



## PhD Funding-Programme of BMEL

### ***A+BiOx: Thermo-chemical conversion of silica-rich biomass residues for the production of heat and power, and the combined generation of mesoporous biogenic silica for material application***

<b>Country/countries</b>	South Africa
<b>Funding agency</b>	Federal Ministry of Food and Agriculture – BMEL
<b>Project management agency</b>	Federal Office for Agriculture and Food – BLE
<b>Project coordinator</b>	DBFZ – German Biomass Research Centre, Germany
<b>Project partner(s)</b>	Stellenbosch University, South Africa University Leipzig, Germany
<b>Project budget</b>	193.633,59 €
<b>Project duration</b>	01.10.2019 – 31.12.2022
<b>Thematic area</b>	Material and energetic use of biogenic residues
<b>Background</b>	Conversion of biogenic residues into heat, power and biogenic silica as a source for renewable energy carriers
<b>Short description of project</b>	The project proposal will establish a close scientific cooperation between DBFZ and Stellenbosch University in order to investigate the efficient use of silica-rich agricultural residues in South Africa for bioenergy and material applications. It focusses on the chemical pretreatment of biomass residues from food production and its combustion and gasification characteristics for combined heat and power production. Furthermore, material use of the

biogenic silica is considered. The comprehensive, innovative approach addresses aspects of climate change, efficiency and sustainability of agricultural production, soil degradation and new transformation processes of the agricultural production. Therefore, the proposal is highly relevant as an initial step for the efficient use of agricultural resources but also for DBFZ as it allows enhancing one of the core research topics with essential input.

### Pictures of project/map of research area

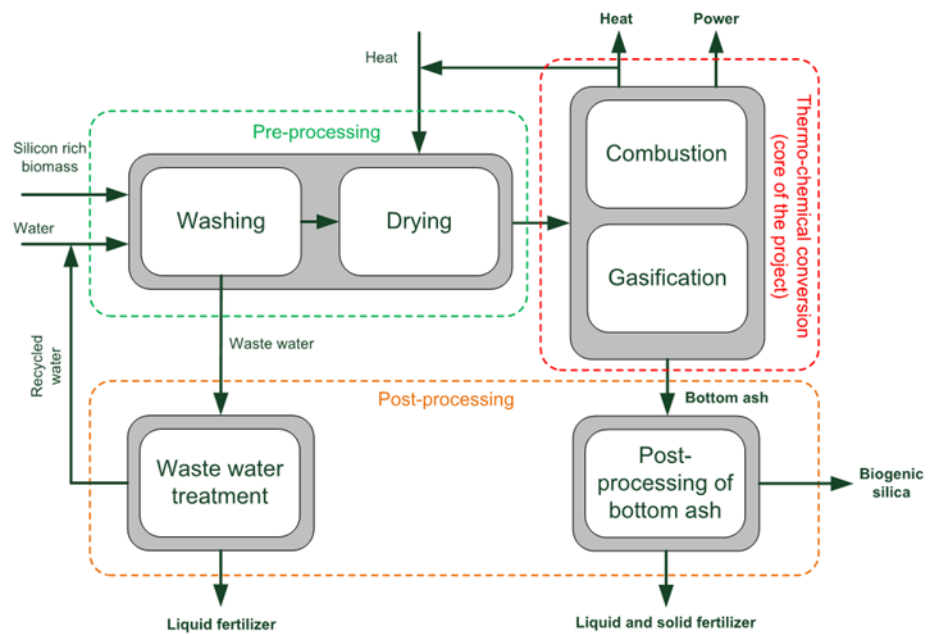


Figure: Process scheme for value-added processing and conversion of agricultural residues into energy and other useful materials.