

Adaptation & Resilience Characterisation & Impact



# BiTermica



Colombia



6 September 2024





# Climate Causality Framework

The Climate Causality Framework is a diagram that shows how the company's product or service helps to address and/or reduce the impact(s) of specific climate hazards.

## Pitch:

Biotermica produces mobile biorefineries for the transformation of residual biomass into biochar, bio-oil, and synthesis gas.

## Business Model:

B2B. Sale and rental of 1-, 5-, 25- and 50-tonne dairy processing plants tailored to the client.

● **Location:** Colombia

● **Geographical Focus:** Latin America and the Caribbean



### Climate hazard

- Extreme weather
- Floods
- Droughts



### Impacts of hazard

- Deterioration of food security due to crop losses and declines in agricultural productivity



### Adaptation innovation

Biotermica's mobile refineries support farmers in adapting to climate change by converting waste into agricultural inputs. These inputs enhance crop resilience against droughts, floods, and other extreme weather events by improving water retention and soil recovery.



### **Biotermica's Mobile Biorefineries Boost Soil Health in Latin America**

Biotermica is transforming waste management practices by converting residual biomass at the source through advanced biorefineries. These facilities, currently sold and rented in Colombia, are dedicated to the production of valuable resources, including biochar, bio-oil, and syngas directly benefiting 250 clients. Their clients range from small municipalities of less than 5,000 people to individual farmers.

Latin America and the Caribbean region are confronted with significant climate-related challenges. Extreme weather events, such as storms and droughts, have led to critical impacts on food security, manifesting in crop losses and declines in agricultural productivity. In light of these pressing issues, Biotermica's mobile biorefineries play a pivotal role in transforming waste into valuable resources. By efficiently processing biomass, the company not only mitigates greenhouse gas emissions but also produces sustainable soil substrates, amendments, and biofertilisers that enhance soil health and agricultural productivity.

In 2023, Biotermica successfully processed 3 tonnes of biomass daily. As of 2024, the company has expanded their operations, and is now processing 5 tonnes of biomass each day.







## Validation Statement

This statement summarises key facts reported by the start-up as well as observations made by the independent external expert during the validation process. This validation statement is limited to the information provided by the start-up in all their documentation submitted to and shared with EIT Climate-KIC during conversations or in writing.



Biotermica's innovation is a climate mitigation innovation with adaptation and resilience co-benefits.



Last year, 3 tonnes of biomass were processed per day. In 2024, 5 tonnes of biomass are being processed per day. This will amount to a total of 1,825 tonnes of biomass by the end of 2024.



The innovation is supporting the following resilience capacity:

**Absorptive capacity:** The ability of systems, institutions and humans to stabilise and resist the impact of climate change. This includes responding in ways that enable effective and feasible adaptation solutions.

Source: [Intergovernmental Panel on Climate Change IPCC 6<sup>th</sup> Assessment Report 20 March 2023](#)



The Climate Causality Framework has been reviewed and it is part of this validation.



If the adoption of the innovation goes as planned, Biotermica's innovation is projected to directly benefit 250 clients in 2024, ranging from small municipalities of less than 5,000 to individual farmers.



# About this Validation Statement



EIT Climate-KIC is Europe’s leading climate innovation agency and community, using a systems approach to shape innovation to support cities, regions, countries and industries meet their climate ambitions.

Together with partners across the globe, EIT Climate-KIC acts to bridge the gap between climate commitments and current reality by enabling decision-makers and investors to act. They find and implement solutions in integrated ways and mobilise finance. They build skills to accelerate learning and explore innovation, opening pathways to shift mindsets and behaviours. Through radical collaboration, EIT Climate-KIC orchestrates large-scale demonstrations that show what is possible when cycles of innovation and learning are deliberately designed to trigger exponential decarbonisation and build resilient communities.

Learn more at [www.climate-kic.org](http://www.climate-kic.org)



Garama 3C Ltd has supported governments, organizations, and communities to respond and adapt to climate change since 2012.

This Validation Certificate highlights the significant impact of the start-up's innovation on enhancing adaptation and resilience within its company, supplier and customer base.

The adaptation and resilience assessment and validation process encompasses various elements, including a training session, educational materials, an online adaptation and resilience characterization and assessment tool as well as a 1:1 coaching session with each start-up.

Validation involves a structured assessment conducted by a member of the EIT Climate-KIC team and/or an independent external consultant to ascertain the extent to which a start-up has an adaptation and resilience business model and the extent to which their product or service has adaptation and resilience benefits. A dialogue between the start-up and the validator is part and parcel of the validation process. This ensures that claims made by the start-up are verified.

The objective of the Validation Certificate is to assist the start-up in telling its impact story while also providing a robust tool for engaging potential investors and clients. This serves to underscore the start-up's credibility and potential for growth.

EIT Climate-KIC, assisted by Garama 3C, has validated the information provided by the start-up and has undertaken subsequent inquiries to obtain additional details where necessary. It is acknowledged that there may exist supplementary information not furnished by the start-up, which has not been evaluated by our team.

	Validation Request	First Review	Feedback Call	Receipt of Revisions	Final Review	Wrap-up all or email
<b>Date</b>	23-07-2024	24-07-2024	31-07-2024	08-08-2024	26-08-2024	06-09-2024
<b>Result</b>	Satisfactory	Satisfactory	Satisfactory	Satisfactory	Satisfactory	Satisfactory

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**Start-up name:** Biotermica      **Published by:** EIT Climate-KIC

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