Mobilizing climate finance through bush biomass: Biochar Carbon Removal in Biomass Value Chains

south pole The Climate Company

Mobilizing climate finance through bush biomass

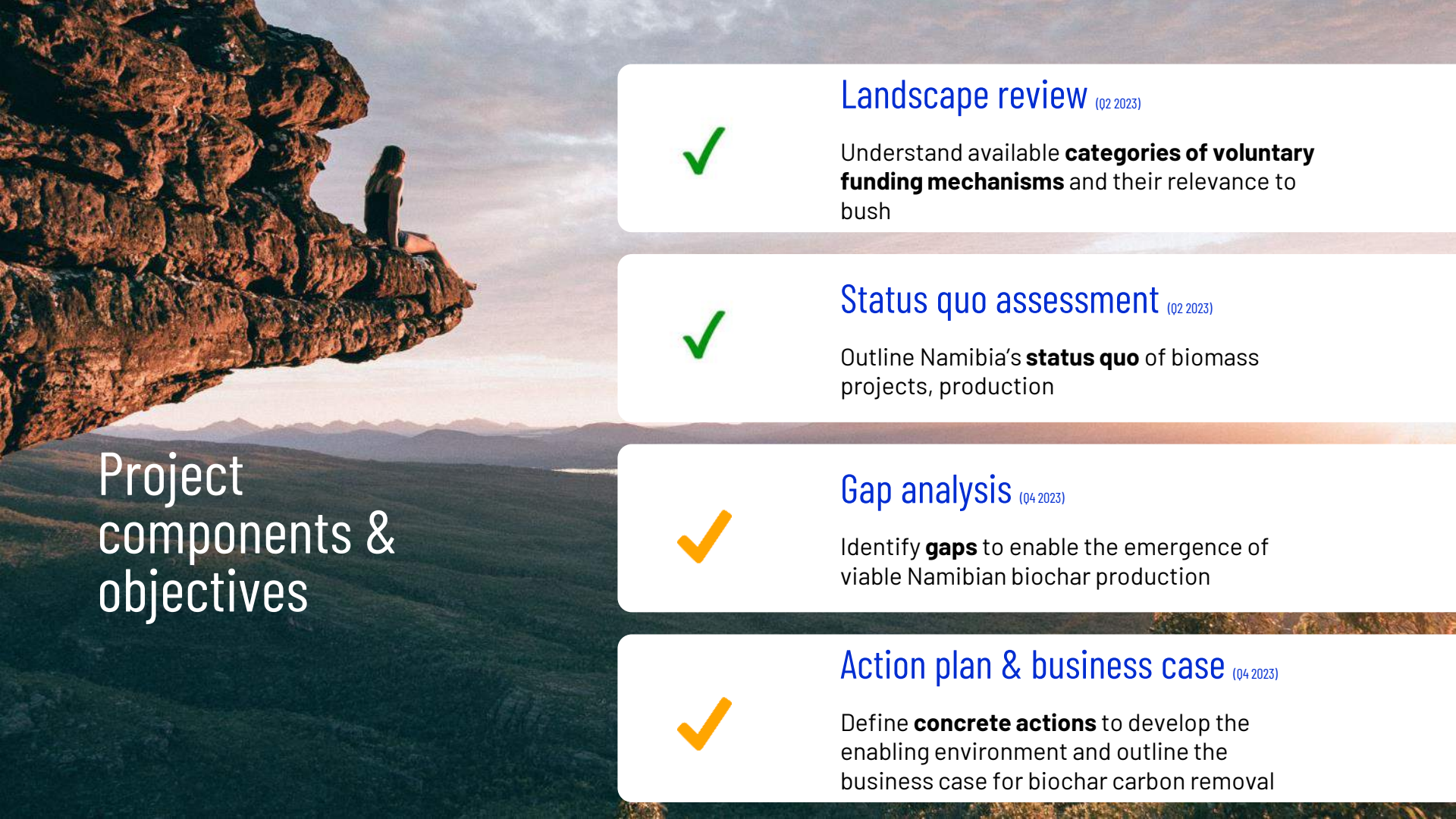
Overall objective:
Assess additional sources to finance measures to address the bush encroachment problem and restore the ecosystem services provided by the savannah bushland and to develop an action plan to scale bush removal.

Project partners

south pole

VITO CONSULTING
independent energy, environment and radiation consultants

giz Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH



Project components & objectives

Landscape review (Q2 2023)

Understand available **categories of voluntary funding mechanisms** and their relevance to bush

Status quo assessment (Q2 2023)

Outline Namibia's **status quo** of biomass projects, production

Gap analysis (Q4 2023)

Identify **gaps** to enable the emergence of viable Namibian biochar production

Action plan & business case (Q4 2023)

Define **concrete actions** to develop the enabling environment and outline the business case for biochar carbon removal

Revenue options from ecosystem service markets

01
Carbon: Compliance markets

Governmental regulatory instrument to price and trade carbon emissions, i.e. ETS, Carbon tax

02
Carbon: Article 6 market

Framework to trade emission reductions/avoidance between countries to reach mitigation targets

03
Carbon: voluntary carbon market

Market to trade environmental commodities outside of regulatory requirements

04
Biodiversity Credits

Focus on payments for the protection, restoration, or management of biodiversity

Conclusion on market readiness

Not ready

UNDP: Study concluded that the country is currently not ready to implement an ETS or a carbon tax

Emerging

Namibia is in the early stages of establishing governance frameworks for Article 6 regulated markets.

Ready

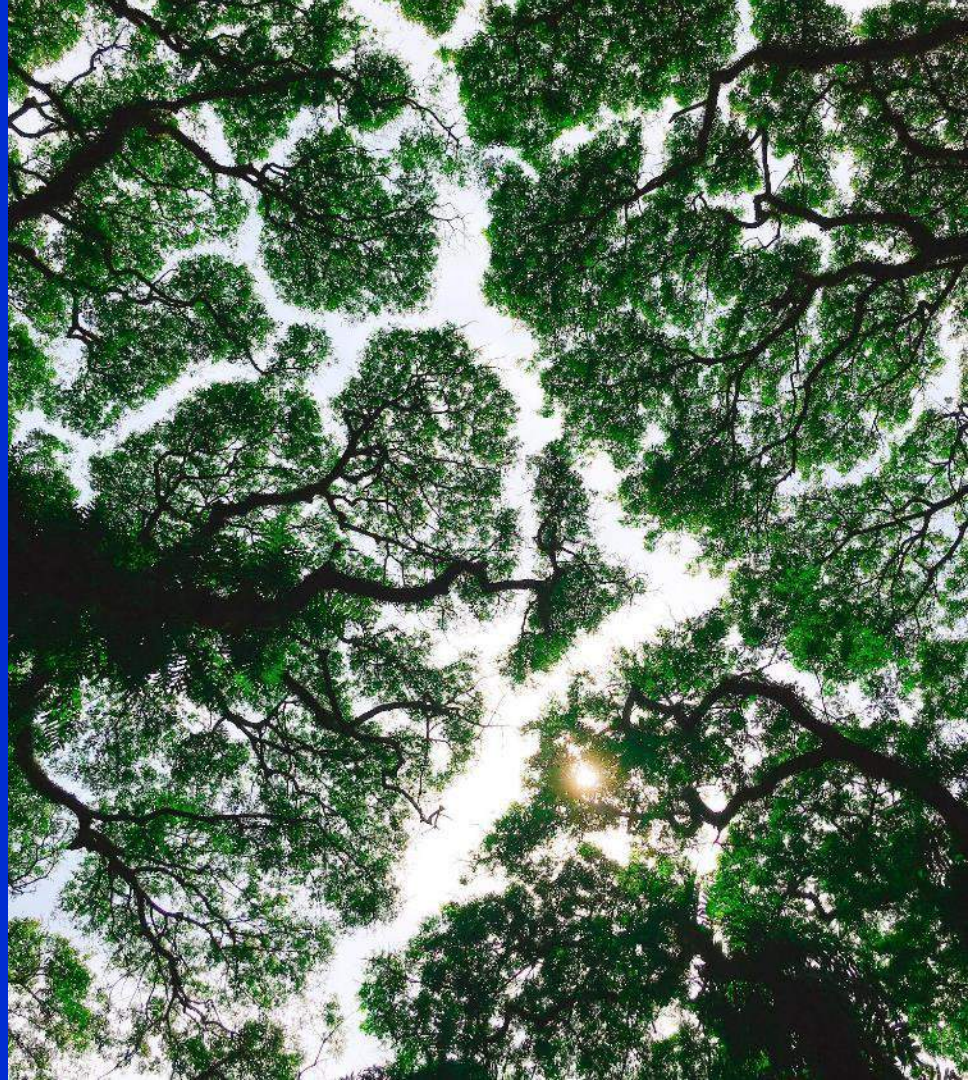
Highest potential with emerging volume and demand, especially for removal credits

Not ready

Still in their infancy and are unlikely to reach the scale of carbon due to lack of fungibility of credits.

What are carbon credits?

One carbon credit is equivalent to **1 tonne of CO_2e** being avoided or removed from the atmosphere.



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Standards & Methodology Owners

Gold Standard

Verified Carbon Standard
A VERRA STANDARD

Issued

Traded

Retired

Commodification and trade system aligned with transparent rules & regulations

What is biochar and biochar carbon removals?

Biochar is a form of charcoal that is made from organic materials, such as agricultural waste or wood chips. It is created through pyrolysis - heating the organic materials in a low-oxygen environment. Applying biochar to soil or other materials can store CO_2 for centuries. It therefore has the potential to generate **Biochar Carbon Removal (BCR) carbon credits.**

Encroacher bush biomass is sustainably harvested to restore the savannah ecosystem

It gets converted into carbon rich biochar

And the carbon is stored in durable sinks such as soils and building materials.

What is biochar and biochar carbon removals?

Instead of biomass waste left to decay, releasing GHG in the air

It gets converted into carbon rich biochar

And the carbon is stored in durable sinks such as soils and building materials.

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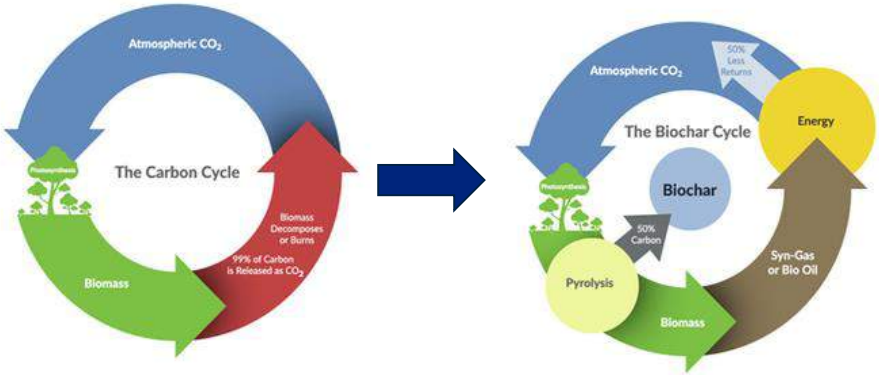

What is biochar and biochar carbon removals?

Typical bush-to-biochar conversion rates lies between 4:1 to 6:1.

With **each ton of biochar** applied to a durable sink, around **2,5 to 3 tons of CO2 equivalent** are removed from the atmosphere.

Currently, biochar carbon credits are traded at prices up to 120 EUR/tCO2eq

At this price point, the potential revenues from BCR could amount to 50 - 75 EUR/t biomass. However, additional expenses and market uncertainties need to be factored in.

Work package C: Validate gap analysis & roadmap

Objective: Assess the national enabling environment to establish and scale biochar carbon removal projects to mobilize climate finance for debushing

Status quo: Based on initial stakeholder interviews and desktop reviews, a preliminary roadmap for Namibia has been developed. Based on a gap analysis, the roadmap suggest different measures to address high- low impact barriers

Next steps:

- Validate the gap analysis and identified ways forward through a **workshop**
- Reach out to key actors to define/confirm responsibilities and possible next steps and

Work package D: Present and refine business case

Objective: Support establishment and scaling of BCR through a business model that supports national capacity building and serves as a decision making tool

Status quo: Based on common costs and revenue streams, an excel-based business model has been developed, which looks at different biochar production cases. The model help project owners to simulate impacts of changes of various cost and/or revenue items.

Next steps:

- Present the overall business case to stakeholders
- Firm up local data on technology and labour input variables with key stakeholders

Interested to be involved?
Please reach out to us

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Interested to join our workshop?
September 14th, 09:00 - 15:30

Please reach out to Daniel or Hannes for a virtual participation link!