

# Baseline and Additionality Assessment

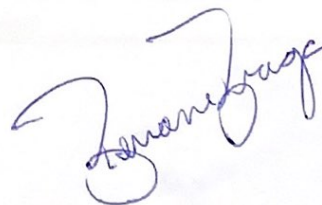
The baseline and additionality assessment is a requirement for eligibility under the Puro Standard. The assessment is made by the CO<sub>2</sub> Removal Supplier and verified by the independent 3<sup>rd</sup> party auditor. The assessment made in this document will be publicly available in the Puro Registry.

The Puro Standard only certifies durable carbon removals from the atmosphere that are net-negative and does not certify emissions reductions or avoidance. The CORCs (Carbon dioxide removal certificates), issued therefore represent a net carbon removal (1 tCO<sub>2</sub>eq. net) from the atmosphere to a durable storage of minimum of 100 years, from which are subtracted any supply-chain emissions from the project, any re-emissions over the guaranteed storage time, and any baseline removals taking place in a baseline scenario.

The CO<sub>2</sub> Removal Supplier must in this assessment:

- Define and quantify all reasonable **baseline alternatives** to the proposed project activity to remove carbon with carbon financing. A baseline is a scenario that reasonably represents the natural and anthropogenic carbon removals to permanent storage (storage durability over 100 years) in the absence of the carbon removal activity proposed by the CO<sub>2</sub> Removal Supplier. Although anthropogenic emissions may take place in the baseline scenarios, these emissions do not constitute a reference point for the quantification of CORCs (only the baseline removals do).
- Demonstrate **carbon additionality to the baseline**, meaning that the project must convincingly demonstrate that it is resulting in higher volumes of carbon removals than the likely baseline alternatives (question A1.).
- Demonstrate **regulatory additionality**, meaning that the project is not required by existing laws, regulations, or other binding obligations (question A2.).
- Demonstrate **financial additionality**, meaning that the CO<sub>2</sub> removals achieved are a result of carbon finance and that the project activity would not be economically viable without carbon finance. The project activity can have substantial other non-carbon income sources if the carbon finance through CORCs is significant for the economic viability of the project. To demonstrate financial additionality, the CO<sub>2</sub> removal Supplier must provide the responses in this form and must be able to provide full project financials for verification.

Reference documents: Puro Standard general Rules v3.0, rule 2.1.3, and Additionality Assessment requirements





Baseline: <i>Biochar Sale for energy purposes</i>	<i>Prior to the Biochar project, the charcoal fines were sold to cement industries and used for energy purposes.</i>	None	None
Project activity: <i>Aperam BioEnergia Biochar</i>	Producing and applying biochar to the soil and removing CO <sub>2</sub> from the atmosphere.	1,3 tonCO <sub>2</sub> e/tonbiocar	None
Alternative scenarios	<i>(Other likely activities in this market that can replace the baseline activity, if none leave blank)</i>	None / Some <i>(please quantify)</i>	None / Some <i>(please quantify)</i>

Yes, the baseline didn't remove any CO <sub>2</sub> from the atmosphere.	Yes
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No, the project is not required by any law and is completely voluntary.	No
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Yes, it is as currently there is no biochar project with the scale, the structure and with a strong control from the feedstock to the application, as Aperam's project	Yes
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The project is only possible due to the expected revenue of the carbon removal credit transactions. If it wasn't for the carbon finance, the biochar would be destined to energy applications.	Yes
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Investments in the feedstock and pyrolysis reactors were not necessary, since those resources were already available in the baseline situation, prior to the project. On the other hand the company had to massively invest in technology, infrastructure a operational equipment + personnel, in order to have the biochar project running and completely eligible with biochar methodology	No
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Yes, since revenues from carbon finance were considered and it was a very important item to achieve project's feasibility and for investment decision to happen.	Yes
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*Janine Zagg*



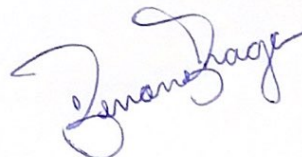
Some projects may demonstrate additionality through simple cost analysis: this is applicable for projects where ex-ante investment analysis is not applicable, because a large investment is not needed. Example of such project could be charcoal producers starting to produce biochar for soil applications using existing equipment with minor adaptations.

<p>Please describe adaptations needed and the related cost items and include evidence in attachment.</p>	<p>Afterburners development and construction to eliminate pyrolysis emissions; Acquisition and adaptation of trucks and tractors to transport and apply biochar into the soil; Structuring of an operational team (drivers, supervisors, operators, etc...) to run biochar transportation and application activities; Among other investments on structuring processes and controls to have an eligible operation and product for biochar.</p>
<p>Please summarize the simple cost analysis here and provide additional calculation spreadsheet in attachment. All formulas used in the spreadsheet shall be readable to the verifier and all relevant cells shall be viewable and unprotected. Mark confidential when needed.</p>	<p>Unfortunately, due to our corporate compliance rules, we are unable to provide a detailed breakdown of our cost structure, but, before the project, the charcoal fines were sold to cement industries for burning purposes and today those fines are applied to the soil, and by that, the company has a 40% increase in the IRR</p>

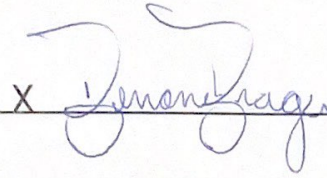
If large investment is needed, CO<sub>2</sub> Removal Suppliers can be guided by the CDM Methodological Tool 27 of the UNFCCC Clean Development Mechanism "Investment Analysis" to demonstrate financial additionality.

Request	Project response
<p>Please show your calculations to determine the benchmark rate for either equity IRR or WACC, whichever you are using. Please include documentation of how the rate is suitable for the technology and region.</p>	
<p>Please state how CORC revenues change the expected IRR or NPV of the project.</p>	
<p>Please conduct a sensitivity analysis in relation to the investment analysis and summarize the results here.</p>	
<p>Please provide full calculation spreadsheet file as an attachment. All formulas used in the spreadsheet shall be readable to the verifier and all relevant cells shall be viewable and unprotected. Mark confidential when needed.</p>	

I hereby declare that all information provided is truthful and precise to the best of my knowledge.



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April 18th, 2023, Capelinha:  
Benone Magalhães Braga, Executive Manager, Aperam BioEnergia.