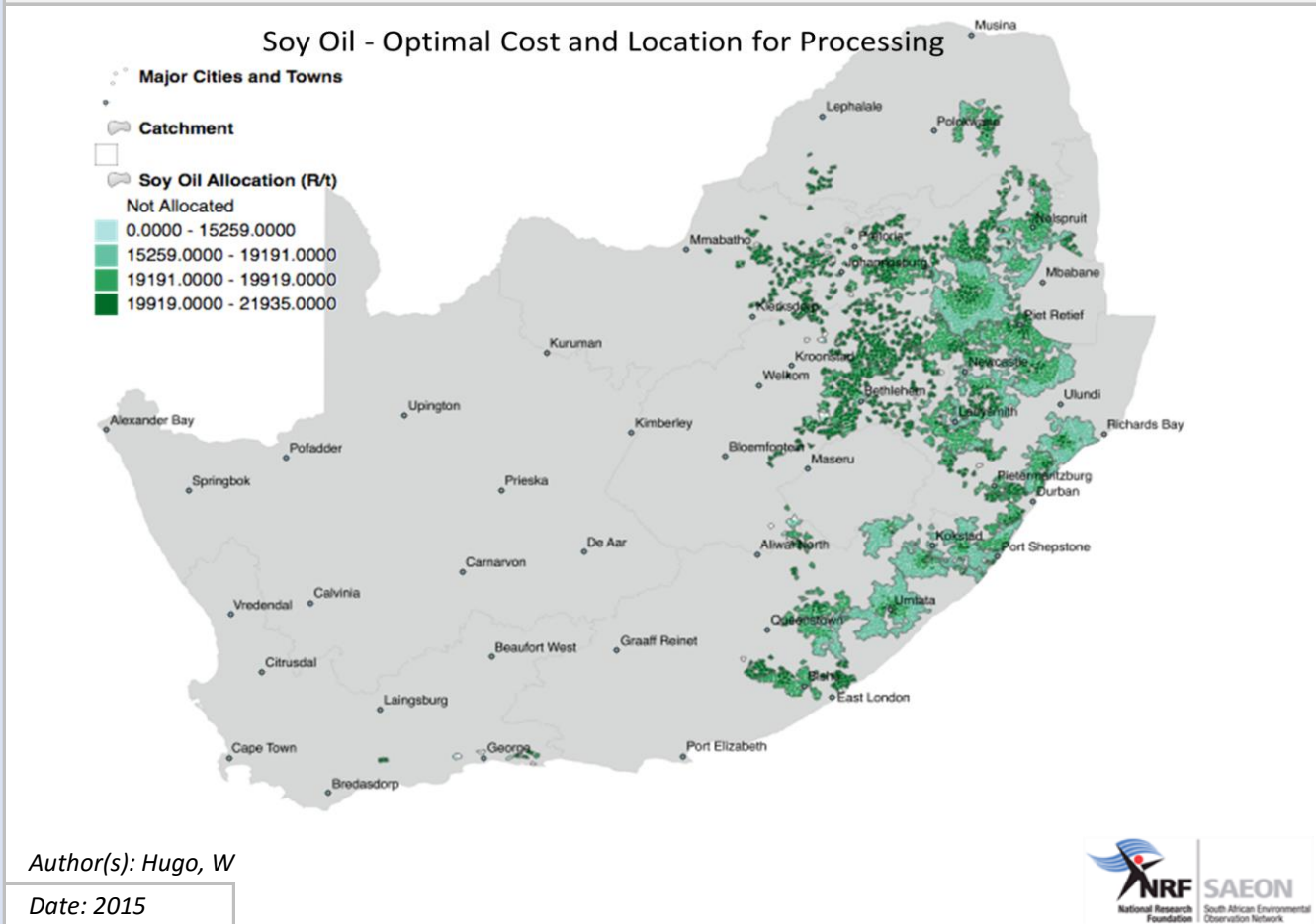


Soy Oil - Biodiesel Transesterification



Meta-Data

Title	Soy Oil - Biodiesel Transesterification
File(s)	WP10_07_SOY_NOT_02.shp, WP10_07_SOY_NOT_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
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Abstract	<p><i>* Technical Challenges - Technology is relatively simple and has high conversion efficiency.</i></p> <p><i>* Cost Challenges - Despite efficiency, levelised costs are high, due to mainly 2 factors (1) the input cost of raw material is high, and (2) operating costs are high due to feedstock (methanol) and distillation operations. Selling oilcake has a significant effect on final product cost, with a 50% oilcake internal subsidy reducing the costs by R 6,500/ t (0.65 R/kWh)</i></p> <p><i>* Environmental Challenges - Greenhouse gas savings are significant provided land use changes are carbon neutral. Limiting cultivation to subsistence cropland should assist with this goal.</i></p> <p><i>* 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.</i></p>
Keywords	<i>biodiesel, feasibility, model outputs, soy, soy oil, transesterification</i>
Caveats	http://bea.dirisa.org/resources/metadata-sheets/WP10_07_META_SOY.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_SOY_NOT_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	<i>As described above</i>
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Important Attributes

MESO_ID	Meso-zone ID
PRICOST	Soy Oil - Optimal Cost and Location for Processing, R/ton
ALLOC	Catchment ID

References and Sources

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[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_inventorysouthafrica.pdf
[4]	Nahman, A. and Godfrey, L. Economic value of South Africa's Waste (Preliminary), CSIR CSIR/NRE/GES/ER/ 2014/0015/A for DST, 2014, http://www.wasteroadmap.co.za/download/economic_value_sa_waste.pdf and http://www.wasteroadmap.co.za/download/trends_in_waste_management.pdf
[5]	US Environmental Protection Agency, Emission Factors for Greenhouse Gas Inventories, EPA, 2014 - http://www.epa.gov/climateleadership/documents/emission-factors.pdf
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[7]

Soy Oil - Biodiesel Transesterification - Catchments:

http://app01.saeon.ac.za:8085/geoserver/WP10/wms?service=WMS&version=1.1.0&request=GetMap&layers=WP10:WP10_07_SOY_NOT_02_catch&styles=&bbox=18.145830027206735,-34.39130985789482,32.892531746697685,-22.502897526269876&width=512&height=412&srs=EPSG:4326&format=application/openlayers