ISOMETRIC

Biochar Storage in Agricultural Soils Module

Public Consultation Summary

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Context

Isometric held a public consultation on its Biochar Storage in Agricultural Soils Module v1.0 to receive stakeholder input on this Biochar Storage in Agricultural Soils Module v1.0 and the associated Biochar Production and Storage Protocol v1.0.

The public consultation was announced on the 3rd of July, 2024. The period of consultation lasted 30 days, with the final day as the 3rd of August, 2024.

After the initial public consultation, the feedback received was considered for incorporation into the Biochar Storage in Agricultural Soils Module v1.0 and the associated Biochar Production and Storage Protocol v1.0. All stakeholders have received responses to the submitted feedback.

This document summarizes the feedback received during the public consultation and the revisions included as a result of the comments. Content in italics and brackets are excerpts from the public consultation version of the protocol to give the reader necessary context behind the comment.

We thank all participants for their time.

Summary of feedback received

Theme	Resolution	Comment	Section
Are there labs that will be recommended for testing?	We can certainly recommend labs for testing, and follow community efforts to standardize measurements globally as these continue. From costs we have seen so far, for >10 samples at once, it costs around €350 per sample for this testing at Aarhus University, which has around a 3 week turnaround time for data output. There are many labs worldwide which would be capable of doing this analysis - this method is commonly used in the coal and petroleum industries, and any service company catering to these industries should typically be equipped to perform this test. It is up to the Project Proponent to decide which lab is best suited to carry out their testing to the suitable standard and include this detail in the PDD.	Question: Will Isometric have preferred/accredited laboratories (e.g., Eurofins) that can execute all the required analyses according to your new methodology?	4
Typos in the parameters	We altered the typos in this equation and shipped those	With this formula, Fdurable is not a fraction for values of Tsoil greater than 0.2 (as	4.1

to calculate Fdurable	as a "patch" update to the Module on 29/07/2024.	F_durable will be greater than 1).	
		Equation 2: I think the correct value for constant term b is 0.4, not -0.4	4.1
		The equation doesn't work for Fdurable and may have some typos	4.1
Standard tests for assessment of physical and/or chemical characteristics should be changed	We have updated the guidance here to refer to the World Biochar Certificate (WBC), as we agree this is the most relevant standard to refer to in this case.	Why use the European Biochar Certificate and not the World Biochar Certificate thresholds? WBC seems to be more relevant in this case. The thresholds for EBC-feed are very high and likely unattainable by most biochar producers.	2
More guidance is needed on how to integrate the two durability options for crediting, including the use of Random Reflectance	We have now included a companion appendix to the Module to explain more of our reasoning behind including both of these options for crediting, and some example data explaning the difference in crediting using the quantification frameworks set out in the Module for 200 year and 1,000 year crediting. New research is due to be published later this year to provide more data and such updates will be included in a future version of this Module and Companion Document.	Very excited to see Isometric leading the industry on permanence using the random reflectance method here. Would love to discuss more with the science team to learn about how you decided to accept this method, and what kinds of additional research would be valuable in this area.	4.1, Appendix
Field management information and baselining will be challening to operationalize	We have received feedback that soil baselining data i.e. field management data can be considered highly sensitive by farmers, which makes getting access to all soil data challenging for practitioners. We have changed these requirements to "recommended" rather than "required".	The field management information here is considered highly sensitive by farmers. In prior discussions around biomass sourcing, farmers have been reluctant to share this level of detail with Charm, and are doubly reluctant when they hear that Charm will be passing these details on to other parties.	4.1.2
		The same concern applies to the baseline establishment: Not sure how willing farmers will be to allow Charm to collect soil samples on their land, or to share data from their own soil fertility testing.	
		Farmer willingness to adopt biochar is a major challenge among biochar producers already; requiring this level of detail and access could greatly constrain the number of biochar offtake partners that Charm is able to work	

		with.	
		“Post-deployment monitoring” is mentioned but not elaborated on.	
Site selection criteria leaves room for interpretation	Site selection criteria are included in the Module as guidance for biochar producers on how to select sites.	This section outlines site considerations that may impact biochar durability, but it does not define a set of criteria that would make a site permissible or not permissible. I worry that this leaves too much discretion up to the VVB.	5.2
		Here the grain size of the soil should also be considered. I think that coarse grained biochar has a lower impact on a coarse grained soil thank fine grained biochar and vice versa.	
System boundary guidance as it is currently written may not work for biochar projects	In Section 7.1.1.4 of the Biochar Production and Storage Protocol (Considerations for Project Activities Integrated into Existing Practices), we already include the following: "In some instances, the project activities may be integrated into existing activities, such as biochar spreading while tilling. Activities that were already occurring, and would continue to occur in the absence of The Project, may be omitted from the system boundary of the GHG accounting if evidence of this is provided."	If tilling is the usual pratice from the farmer, should it not be neglected in the accounting?	Section 7.1.1.4 of Biochar Production and Storage Protocol
There should be a note included that biochar may be pelletized for application.	A note has been added in the Applicability section of the Module that biochar can be applied as pellets or fine-grained material.	Sometimes biochar is pelletized for application. This impacts the surface area but also the development of dust during spreading.	1.1
Human health should be further considered in safeguarding.	We have added guidance in the Biochar Production and Storage Protocol, section 5.2.2. (socio-economic safeguards) that "in particular, this should include specific risks to human health that may be associated with biochar production,	Also considered must be human health while handling the biochar during transport and application due to dust.	2

	application and/or storage during the Project, for example during transport and application due to dust."		
How and why do wetlands feature in the "Applicability " section of the module?	Thank you for this comment. After review, the authors have decided to remove this applicability requirement. The physical and chemical characteristics required for biochar durability should result in durably stored biochar in wetlands, including wet rice paddies.	Does this also apply for wet rice paddies?	1.1
Biochar pre-treatment	We appreciate this comment. We have added biochar pre-treatment as a recommendation prior to application. Because this pre-treatment is for additional co-benefits rather than biochar durability, it will not be required in this version of the module.	As biochar must be charged with nutrients before application to prevent corp failure the choice of nutrients (manure, urine, compost) is also relevant.	2.1