



South-African Use Case: Producing Biomass out of Invasive Trees



Key Information:

Location: A range of locations across the Eastern Cape, Western Cape, and possibly in KwaZulu-Natal Provinces in South Africa

Bio-based products: Biomass feedstock harvested from invasive alien trees to make products such as biochar, pellets and wood chips

Benefits:



Biodiversity enhancement



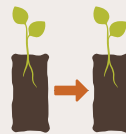
Biodiversity credit models



Biomass valorisation



Informed business planning



Replication potential



Disaster risk reduction



Climate mitigation

Main Challenges

Focuses on areas dominated by invasive alien trees that limit land use by competing for water, reducing grazing, harming biodiversity, and raising wildfire and dumping risks. Socio-economic conflicts and restoration costs further hinder land recovery.

Solution within MarginUP!

Conducting biodiversity and socio-economic assessments to inform future value chains based on biomass feedstock harvested from clearing invasive alien trees. Explore the potential of biochar, pellets and wood chips production.



Acacia invasive species. Photo: Duduzile Ngwenya

Stakeholders Engaged

- Coega Biomass Center
- Private sector
- Local communities affected by invasive species
- Researchers
- Participants in mapping and workshops

Interest Groups

- Landowners
- Policymakers
- Biochar and green value chains investors
- Environmental NGOs
- Businesses on biomass valorisation
- Climate mitigation stakeholders
- Research institutes

Expected Results

- Comprehensive biodiversity baseline for invaded areas
- Monitoring framework for biodiversity credit mechanisms
- Analysis of biochar as a tool for climate mitigation and local value creation
- Policy and business model recommendations to support biomass value chains

Project's Timeline

2023 – 2024:

- Stakeholder mapping and initial workshops.
- Biodiversity surveys with Coega Biomass Center.
- Presentations, publications, and interim reporting.

2025:

- Consolidate biodiversity assessment results.
- Launch socio-economic and business model analysis (biochar focus).

2026:

- Publish recommendations and frameworks for future value chains.

Replication Potential

High replication potential within South Africa and in the Southern African Development Community (SADC). It also provides input for global debates on the valuation of ecosystem services.



Biochar is a carbon-rich material that is made from biomass.
Photo: Iqbal Farooz



Pile of pellets.
Photo: Curtis Wong



Landscape showing patches of Eucalyptus and Acacia species invasions. Photo: Duduzile Ngwenya

About MarginUp!

The project is developing sustainable and circular value chains to produce bioproducts and biofuels from natural raw materials grown on marginal lands. By introducing climate resilient and biodiversity-friendly non-food crops on marginal and low-productivity lands, MarginUp! will increase farming system resilience, enhance biodiversity, and promote stakeholder participation.

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