p>VMD0059 and the associated tools are written to provide existing operations time to improve the traceability of their supply chain and reasonable flexibility to deal with logistical challenges.</p> <p>VT0013 provides limits on crediting associated with non-traceable biomass and guidance on differentiating mitigation</p>

VT0013 Section 5.4 – Allocation of Baseline

#	Organization	Comment	Developer’s Response
			outcomes based on the traceability of biomass feedstocks.

VT0013 Section 5.5 – Allocation of Project and Leakage Emissions to Removals and Reductions

#	Organization	Comment	Developer’s Response
104	Anew Climate	<p>It is not clear how proponents must allocate project leakage emissions where non-VCS CO2 streams enter and/or leave the boundary of projects that generate both removals and reductions. The framework methodology provides that Q_non-VCS, CO2 must be deducted from injected quantities to determine the BE_y, and provides no guidance as to the accounting of project and leakage emissions allocated to non-VCS streams using the proposed Tool 02 (which also does not provide such guidance).</p> <p>Thinking ahead, it is not sufficient to apply R_nonVCS,CO2,x,y (per equation 13 of Tool02) in equations 17,18,19, and 20, and/or or deduct PE_nonVCS from PE_total,y in equations 21, 22, 23, and 24, since there may be situations where the nonVCS stream through a segment (or the entire project, when taken to the extreme), is exclusively removals or reductions based. In this scenario, the project and leakage emissions associated with the non-VCS emissions should be deducted only (and entirely) from BE_CAPR, y.</p> <p>Resolving this issues will require: 1) that project/leakage</p>	<p>Thank you for your comment.</p> <p>VT0012 provides guidance on allocating project emissions and leakage emissions between VCS and Non-VCS streams.</p>

VT0013 Section 5.5 – Allocation of Project and Leakage Emissions to Removals and Reductions

#	Organization	Comment	Developer’s Response
		emissions allocation boundary for segments are consistent between Tools 1 and 2; 2) that an allocation-segment specific non-VCS to VCS CO2 ratio is determined for each segment identified in Tool 2; and 3) that the ratio is applied to each the project/leakage emissions attributable to reductions and/or removals for each allocation segment in Tool 1.	

VT0013 Section 5.6 – Emission Reductions and Removals

#	Organization	Comment	Developer’s Response
105	CO280	We would suggest including a clarification of tertiary wood waste: residual wood from from construction, demolition, wooden packaging materials, railroads and other infrastructure	Thank you for your comment. The final version of VMD0059 (v1.0) includes guidance on the treatment of biomass feedstocks, including those considered waste.

VT0013 Section 6.2 – Data and Parameters Monitored

#	Organization	Comment	Developer’s Response
106	Anonymous #1	<ul style="list-style-type: none"> Numerous Parameters mention meters running and served within specified operators conditions, but do not set a threshold of specificity or mention how to compare cross comparability. 	Thank you for your comment. The Data Parameters section has been reviewed by an accredited VVB and the descriptions and requirement

VT0013 Section 6.2 – Data and Parameters Monitored

#	Organization	Comment	Developer’s Response
		<ul style="list-style-type: none"> • Similarly, numerous Parameters mention measurements must be carried out at “accredited” laboratories according to international standards, but do not address cross comparability of lab results for carbon measurements, or to what level of specificity the calculations must stipulate. <ul style="list-style-type: none"> o These are in comparison to other measurements where the Protocol outlines specific ISO reference requirements needed for accurate measurements. • Parameters that rely on invoicing data for equation inputs do not mention what safeguards exist for fraudulent or incomplete accounting practices. • Numerous Parameters depend on frequent or continuous monitoring, but do not mention how accounting is to be addressed if measurement equipment fails while CCS activities remain active. (i.e. is stored carbon for the missing monitoring period disqualified or discounted in some way?) 	<p>contained therein have been updated to reflect their feedback and that collected through the consultation.</p>

VT0013 Section A1.2 – Sustainability Principles for Biomass Feedstock (Excluding Waste to Energy Plants)

#	Organization	Comment	Developer’s Response
107	E. ON SE	<p>Is SURE certification accepted as a form of biomass sustainability certification? https://sure-system.org/en/certification.html</p>	<p>Thank you for your comment.</p> <p>The final version of VMD0059 (v1.0) includes guidance on the treatment of biomass</p>

VT0013 Section A1.2 – Sustainability Principles for Biomass Feedstock (Excluding Waste to Energy Plants)

#	Organization	Comment	Developer's Response
			feedstocks, including those considered waste.
108	Usinas Itamarati S.A.	<p>The criterion Land-based leakage, which is mandatory for primary forest and agricultural biomass, states that documented evidence of avoidance of land-based leakage of GHG emissions must be provided following the procedures described in Appendix I.</p> <p>However, Appendix I in its current form only presents the criteria to categorize the biomass types. No procedures regarding the avoidance of GHG leakage for primary forest and agricultural biomass have been provided. We believe that this part of the text should be amended.</p>	<p>Thank you for your comment.</p> <p>The final version of VMD0059 (v1.0) includes guidance on the treatment of biomass feedstocks, based on the feedback received.</p>
109	Usinas Itamarati S.A.	<p>The criteria of regulatory compliance includes that "Biomass must always comply with the most recent applicable regulations. Regulatory compliance is relevant where the source facility is in a jurisdiction in which the regulation applies." Only European regulations are cited in the document and it may not be required for projects developed outside this jurisdiction.</p> <p>It is suggested to include relevant regulations in other countries or to merge both regulatory compliance and sustainability certification when biomass is only certified when complying with applicable regulations, which is the case of RenovaBio program in Brazil.</p> <p>In addition, not all regulations (even the ones mentioned at the proposed methodology) are able to cover all sustainability principles indicated at Appendix 2, thus demanding from project proponents additional sustainability certifications to make their</p>	<p>Thank you for your comment.</p> <p>The final version of VMD0059 (v1.0) includes guidance on the treatment of biomass feedstocks, including optionality for regions where certification schemes are not available, informed by the feedback received.</p>

VT0013 Section A1.2 – Sustainability Principles for Biomass Feedstock (Excluding Waste to Energy Plants)

#	Organization	Comment	Developer's Response
		projects eligible. We highlight that it is unfeasible for a project proponent to comply with relevant certifications for all sustainability principles requested in a time- and cost-effective manner. In current form, sustainability compliance will make future BECCS projects having prohibitive costs, should they comply with relevant sustainability certificates that complement the criteria not covered by relevant regulatory. Our suggestion is to allow the project proponents to have flexibility when providing evidences of compliance by a combination of methods and tools.	
110	FS Fueling Sustainability	Land-based leakage: Biomass feedstock sourcing must avoid land-based leakage of GHG emissions, and project proponents must provide documented evidence of this avoidance by following the procedures described in Appendix I, which is specific to biomass type. It is no clear which procedures should be evidenced. Appendix I only refers to the CATEGORIZATION OF BIOMASS.	Thank you for your comment. The final version of VMD0059 (v1.0) includes guidance on the treatment of biomass feedstocks, based on the feedback received.
111	Anonymous #2	We kindly request that the conditions for using non-traceable biomass be clarified and refined. Ensuring traceability to differentiate carbon removal and reduction, as outlined by 11_CCS-Tool01_Removals-Reductions_final, is fundamental to securing the integrity of initiatives aimed at combating climate change. Nonetheless, it is essential to explore alternatives for reducing emissions that align with national and regional legislation, Appendix 2, item A2.1 Sustainability Principles for Biomass Feedstock (excluding waste-to-energy plants), solely refers to	Thank you for your comment. CO2 captured from excess non-traceable biomass is considered a NON-VCS CO2 flow and is now dealt with in VT0012, Section 5.1.1.1. The final version of VMD0059 (v1.0) includes guidance on the treatment of biomass feedstocks, including optionality for regions where certification schemes are not available, informed by the feedback received.

VT0013 Section A1.2 – Sustainability Principles for Biomass Feedstock (Excluding Waste to Energy Plants)

#	Organization	Comment	Developer's Response
		<p>European Union regulations, such as UK Renewable Obligation 2015 and Directive (EU) 2018/2001. To guarantee not only the effectiveness but also the compliance of carbon capture and storage activities, CCS+ must encompass the different regulations and guidelines established by different countries and regions as a global initiative.</p> <p>In Brazil, ensuring the traceability of biomass, particularly corn, presents significant local challenges. Nevertheless, the country's legal regulatory framework directly promotes the sustainable production of agricultural products while conserving native ecosystems. In this sense, in order to contemplate the Regulatory Compliance approach, described in item A2.1, we recommend that the biomass requirements meet the following criteria:</p> <ol style="list-style-type: none"> 1. Where national and regional legislation is respected concerning land use and the conservation of native ecosystems. 2. Where it can be demonstrated that its production is not associated with the conversion of forests and ecosystems. 	
112	Santos Limited	<p>Santos supports a harmonised approach where biomass certified under an approved scheme from legislative and/or international bodies such as the EU, CORSIA, etc. is considered to meet the sustainability principles outlined in the module. Further information has been provided in our response to Key Question #3</p>	<p>Thank you for your comment.</p>
113	Drax	<p>The section neglects land use change. This is particularly important for agricultural feedstock. Provisions should be introduced to address this issue, aligned to REDIII.</p>	<p>Thank you for your comment.</p> <p>The final version of VMD0059 (v1.0) includes guidance on the treatment of biomass</p>

VT0013 Section A1.2 – Sustainability Principles for Biomass Feedstock (Excluding Waste to Energy Plants)

#	Organization	Comment	Developer's Response
		Note, this is not dealt with in land use section, which only addresses existing land use, not previous use.	feedstocks, informed by the feedback received.
114	Drax	<p>Text: 1. Land use and biodiversity: Biomass feedstock sourcing must respect land use patterns, specifically avoiding regions with high biodiversity, high carbon stocks and peatlands that have been converted or disturbed. This includes primary or highly biodiverse forests (identified by national authorities), designated nature protection areas (by national laws, international agreements or the International Union for the Conservation of Nature), highly biodiverse grasslands, wetlands and continuously forested areas.</p> <p>Comment: In accordance with REDIII and best forest practice, there should be exceptions allowed for highly biodiverse forests where harvesting does not interfere with nature protection purposes.</p> <p>As stated by REDIII: 'highly biodiverse forest and other wooded land which is species-rich and not degraded, and has been identified as being highly biodiverse by the relevant competent authority, unless evidence is provided that the production of that raw material did not interfere with those nature protection purposes;'</p>	<p>Thank you for your comment.</p> <p>The final version of VMD0059 (v1.0) includes guidance on the treatment of biomass feedstocks, informed by the feedback received.</p>
115	Drax	Text: Land-based leakage: Biomass feedstock sourcing must avoid land-based leakage of GHG emissions, and project proponents must provide documented evidence of this avoidance by following	Thank you for your comment. The reference has been corrected.

VT0013 Section A1.2 – Sustainability Principles for Biomass Feedstock (Excluding Waste to Energy Plants)

#	Organization	Comment	Developer's Response
		the procedures described in Appendix I, which is specific to biomass type Comment: We presume this should reference Appendix 1 of the Module For CO2 Capture From Bioenergy Combustion	
116	Agricone	It would be helpful to classify mixed concepts to avoid harming a specific raw material (waste, high iLUC).	Thank you for your comment.

VT0013 Section A2.2 – Sustainability Principles for Waste-to-Energy Plant Biomass Feedstock

#	Organization	Comment	Developer's Response
117	Avero	<ul style="list-style-type: none"> - The Verified Carbon Standard would benefit from better defining point of origin. Does this mean the point of arising or the waste transfer station prior to delivery to the waste to energy facility? - By way of background, waste management companies receive waste wood from many different sources that are subject to recycling and processing prior to mixed post-recycled waste wood material being sent for energy recovery. This is tracked under environmental regulations using waste transfer notes. Waste management companies are not able to systematically distinguish and communicate the exact point of arising / origin of material within a given consignment of post-recycled wood when it consists of materials that come from multiple different sources. - We are confident that we and other equivalent UK-based project developers can provide an overview of our supply chain, but load 	<p>Thank you for your comment.</p> <p>Verra continues to work on improving the utility, practicality and applicability of its program rules on biomass sourcing.</p>

VT0013 Section A2.2 – Sustainability Principles for Waste-to-Energy Plant Biomass Feedstock

#	Organization	Comment	Developer's Response
		<p>by load traceability is not possible.</p> <p>- We would strongly advise against imposing additional requirements above and beyond a well functioning regulatory regime that is administered by an environmental regulator. This regime should be satisfactory for the purposes of compliance with the Verified Carbon Standard.</p>	
118	Vantaan Energia Oy	<p>Waste-to-energy plants burn municipal solid waste, which includes waste originating from households and other similar wastes. Biomass as such is not procured separately as a feedstock. Energy recovery from waste is different from other forms of energy production. Waste-to-energy is an efficient and resource-smart way to get rid of nonrecyclable waste and extract the final benefit from it – thermal energy. Efforts should be made to find ways to increase recycling rates and develop a circular economy. However, not all waste can be recycled, and non-recyclable waste will continue to be generated.</p>	<p>Thank you for your comment.</p>
	Vantaan Energia Oy	<p>Sustainable waste management is a combination of legislation, regulatory guidance and control measures, practices and incentives aimed at intensifying separate waste collection, technologies and environmental education. The text is not clear about who's responsibility it is to provide reporting about waste management plans. WtE plant operators are only one part of the waste management system. We agree that waste incineration has to be done in a sustainable manner, meaning that only non-recyclable materials should be incinerated.</p>	<p>Thank you for your comment.</p> <p>The final version of VMD0059 (v1.0) includes guidance on the treatment of biomass feedstocks, including those from waste, informed by the feedback received.</p>

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#	Organization	Comment	Developer's Response
		<p>Currently in Finland there is only a national waste plan and regional waste plans no longer exist. Regional waste management cooperation groups support the implementation of the national waste plan, however these regional groups do not create or submit separate waste management plans. This means that waste management plans are created on a national level, not on a company level.</p>	
119	Environmental Services Association (ESA)	<p>The Verified Carbon Standard would benefit from better defining point of origin. Does this mean the point of arising or the waste transfer station prior to delivery to the waste to energy facility?</p> <p>By way of background, waste management companies receive waste wood from many different sources that are subject to recycling and processing prior to mixed post-recycled waste wood material being sent for energy recovery. This is tracked under environmental regulations using waste transfer notes. Waste management companies are not able to systematically distinguish and communicate the exact point of arising / origin of material within a given consignment of post-recycled wood when it consists of materials that come from multiple different sources.</p> <p>We are confident that we and other equivalent UK-based project developers can provide an overview of our supply chain, but load by load traceability is not possible.</p> <p>We would strongly advise against imposing additional requirements above and beyond a well functioning regulatory regime that is administered by an environmental regulator. This regime should be satisfactory for the purposes of compliance with the Verified Carbon Standard.</p>	Thank you for your comment.

VT0013 Section A2.2 – Sustainability Principles for Waste-to-Energy Plant Biomass Feedstock

#	Organization	Comment	Developer's Response

VT0013 Appendix 1 – Categorization of Biomass

#	Organization	Comment	Developer's Response
120	Agricone	In the caption, please add that the biomass types are meant as examples and the list is not exhaustive. Presently it is only mentioned in the text right before.	Thank you for your comment. The final version of VMD0059 (v1.0) includes guidance on the treatment of biomass feedstocks, including those from waste, informed by the feedback received.
121	Anonymous #3	Current language has "all other biomass" is not eligible. This should be removed and all other biomass should be allowed, with a caveat that the biomass provides a full life cycle assessment. This would ensure that an alternative biomass can be used as long as the proper procedure is followed.	Thank you for your comment. The final version of VMD0059 (v1.0) includes guidance on the treatment of biomass feedstocks, including those from waste, informed by the feedback received.
122	Anonymous #3	Construction demolitions should be added under "other waste and residues". Construction demolition can be a major source of biomass and having its own category would add clarity.	Thank you for your comment. The final version of VMD0059 (v1.0) includes guidance on the treatment of biomass feedstocks, including those from waste, informed by the feedback received.
123	Drax	Figure 4 Flow Chart: By and large we support the feedstock classifications. However, some small tweaks are possibly needed	Thank you for your comment.

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#	Organization	Comment	Developer's Response
		<p>to improve clarity E.g. 'thinning' and 'roundwood' are not mutually exclusive. It would be more sensible to rather have 'low grade roundwood from thinning' and 'low grade roundwood from final harvest'. 'Tops and branches' and 'Harvest residues' are also largely comparable.</p> <p>We suggest aligning feedstock reporting requirements as closely as possible to SBP requirements for practicality of reporting – see table 3.3.3. for basis of reporting SBP_Instruction-Document-5E_v2.1_final.pdf (sbpcert.wpenginepowered.com)</p>	<p>The final version of VMD0059 (v1.0) includes guidance on the treatment of biomass feedstocks, including those from waste, informed by the feedback received.</p>
124	Drax	<p>Figure 4 Flow Chart: Bagasse should be treated as a 'Agriculture Secondary' feedstock</p> <p>Also, it may be sensible to separate primary agricultural residues (e.g. straw, bagasse) from secondary agricultural residues (e.g. husks, shells). Not least as these are often treated differently in regulation and have different traceability considerations.</p>	<p>Thank you for your comment.</p> <p>The final version of VMD0059 (v1.0) includes guidance on the treatment of biomass feedstocks, including those from waste, informed by the feedback received.</p>

VT0013 Appendix 2 – Demonstration of Sustainable Biomass

#	Organization	Comment	Developer's Response
125	Orsted	<p>We suggest that adherence to sustainability principles and it's documentation is evaluated and verified, not only by a regular VVB, but also a certifying body with experience in relevant biomass certification schemes. For forest biomass it could be a certifying body accredited to perform audits under FSC, PEFC or SBP and similarly for agricultural biomass, one accredited for ISCC, RSB or similar. This will improve the</p>	<p>Thank you for your comment.</p> <p>The final version of VMD0059 (v1.0) includes guidance on the treatment of biomass feedstocks, including</p>

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#	Organization	Comment	Developer's Response
		<p>credibility of adherence to these principles.</p> <ul style="list-style-type: none"> • THE CCS+ methodology under Verra will probably be the or one of the first methodologies to issue BECCS-credits. These projects will be heavily scrutinized by media, regulators and other stakeholders with a negative view towards biomass and BECCS. Sustainability of the biomass feedstock will be one of the focal points of this scrutiny. Therefore, it is our position that sustainability principles should be as strong as possible and only allow best-in-class installations. This will ensure the value of the credits and set a standard all other standard developers should follow. As it is now, we are not certain this has been fully achieved. Other standard developers (Drax/Stockholm Exergi and Puro) or carbon consultants (Carbon Direct) have also worked with biomass sustainability and in some ways their approach is more stringent, operational and ambitious. • We realize that the current set of principles is what could be achieved presently with the stakeholders part of CCS+ and a tight time line, but as also suggested elsewhere, we think the sustainability principles should be its own tool/module or similar and that they should be updated frequently to allow incorporation of developments in sustainability governance. 	<p>those form waste, informed by the feedback received.</p>
126	Orsted	<ul style="list-style-type: none"> • Sustainability governance for biomass is changing very often, e.g. REDII à REDIII, new forest management standards etc. Therefore, we suggest that sustainability principles get their own tool/module or similar. Then it will be easier to change the principles when developments occur. There should be a short period when a project can use the “old” version whenever the principles are updated, but it should not be allowed to stick to old principles for more than a few years. Perhaps this could be governed by the coming 5th version of the Verra Standard. • For BECCS P/H only “regulatory compliance” and “sustainability certification” can be used as documentation for adherence to the sustainability principles. But regulatory compliance (e.g. REDII) does not necessarily address 5. Food Security or 6. Social Sustainability. Similarly, sustainability certification in many cases does not prohibit the use of 	<p>Thank you for your comment.</p> <p>The final version of VMD0059 (v1.0) includes guidance on the treatment of biomass feedstocks, including those form waste, informed by the feedback received.</p>

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#	Organization	Comment	Developer's Response
		<p>biomass from old-growth or primary forests.</p> <ul style="list-style-type: none"> • These inconsistencies are, however, difficult to address in an operational manner – certification is not always available and regulatory compliance only applies in certain jurisdictions. One approach to address the issues is to make different requirements depending on geography and biomass type. E.g. in Europe where RED applies – regulatory compliance is sufficient. In the US, if using forest biomass - certification should be used. 	
127	Orsted	<p>Table 1 - For agricultural, secondary there is a requirement regarding (6) social sustainability. Social sustainability is not part of EU REDII regulatory compliance and because it is residues it is sometimes not part of agricultural certification schemes either. In our case it would not be possible to document compliance with this principle for the straw we use for BECCS because it only lives up to REDII, because there is no market for certified straw in Denmark. We thus propose to relax this requirement and make it optional under some conditions: social sustainability can be relaxed in certain jurisdictions where there is a low risk of non-compliance. This could constitute countries with low CPI (corruption perception index), the entire EU, countries with high HDI (human development index), be based on FSC risk assessments or similar.</p>	<p>Thank you for your comment.</p> <p>The final version of VMD0059 (v1.0) includes guidance on the treatment of biomass feedstocks, including those from waste, informed by the feedback received.</p>
128	Orsted	<p>traceability. Please make it clear that both chain of custody systems (such as SBP, FSC CoC etc.) and geolocation systems (such as demanded by EUDR) are OK for documentation of traceability.</p>	<p>Thank you for your comment.</p> <p>The final version of VMD0059 (v1.0) includes guidance on the treatment of biomass feedstocks, including those from waste, informed by the feedback received.</p>

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#	Organization	Comment	Developer's Response
129	Orsted	Sustainability certification. "or similar" who evaluates when a certification scheme is sufficiently similar? Perhaps it would be better to provide a list of approved schemes that can be updated as new schemes are developed.	Thank you for your comment. The final version of VMD0059 (v1.0) includes guidance on the treatment of biomass feedstocks, including those from waste, informed by the feedback received.
130	Orsted	"national authorities". In some cases, municipal or similar authorities are the authorities for waste. Please add this.	Thank you for your comment. The final version of VMD0059 (v1.0) includes guidance on the treatment of biomass feedstocks, including those from waste, informed by the feedback received.
131	Agroicone	Before discussing high ILUC, it is essential to highlight that biomass cannot come from deforested areas, and this point needs to be included in the document. Additionally, BECCS of agro-industrial waste should not consider ILUC. Is BECCS technology stimulating the production of more biofuel?	Thank you for your comment. The final version of VMD0059 (v1.0) includes guidance on the treatment of biomass feedstocks, including those from waste, informed by the feedback received.
132	FS Fueling Sustainability	The conditions established by the methodology for using non-traceable biomass shouldn't limit the BECCS global mitigation potential. In this public consultation, Verra highlights the importance of CCS hubs for expanding the climate impact of CCS and accelerating technology development. The IPCC also recognizes BECCS as a key decarbonization strategy for limiting global warming to 1.5°C. To make this technology economically viable on a large scale, government subsidies, tax credits, and carbon pricing initiatives are necessary, even on a voluntary basis. Therefore, it's crucial for methodologies like this to be widely applicable	Thank you for your comment. VMD0059 and the associated tools are written to provide existing operations time to improve the traceability of their supply chain. We do not accept the argument that biomass purchasers lack the agency to demand better traceability in their

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#	Organization	Comment	Developer's Response
		<p>across different jurisdictions and adaptable to each country's regulatory framework. Hence, we propose the following changes:</p> <p>(1) A - Regulatory Compliance (page 34): The 11_CCS-Tool01_Removals-Reductions_final makes references to regulations from EU countries like the "UK Renewables Obligation 2015" and the "Directive (EU) 2018/2001". It's crucial that carbon accounting methodologies for BECCS aren't excessively restrictive or punitive towards projects in jurisdictions with diverse regulatory landscapes. Rather than citing specific regulations, the methodology should prioritize ensuring compliance with the prevailing legislation applicable in the host country.</p> <p>(2) Section 5.4.2.1 Discount for Non-Traceable Biomass (page 13) and Traceability (page 34):</p> <p>Brazil faces significant local challenges regarding the assurance of biomass traceability, especially for primary agricultural sources such as corn.</p> <p>It is noted that few ethanol producers worldwide have the same level of grain traceability compatible with the detailed requirements of RenovaBio. While this has been a significant challenge in Brazil, the issue has evolved significantly, with some Brazilian corn ethanol production units achieving around 70-90% eligibility certification (ANP, 2023a). It is worth noting that Brazilian corn ethanol producers participating in RenovaBio are committed to zero deforestation, meaning there is traceable assurance that the corn used for ethanol production, which will generate Decarbonization Credits (CBIOS), was cultivated in an area where there has been no native vegetation suppression of any kind after 2018, including those that could have been regularly authorized (MME, 2021).</p> <p>This is not an exclusive condition of Brazil. In the United States, the vast</p>	<p>supply chains over time.</p> <p>Verra believes that it is more important to avoid deforestation and other negative impacts of unsustainable biomass sourcing than it is to maximize participation in BECCS.</p>

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#	Organization	Comment	Developer's Response
		<p>majority of biofuel producers also source corn from major grain trading companies and face similar challenges on traceability. In a rather simplistic manner, the Environmental Protection Agency (EPA) established a baseline acreage for U.S. planted area in 2007 and determined that, as long as this baseline acreage is not exceeded, it is unlikely, based on historical trend assessments and economic considerations, that new lands outside the 2007 baseline are being dedicated to agricultural production. Thus, renewable fuel producers using crops or crop residues from the U.S. do not need to make individual records and reports to prove that their feedstocks come from qualified lands, unless the EPA determines through its annual assessment that the 2007 baseline acreage, set at 402 million acres, for agricultural lands has been exceeded (EPA, 2022). Therefore they will not be able to prove traceability up to the farm level.</p> <p>Therefore, it is justified to request a review of the applicability conditions for non-traceable biomass described in 11_CCS-Tool01_Removals-Reductions_final (Section 5.4.2.1) so that the application of the BECCS methodology framework considers the local/regional context, thereby enhancing credibility for the process. Below, we suggest some possible changes to the applicability conditions:</p> <p>a. "No more than 30 percent of the total biomass used may be non-traceable biomass in the first year of a project." Proposed change: Requested the exclusion of this threshold.</p> <p>b. "No credit can be generated from non-traceable biomass after the first crediting period." Proposed change: Suggested revoking the limitation on claiming reductions only in the first crediting period, extending it to the entire project life-cycle. Note that 100% of CO2 biogenic emissions (traceable and non-traceable)</p>	

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#	Organization	Comment	Developer's Response
		are being captured and stored. Putting a cap on the non-traceable biomass will limit BECCS potential on generating emission reductions.	
133	Anew Climate	<p>The biomass sustainability requirements described in Appendix 2 discriminate projects on the basis of the activity; CO2 sourced from biomass consumption for heat and power generation must conform with one set of requirements (as per A2.1), whereas CO2 sourced from waste-to-energy activities must conform with a different set of requirements. However, this approach does not provide absolute clarity for all BECCS/BiCRS project types.</p> <p>For example, it is not clear how or if the sustainability principles provided in Appendix 2.1 are applied to project which use primary agricultural biomass for alcoholic fermentation. As written, alcoholic fermentation is described as a waste-to-energy activity in Section 5.2, and so, the sustainability principles provided in Appendix 2.2 would to apply to all feedstocks for alcoholic fermentation. However, it is not clear if this is the intention, since the described function of WtE plants and feedstocks in Appendix 2 does not consider such scenarios.</p> <p>Anew supports Verra's inclusion of separate requirements for demonstrating the sustainability of waste biomasses; however, Verra should clarify that the requirements in A2.2 are applicable to waste biomass (and not waste-to-energy activities broadly).</p>	<p>Thank you for your comment.</p> <p>Biomass conversion is not covered under VMD0059.</p>
134	Anew Climate	<p>In general, biogenic CO2 is generated as by the thermochemical, biochemical, or mechanical conversion of biomass. Each pathway uses biomass as a feedstock to generate other materials (e.g., liquid biofuels, biogas, pyoil, animal feed) and/or energy (thermal and/or electrical). We recommend that Verra restructure the sustainability requirements presented in Appendix 2.1 to discriminate on the basis of the carbon content of the commodities generated by the biomass conversion process</p>	<p>Thank you for your comment.</p> <p>We disagree with the premise of a diminished set of sustainability requirements depending on the end-use of the biomass generating CO2.</p> <p>The risk of negative environmental</p>

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#	Organization	Comment	Developer's Response
		<p>at a CO2 source facility.</p> <p>At first blush, the distinct requirements in A2.1 and 2.2 imply that there is a difference between CO2 captured from the conversion of biomass wastes, and waste CO2 captured from the conversion biomass - and rightfully so, since the lifecycle impacts from biomass sourced for and consumed at a heat and power plant which produces heat and power exclusively are not the same as if that same biomass is used as a feedstock for thermochemical/biochemical conversion to physical products. For the former, no biogenic carbon exits the facility boundary as a commodity - thus, biomass impacts extend from the biomass source through to the electricity generation unit and hence should be wholly attributed to the captured CO2 stream. Whereas for the latter, significant quantities of biogenic carbon exit the facility boundary as a commodity(ies) - thus, biomass impacts extend from the biomass source through to the the end-use of the those commodities.</p> <p>Hence, in the former case it is appropriate to attribute the impacts from biomass to the captured CO2 stream, and thus Verra's proposed sustainability requirements should apply to the biomass feedstock in full. However, in the latter case it is not appropriate to attribute the impacts from biomass to the captured CO2 stream, and thus, a diminished set of sustainability requirements shuld apply to the biomass feedstock.</p>	<p>and social impacts is agnostic to end-use.</p>
135	Anew Climate	<p>A2.1 provides that "Biomass feedstock sourcing must avoid land-based leakage of GHG emissions, and project proponents must provide documented evidence of this avoidance by following the procedures described in Appendix I, which is specific to biomass type.". However, no procedures are provided in Appendix 1 for evidencing avoidance of land-based leakage of GHG emissions.</p> <p>Without access to the referenced procedures for review, the burden of</p>	<p>Thank you for your comment.</p> <p>The final version of VMD0059 (v1.0) includes guidance on the treatment of biomass feedstocks, including those form waste, informed by the feedback received.</p>

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#	Organization	Comment	Developer's Response
		proof could be substantial to project developers.	
136	Anew Climate	<p>Please clarify the language provided for sustainability principle #7. It is not clear whether: the host country must always have laws that address the conservation of carbon stocks and evidence that emissions from the LULUCF sector do not exceed removals - i.e., even in the cases where the country from which biomass is sourced must is not a party to the Paris Agreement AND the biomass complies with appropriate management systems.</p> <p>Additionally, where there is an appropriate biomass management system in place, is it permissible to source biomass from: a) a country that is not a party to the Paris Agreement and does not have laws that address the conservation of carbon stocks and evidence that emissions from the LULUCF sector do not exceed removals; or, b) a country that is a party to the Paris Agreement and does not have a sufficient NDC (as per the tool), nor laws that address the conservation of carbon stocks and evidence that emissions from the LULUCF sector do not exceed removals?</p>	<p>Thank you for your comment.</p> <p>The final version of VMD0059 (v1.0) includes guidance on the treatment of biomass feedstocks, including those from waste, informed by the feedback received.</p>
137	Anew Climate	Please clarify the meanings of "source" and "origins" in the traceability requirements under A2.1 and A2.2, respectively.	<p>Thank you for your comment.</p> <p>The final version of VMD0059 (v1.0) includes guidance on the treatment of biomass feedstocks, including those from waste, informed by the feedback received.</p> <p>Additionally, program-wide definitions for terms related to biomass sourcing have been added to the VCS Program Definitions v5.</p>

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#	Organization	Comment	Developer's Response
138	Anew Climate	<p>Under A2.1, we ask that Verra revise option A to clarify that a regulatory compliance demonstration is sufficient if and only if "a qualified third-party confirms that the sustainability requirements under of regulatory scheme meet or exceed the principles in this module [mandatory for the biomass type].".</p> <p>Further, we recommend that Verra consider primary forest or agricultural biomass feedstocks sustainable if either: a) the biomass complies with the mandatory sustainability principles provided in A2.1 for that biomass type (using either option A or B in A2.1); or, b) the CO2 source facility or product(s) are registered under jurisdictional or host country standards, regulations, or programs which promote the use of energy from renewable sources and define eligible sources of biomass inputs (e.g., EPA RFS, Canada CFR). Biomass demonstrated as sustainable using the latter recommended option should not be subject to traceability requirements.</p> <p>We also recommend that traceability requirements be removed for biomass that is demonstrated to be compliant with the required sustainability principles (per the biomass type) via regulatory compliance (option A). Instead, traceability requirements should only apply where a biomass demonstrates compliance with the mandatory sustainability principles using a sustainability certification (option B), or where the regulatory compliance demonstration (using any combination of regulations) does not address all mandatory sustainability principles. Where traceability requirements do apply to biomass, the source should be the first location at which the biomass was separated from primary products (for biomass wastes/residues) or waste/residues (for biomass primary products) - e.g., farm, sawmill, pulp and paper mill, manure lagoon, wastewater treatment plant.</p>	<p>Thank you for your comment.</p> <p>The final version of VMD0059 (v1.0) includes guidance on the treatment of biomass feedstocks, including those from waste, informed by the feedback received.</p>
139	Anonymous #1	<p>Page 32 – Appendix 2 – Demonstration of Sustainable Biomass</p> <ul style="list-style-type: none"> • While Sustainability focus points are elaborated on, there is little detail 	<p>Thank you for your comment.</p>

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#	Organization	Comment	Developer's Response
		<p>directly stated on how the appropriate metrics or monitoring techniques required to confidently and robustly report on these principles. This is unclear even within those that have been certified under approval schemes mentioned in “Section B – Sustainability certification”, and commonly discussed in literature and the working communities.</p>	<p>The final version of VMD0059 (v1.0) includes guidance on the treatment of biomass feedstocks, including those from waste, informed by the feedback received.</p>