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Pitch Deck
10th March 2025

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Summary

Southern Africa has lost over 1.2 million sq. km of land to bush encroachment.

Annually over 200 million tonnes of coal is consumed in South Africa.

SteamBioTechnologies innovative Superheated Steam (SHS) Torrefaction process turns woodybiomass into a drop-in coal replacement.

Bush Torrefaction at the same price as coal will enable large scale bush harvesting.

Thinning the bush restores the savannah to an optimum environment for the cheetah and its prey and the production process provides sustainable, alternative employment for local communities, particularly women.

Upgrading and validating our innovative SHS plant at CCF Namibia for €2 million will confirm commercial investor confidence in large scale replication.

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Cheetah CONSERVATION FUND

Environmental and social Impact

Bush Torrefaction will extend the environmental and social impact already being made by the BushBlok biomass project at CCF Namibia

E.g. If 290 acres of land is harvested by thinning thorn bush and producing 1182 tons of wood chip it will also be restored to a more natural savanna, allowing prey to return and cheetah to hunt,

For 290 acres 35 Namibians from the local community given employment. 10 in the harvesting process and 25 in the Bushblok process, 60% of whom will be women.

117,300 10kg bags of Bushblok would be produced and sold with profits of £51,610 available to invest in FFA training for 5,000 Namibian farmers, and indirectly benefiting 31,050 community members

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Joint Venture Primary market developers, IP owners and project management lead

Network New Europe Ltd

Innovation business. Identified, initiated, and piloted SHS torrefaction as a step-change technology (2012).

Innovation lead SteamBio project (2014-2018) and SteamBioAfrica project (2021-2024)

Carbon Capital Pty Ltd

Project development and capital raising company focussed on bioeconomy opportunities in Southern Africa.

Developed and operationalised advanced charcoal & biochar production

Commercial and African lead in SteamBioAfrica

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Key Partners

John Thompson (RSA)
Leading supplier of boilers to African industry. Technology experts and future OEM

Namibia Biomass Industry Group (NAM)
Leading experts on bush encroachment strategies. Standards and compliance partner

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Cheetah Conservation Fund (NAM)
Operational site for SHS first plant and material supply

Ekasi Energy (RSA)
Clean cooking and biomass processing expertise

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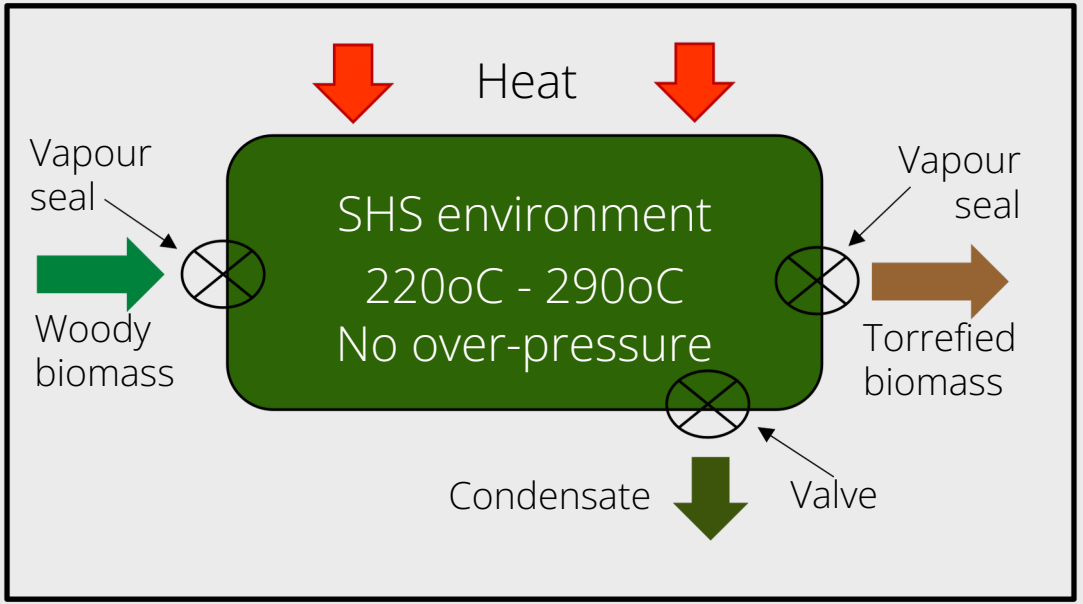
Innovative Superheated Steam (SHS)Torrefaction

Woody biomass is continuously fed through a closed chamber with no applied pressure. Steam released from this woody substrate by applying heat, creates inert torrefaction conditions. Surplus moisture is continually removed as a condensate to maintain superheat steam conditions. This condensate contains biochemicals.



EU Horizon 2020 projects:
SteamBio (GA 636865) in Spain
SteamBioAfrica (GA101036401) in Namibia

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Existing Plant

SteamBioAfrica designed, built, deployed, and demonstrated a 250kgh/hour SHS torrefaction plant at CCF, Otjiwarongo, Namibia. To enable this plant to operate with economic viability, it needs upgrades and for the upgrades to be validated. These are primarily in automation and energy efficiency measures and will cost €2 million. Validation will provide sufficient evidence for a larger scale plant to be deployed at Ohorongo Cement in Namibia. This will then stimulate wider replication of the technology across Namibia and South Africa.

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Investment for CCF Unit

Development costs (est.)	
Engineering works Plant	€ 600,000 €
operation & trials Project	700,000 €
management Market	160,000 €
development	290,000 €
Environmental services	250,000
Total	€ 2,000,000

Annual Profit & Loss	
Biofuel production	3,165 tonnes
Revenues	€ 483,000
Variable costs	€ 270,000
Fixed costs	€ 156,000
Net profit after tax	€ 39,000
Profit as %	8%

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Commercial scale system – 5 tonnes/hour throughput

Annual Profit & Loss, per system		
Capital investment	€2,100,000	
Biofuel production capacity	31,600 tonnes	5 tonne/hour throughput
Revenue	€4,636,000	Priced at coal price parity
Variable costs	€1,970,000	Feedstock dependent
Fixed costs	€1,040,000	Operations
Finance costs	€107,000	60 months @ 11%
Net profit after tax	€1,040,000	22.3% of revenue
Return on Investment	27.7%	Beats expected hurdle rates

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Sustainable Development Goals (SDGs)

SDG7 Clean Affordable Energy Our innovative process produces a clean, affordable energy supply, for industrial and domestic use, close to point of use, with no need for capital spend or loss of efficiency by users.	1.7 million tonnes of CO2 avoided over 10 years
SDG15 Life on Land Stimulating sustainable harvesting will restore land to productive use, halting and reversing land degradation, biodiversity loss, and desertification.	75,000 ha of degraded land restored over 10 years
SDG9 Industry Innovation & Infrastructure Our innovative technology manufactured within the region, will enable manufacturing to move from fossil fuel dependency to the use of renewables with existing capital assets and without loosing performance.	10 commercial scale systems, produce 600kt of biofuel over 10 years
SDG8 Decent Work and Economic Growth Bush encroachment is in areas of very high rural unemployment and extreme poverty. Southern Africa has the world highest levels of income inequality (GINI coefficient). Our work will create sustained, inclusive, and sustainable employment.	50 direct jobs created > 6000 indirect jobs c reated

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