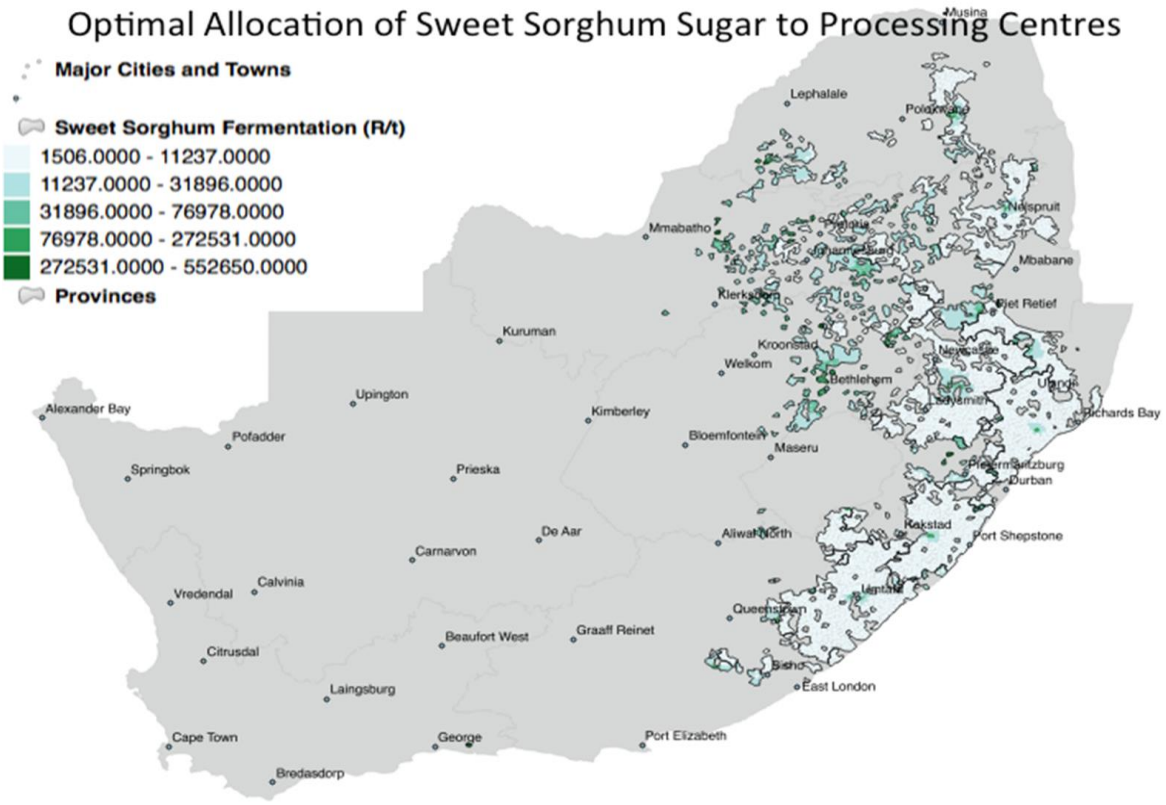
THEME: FEASIBILITY	Prepared by: Wim Hugo, SAEON

Ethanol Fermentation from Sweet Sorghum



Author(s): Hugo, W

Date: 2015

Meta-Data

Title	*Ethanol Fermentation from Sweet Sorghum*
File(s)	*WP10_07_SSO_MOL_02.shp, WP10_07_SSO_MOL_02_catch.shp*
Author(s)	*Hugo, W*
Publication Date	*2015*
Citation	*Hugo, W. 2014. Feasibility of BioEnergy production in South Africa, BioEnergy Atlas for South Africa, DST/ SAEON 2014, Section WP10_04*
License	*Creative Commons 4.0 BY SA (No restrictions on re-use, proper citation and attribution requ*

Abstract	** Cost Challenges -* *None of the projects are feasible; producing ethanol within the cost range of petrol in the recent past is only possible through subsidisation of the sugar input costs. Capital costs are more than double that of coal-based electricity.* ** Policy Challenges -* *Regulation of ethanol production similar to the wine industry will be required with regulation of a large number of small producers.* ** Environmental Challenges -* *Greenhouse gas mitigation depends strongly on (1) co-generation of electricity from bagasse to supply process energy and (2) whether land use change is minimised.* ** Social and Institutional Challenges -* *Conversion of subsistence farmers in former homeland areas, with high reliance on cattle and maize, to a cash crop with side products for own consumption and cattle feed will require significant community involvement. Cooperative farming and marketing channels need to be investigated.*
Keywords	*crops, ethanol fermentation, feasibility, model outputs, sugar, sweet sorghum*
Caveats	http://bea.dirisa.org/resources/metadata-sheets/WP10_07_META_SSO.pdf
Web Meta-Data	
Web Resource	http://app01.saeon.ac.za:8086/geoserver/BEA/wms?service=WMS&version=1.1.0&request=GetMap&layers=BEA:WP10_07_SSO_MOL_02&styles=&bbox=16.451920000028533,-34.83416989569374,32.892531746697685,-22.125030000001036&width=512&height=395&srs=EPSG:4326&format=application/ope

Methodology/ Protocol

Processing/ Provenance	*As described above*

Important Attributes

MESO_ID	Meso-zone ID
PRICOST	Optimal Allocation of Sweet Sorghum Sugar to Processing Centres, R/ton
ALLOC	Catchment ID

References and Sources

[1]	Elbehri, A, Segerstedt, A and Liu, P. BioEnergy Sustainability Challenge - A global assessment of sustainability issues, trends and policies for biofuels and related feedstocks, FAO, Rome, 2013. http://www.fao.org/docrep/017/i3126e/i3126e.pdf
[2]	Von Maltitz, G. Estimates of Land Use Effects of Major Products and Feedstocks, Work Package 9, in BioEnergy Atlas for South Africa, W Hugo (ed), DST 2013
[3]	Witi, J and Stevens, L- Greenhouse Gas Inventory for South Africa, 2000-2010, Department of Environmental Affairs, 2013 - https://www.environment.gov.za/sites/default/files/docs/greenhousegas_invetorysouthafrica.pdf
[4]	Durand, 2010. Drought adaptation measures and risk tolerance of commercial, small-scale and subsistence maize farmers in the Free State and North West Provinces of South Africa, ARC-Grain Crops Institute, http://cnas.ucr.edu/drought-symposium/presentations/Agronomy-1-So%20Africa.pdf
[5]	Ethanol Fermentation from Sweet Sorghum - Catchments: http://app01.saeon.ac.za:8085/geoserver/WP10/wms?service=WMS&version=1.1.0&request=GetMap&layers=WP10:WP10_07_SSO_MOL_02_catch&styles=&bbox=22.920763473359326,-33.974364455323396,32.44577285817367,-22.8424675551394&width=438&height=512&srs=EPSG:4326&format=application/openlayers