Biomass market opportunities

South-Africa

1. General Country Information
2. Economic Indicators
3. Biomass Availability
4. Energy Profile
5. Energy & Biomass Policies
6. Funding Opportunities
7. Business Climate
8. Important Contacts
9. Other Information
Colophon

Date: April 7, 2014
Status: Final

This study was carried out in the framework of the Netherlands Programmes Sustainable Biomass by Partners for Innovation BV

Contact person: Emiel Hanekamp

Although this report has been put together with the greatest possible care, NL Enterprise Agency does not accept liability for possible errors.

Contact

Netherlands Programmes Sustainable Biomass

Jobert Winkel
NL Enterprise Agency
NL Energy and Climate Change
Croeselaan 15, 3521 BJ Utrecht
P.O. Box 8242, 3503 RE Utrecht
The Netherlands
Email: Jobert.winkel@rvo.nl
Phone: +31 - 88 - 602 7969
www.rvo.nl/biomass

Partners for Innovation BV

Emiel Hanekamp, Saskia de Lint and Floor Osseweijer
Partners for Innovation BV
Cruquiusweg 20
1019 AT Amsterdam
The Netherlands
Email: e.hanekamp@partnersforinnovation.com
Phone: +31 (20) 6200511
www.partnersforinnovation.com

This document

This document is part of a series of 16, providing information on biomass markets in:

<table>
<thead>
<tr>
<th>Region</th>
<th>Countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Europe:</td>
<td>Germany, France, United Kingdom, Spain and Finland</td>
</tr>
<tr>
<td>EU/Asia:</td>
<td>Russia and Latvia</td>
</tr>
<tr>
<td>Asia:</td>
<td>China, India and Thailand</td>
</tr>
<tr>
<td>North- and South-America</td>
<td>United States of America, Canada and Brazil</td>
</tr>
<tr>
<td>Africa:</td>
<td>South-Africa and Ghana</td>
</tr>
<tr>
<td>Australia</td>
<td>Australia</td>
</tr>
</tbody>
</table>

The selection of countries is done in close cooperation with NL Enterprise Agency. The objectives of the country documents are:
- To provide companies a first impression of doing businesses in a country;
- To provide sources and contacts for more detailed information;
- To sketch opportunities how companies can be further supported when doing business in a country.
In South-Africa, the bioenergy, waste to energy and biobased economy sectors are still in its infancy but developing fast. South-Africa now has an effective and efficient renewable energy support programme, which has been very successful in attracting investment in wind and solar, but much less so in bio-energy. The government is therefore supporting a number of initiatives investigating the role of bio- and waste to energy in rural development and job creation. A biofuel blending obligation (gasoline and diesel) starts October 1, 2015. In January 2014 the National Bioeconomy Strategy has been launched, positioning bio-innovation as essential to the achievement of government’s industrial and social development goals.

1. GENERAL COUNTRY INFORMATION

- Country profiles at RVO: http://www.rvo.nl/onderwerpen/internationaal-ondernemen/landenoverzicht/zuid-afrika
- Africa country portal http://countryportal.ascleiden.nl/
- The Economist Intelligence Unit provides you with articles and short reports about Country Analysis, Risk Analysis and Industry Analysis: http://www.rvo.nl/onderwerpen/internationaal-ondernemen/landenoverzicht/marktvergelijkingen/eiu
- Im- and export figures can be found at the International Trade Centre Databank: http://www.rvo.nl/onderwerpen/internationaal-ondernemen/landenoverzicht/marktvergelijkingen/trademap

2. ECONOMIC INDICATORS

<table>
<thead>
<tr>
<th>South-Africa</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP (current billion US$)</td>
<td>283.985</td>
<td>363.241</td>
<td>401.802</td>
<td>384.313</td>
</tr>
<tr>
<td>GDP growth (annual %)</td>
<td>-1.5</td>
<td>3.1</td>
<td>3.5</td>
<td>2.5</td>
</tr>
<tr>
<td>GDP per capita (current US$)</td>
<td>5,758.0</td>
<td>7,266.1</td>
<td>7,942.8</td>
<td>7,507.7</td>
</tr>
<tr>
<td>Population (Total, million)</td>
<td>49.320</td>
<td>49.991</td>
<td>50.587</td>
<td>51.189</td>
</tr>
</tbody>
</table>


AON Risk Rating 2013

AON’s risk rating combines market, political and security risks, allowing you to make informed decisions regarding your operations and investments. Used risk Ratings are: VH= Very High, H=High, MH=Medium High, M=Medium, ML=Medium Low, L=Low and NR=Not Rated.

<table>
<thead>
<tr>
<th>Risk type</th>
<th>Rating</th>
<th>Risk type</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exchange transfer</td>
<td>M</td>
<td>Political violence</td>
<td>MH</td>
</tr>
<tr>
<td>Sovereign non-payment</td>
<td>M</td>
<td>Risk of doing business</td>
<td>M</td>
</tr>
<tr>
<td>Political interference</td>
<td>M</td>
<td>Banking sector vulnerability</td>
<td>M</td>
</tr>
<tr>
<td>Supply chain disruption</td>
<td>ML</td>
<td>Inability of government to provide stimulus</td>
<td>M</td>
</tr>
<tr>
<td>Legal &amp; regulatory risks</td>
<td>M</td>
<td>Overall risk rating</td>
<td>M</td>
</tr>
</tbody>
</table>

Source: AON political Risk Map, Q3 2013, http://www.riskmap.aon.co.uk/Political_Risk_Map.aspx
## 3. BIOMASS AVAILABILITY

### Land Use Parameters

<table>
<thead>
<tr>
<th></th>
<th>2011 (km²)</th>
<th>Land area</th>
<th>Agricultural area</th>
<th>Arable land</th>
<th>Permanent crops</th>
<th>Forestry area</th>
</tr>
</thead>
<tbody>
<tr>
<td>South-Africa</td>
<td>1,213,090</td>
<td>963,740</td>
<td>120,330</td>
<td>4,130</td>
<td>92,410</td>
<td></td>
</tr>
<tr>
<td>Per 1000 capita</td>
<td>2.38</td>
<td>1.89</td>
<td>2.24</td>
<td>0.01</td>
<td>0.18</td>
<td></td>
</tr>
</tbody>
</table>


### Agricultural & Forest Production

South-Africa is ranked 25 for agricultural and 26 for forestry production in the world in 2012.

<table>
<thead>
<tr>
<th>Country</th>
<th>Forest production (m3) 2012</th>
<th>Agricultural production (1000 kg) 2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>South-Africa</td>
<td>27,688,262</td>
<td>38,342,440</td>
</tr>
</tbody>
</table>

Source: [FAOstat 2012](http://faostat3.fao.org/

About 10% of all South-African agricultural products is being exported to the Netherlands, the majority (80%) being edible fruit, nuts, peel of citrus fruit and melons, and 5% of all imported agricultural products is coming from the Netherlands.

## 4. ENERGY PROFILE

If not specified source used is: Renewable Energy Country Profiles; Africa, IRENA 2011, [http://www.irena.org](http://www.irena.org)

### National Energy Profile 2011

- Total Primary Energy Supply: 6,030.7 PJ - Of which renewables: 600.8 PJ (10.0%)
- Energy self-sufficiency: 111.5%
- Fuel imports: 13.7 billion USD (18.7% of total imports)
- Electricity generation: 246.8 TWh - Of which renewables: 1,764 GWh (0.7%)
- Electricity use per capita: 4,532 kWh
- Electrical capacity (2008): 44.1 GW - Of which renewables: 675 MW (1.5%)
- Electricity access rate: 75.0%
- Share of population using solid fuels: 17%
5. ENERGY & BIOMASS POLICIES

National Energy Policy
Renewable energy targets:
- 10,000 GWh of renewables produced by 2013
- 3,100 MW of renewable capacity by 2013, including 500 MW of wind and 50 MW of CSP
- 4% of electricity generation from renewables by 2013
- 13% of electricity generation from renewables by 2020

The price of wholesale electricity will increase in coming years from R65.51c/Kwh (0.059 $/kWh) in 2013/14 up to R89.13c/kWh (0.08 $/kWh) in 2018.

Biogas
The Gas Act, 2001 (Act No. 48 of 2001) requires owners of operations involved in the production, importation and transmission of gas for their own exclusive use and small biogas projects not connected to the national gas pipeline grid to register such operations with NERSA (National Energy Regulator of South Africa, www.nersa.org.za). These operations are not required to be licensed, but must be registered with NERSA. A total number of 38 gas production operations have been registered by NERSA in the KwaZulu-Natal, Limpopo, Gauteng, Free State, Western Cape and Gauteng provinces since 2011.
Biofuels
In October 2013 the Republic of South Africa’s Department of Energy announced that the country will begin requiring biofuels to be blended with gasoline and diesel starting Oct. 1, 2015. The mandatory blending regulations will be promulgated under Government Notice R.671, which was published Aug. 23, 2012. According to a copy of the R.671 published in the official Government Gazette, the mandatory blending regulations will require minimum blend levels of B5 for biodiesel. For gasoline, blends between E2 and E10 will be permitted. From October 2014 all oil refineries will be required to blend 2% of locally produced bioethanol into their petrol. The government has decided that sorghum and soybeans should be used as the biofuels and biodiesel feedstock respectively, in order to alleviate concerns around food security.

Biobased Economy
The Minister of Science and Technology of South Africa, Derek Hanekom, launched the National Bioeconomy Strategy (http://www.gov.za/documents/download.php?f=207579) on 14th January 2014, in Pretoria. The science-based Bioeconomy Strategy, approved by South African Cabinet in November 2013, positions bio-innovation as essential to the achievement of government’s industrial and social development goals. The strategy calls for industry, science councils, government departments and academia to cooperate closely to ensure that biotechnology and bio-innovations are market relevant and find easier application in South Africa.

6. FUNDING OPPORTUNITIES

Funding Sources in South-Africa
- The Industrial Development Corporation (IDC), www.idc.co.za
- Department of Trade and Industry, www.thedti.gov.za
- National Development Agency (NDA), www.nda.org.za
- The Drylands Fund, www.dbsa.org/Projects/DrylandsFund/Pages/default.aspx

Sources:

In addition to the above generic funding sources, there are additional incentives available specifically for biogas. Apparently, Eskom’s rebate scheme was extended to biogas in 2012. The DTI issued a grant scheme, geared towards the manufacturing sector.68 Furthermore, the South African Revenue Service (SARS) depreciation allowance gives agricultural concerns the possibility to depreciate renewable energy capital expenditure at a rate of 50% during year 1, 30% during year 2 and 20% during year 3.

Business Support / Funding Sources in The Netherlands
Subsidies and support from the Netherlands Enterprise Agency (RVO – Rijksdienst voor Ondernemend Nederland), http://english.rvo.nl/subsidies-programmes

Specific interesting facilities:
- Transition facility (Transitiefaciliteit), http://www.rvo.nl/subsidies-regelingen/transitiefaciliteit-tf
7. BUSINESS CLIMATE

South Africa is one of the most sophisticated, diverse and promising emerging markets globally. Strategically located at the tip of the African continent, South Africa is a key investment location, both for the market opportunities that lie within its borders and for the opportunity that exists to use the country as a gateway to the rest of the continent, a market of nearly 1-billion people.

South Africa has enormous potential as an investment destination, offering a unique combination of highly developed first-world economic infrastructure with a vibrant emerging market economy. It is also one of the most advanced, broad-based industrial and productive economies in Africa.

South-Africa has a number of Industrial Development Zones with special incentives to attract investments.

**Overall Rating**

World Bank Ease of Doing Business index 2013 (Ranking out of 189 countries). In comparison, the Netherlands is ranked 28 (2014) and 30 (2013). On this website information about necessary permits, administration time, costs, specific laws et cetera is present.

<table>
<thead>
<tr>
<th>TOPIC</th>
<th>Doing Business 2014 Rank</th>
<th>Doing Business 2013 Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Rating</td>
<td>41</td>
<td>41</td>
</tr>
<tr>
<td>Starting a Business</td>
<td>64</td>
<td>56</td>
</tr>
<tr>
<td>Dealing with Construction Permits</td>
<td>26</td>
<td>25</td>
</tr>
<tr>
<td>Getting Electricity</td>
<td>150</td>
<td>151</td>
</tr>
<tr>
<td>Registering Property</td>
<td>99</td>
<td>95</td>
</tr>
<tr>
<td>Getting Credit</td>
<td>28</td>
<td>24</td>
</tr>
<tr>
<td>Protecting Investors</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Paying Taxes</td>
<td>24</td>
<td>26</td>
</tr>
<tr>
<td>Trading Across Borders</td>
<td>106</td>
<td>110</td>
</tr>
<tr>
<td>Enforcing Contracts</td>
<td>80</td>
<td>80</td>
</tr>
<tr>
<td>Resolving Insolvency</td>
<td>82</td>
<td>82</td>
</tr>
</tbody>
</table>

Source: IFC / World Bank, [http://www.doingbusiness.org](http://www.doingbusiness.org)

**Logistics**

Based on a worldwide survey of operators on the ground - such as global freight forwarders and express carriers - the Logistics Performance Index (LPI) measures the logistics "friendliness" of 155 countries.

<table>
<thead>
<tr>
<th>Country</th>
<th>Rank</th>
<th>Score (out of 5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>South-Africa</td>
<td>23</td>
<td>3.67</td>
</tr>
</tbody>
</table>

Source: [http://go.worldbank.org/7TEVSUIJAR0](http://go.worldbank.org/7TEVSUIJAR0)

**Education**

The UNDP Human Development Index (HDI) is a composite statistic of life expectancy, education, and income indices, used to rank countries into four tiers of human development: very high, high, medium and low. According to HDI, South-Africa belongs to the group of “Medium human Development” and is ranked 121 out of 186.

<table>
<thead>
<tr>
<th>Topic</th>
<th>HDI rank 2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total rating</td>
<td>121</td>
</tr>
<tr>
<td>Mean years of schooling adults</td>
<td>8.5</td>
</tr>
<tr>
<td>Expected years of schooling children</td>
<td>13.1</td>
</tr>
</tbody>
</table>

8. IMPORTANT CONTACTS

Embassies and consulates:
- Embassy of the Kingdom of Netherlands in Pretoria, Consulate General in Cape Town and Dutch Honorary Consulate in Durban [http://www.rijksoverheid.nl/onderwerpen/ambassades_consulaten-en-vertegenwoordigingen/zuid-afrika]

Southern African Netherlands Chamber of Commerce (SANEC)
SANEC has offices in the Netherlands (The Hague) and South-Africa [www.sanec.org]

Government Organisations
- National Energy Regulator of South-Africa (NERSA), [www.nersa.org.za]
- ESKOM - South African power company, [http://www.eskom.co.za/]
- Department of Energy, [http://www.energy.gov.za/]
- South African National Energy Development Institute (SANEDI), [http://www.sanedi.org.za/]

Universities
- Stellenbosch University of Technology - Center for Renewable and Sustainable Energy Studies, [www.crses.sun.ac.za]
- University of Cape Town - African Centre for Cities, [www.africancentreforcities.net]
- University of Pretoria - Department of Chemical Engineering, [web.up.ac.za/default.asp?ipkCategoryID=2063]
- University of Fort Hare, Fort Hare Institute of Technology, [http://www.ufh.ac.za/renewable-energy-gasification.php]
- Council for Scientific and Industrial Research (CSIR) Biosciences, [www.csir.co.za/biosciences]
- University of South Africa (UNISA) - Material and Process Synthesis (MaPS)
- North-West University/Energy Systems, [www.nwu.ac.za/fe/research-current]
- Wits University - Geotechnical and Geo-environmental Engineering, [http://www.wits.ac.za/academic/ebe/cep/researchgroups/civil/4729/geotechnical.html]

Industry Associations
- Southern African Alternative Energy Association (SAAEA), [http://www.saaea.org/]
- Southern African Bioenergy Association (SABA), [http://www.saba.za.org/]

9. OTHER INFORMATION

Agreements / Relations
Existing agreements: [http://www.minbuza.nl/producten-en-diensten/verdragen/zoek-in-de-verdragenbank]
Relations between Netherlands and South-Africa: [http://www.rijksoverheid.nl/onderwerpen/betrekkingen-met-nederland/zuid-afrika]

(Co)Funded Projects
12 PSI projects: [http://www.rvo.nl/subsidies-regelingen/projecten-psi]
2 Sustainable Biomass projects: [http://english.rvo.nl/topics/sustainability/sustainable-biomass]
This is a publication of:

NL Enterprise Agency
NL Energy and Climate Change
Croeselaan 15
PO Box 8242 | 3503 RE Utrecht
The Netherlands
T +31 (0)88 602 24 58
www.rvo.nl/biomass

© NL Enterprise Agency

No rights may be derived from this brochure, or from any of the examples contained herein, nor may NL Agency be held liable for the consequences arising from the use thereof.

NL Enterprise Agency is an agency of the Dutch ministry of Economic Affairs responsible for the implementation of sustainability, innovation and economic development programmes for various governmental bodies. NL Enterprise Agency is a department of the Dutch Ministry of Economic Affairs that implements government policy for sustainability, innovation, and international business and cooperation. It is the contact point for business, educational institutions and government bodies for information and advice, financing, networking and regulatory matters.