



Centre for Bioprocess Engineering Research

University of Cape Town (UCT)

Cape Town, South Africa

www.ceber.uct.ac.za

Title:	Value addition to sucrose in South Africa: a techno-economic and environmental study
Abstract:	<p>Sugar is a relatively cheap commodity and lends itself to value addition by transforming it into one of its many derivatives. Intermediate products can then either be used or exported directly, or converted further into products such as polymers, textiles or paints.</p> <p>The Sugar Milling Research Institute (SMRI) is currently investigating value addition to sugarcane derived sucrose in South Africa. As part of this project, CeBER is investigating the potential for production of platform chemicals from a range of feedstocks in South Africa.</p> <p>This study feeds into these objectives and consists of three parts: a product selection; a techno-economic simulation and optimization, and a Life Cycle Analysis (LCA).</p> <p>Aim: Create opportunities in the South African economy by developing approaches towards production of platform chemicals in South Africa, using feedstocks such as that available from the sugarcane industry.</p> <p>Objectives:</p> <ol style="list-style-type: none"> 1. Select 2 or 3 products of interest on the basis of a quantitative market analysis for investigation. 2. Use ASPEN Plus and SuperPro to model the process and provide the basis for a techno-economic analysis. 3. Conduct an LCA on promising products. 4. Propose promising lead products
Lead institution:	University of Cape Town
Partner institutions:	Sugar Milling Research Institute (SMRI)
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Degree:	MSc.
Funded by:	CeBER, SMRI
Start date:	Feb. 2016
End date:	Feb. 2018
Feedstock:	Sugarcane derived sucrose
Value chain products:	Identify the various biochemicals, biopolymers and biomaterials that will be targeted as intermediates or end-products in terms of biomass valorisation
Geographic source of the feedstock:	Eastern South Africa (KwaZulu-Natal, Eastern Cape and Mpumalanga)