

# SA BIOENERGY ATLAS

Mail & Guardian  
Advertising supplement  
March 31 to April 6 2017



## Guiding nation's optimum adoption of bioenergy

FOREWORD  
Naledi Pandor

The global need to move to cleaner and more sustainable energy systems means that we should continuously evaluate various energy feedstock and generation pathways for heat, power and transport fuels. These include bioenergy-based options (bioenergy is renewable energy made available from biological materials such as wood or manure).

According to the REN21 (Renewable Energy Policy Network for the 21st Century) Global Status Report, bioenergy accounts for roughly 10% of the world's primary energy supply, and has remained at about this level since 2005. In developing countries, most bioenergy is consumed inefficiently when used for cooking and heating, and poses health hazards that include smoke inhalation. However, in most developed economies, bioenergy has been incorporated into modern energy services and is a significant contributor to the energy industry, and thus to the bio-economy.

As South Africa formalises the establishment of the bioenergy industry, the principles of inclusivity, addressing energy poverty and stim-

ulating economic opportunities are among the key driving factors, as government continues exploring ways of providing energy to communities currently not receiving such services. This is in line with the department of science and technology's commitment of living up to its mandate, to use science and technology to improve the country's economy, create employment and improve the quality of life of all citizens. The department's 2015-2020 Strategic Plan is part of the vision of the National Development Plan to tackle the interlinked challenges of poverty, inequality and unemployment.

The web-based Bioenergy Atlas will assist government by making available information on potential energy resources, their geographic spread, their proximity to infrastructure, and potential end-users. This decision-support tool is expected to guide energy planning and investments, as well as the deployment of bioenergy-based technologies, including the co-firing of biomass, the use of residues to produce biofuels, and bio-digesters for domestic energy needs.

The many requests for Bioenergy Atlas data by various players (policy-makers, power utilities, industry and academia) in the national system of innovation during the development

of the atlas have been encouraging, and government looks forward to its wider application.

The Bioenergy Atlas preliminary assessments (based on potential contributions by subsistence farmers, municipal organic waste, wastewater treatment works, agriculture, forestry residues, etcetera) indicate significant potential in the Eastern Cape, Mpumalanga, KwaZulu-Natal, the Western Cape, Gauteng and Limpopo.

Development of a bioenergy industry could have a significant impact on job creation (seasonal and permanent) and improve energy access.

The bioenergy sector will be supported within a policy framework that ensures that bioenergy-based socioeconomic development does not compromise food security, biodiversity or water security, and that will guide future energy infrastructure installations for both central and distributed generation.

My department is very pleased to contribute to South Africa's transition to renewable energy, and will continue to support research to improve the competitiveness of local innovations in this sector.

Naledi Pandor is the Minister of Science and Technology

## New bioenergy atlas heralds South Africa's energy generation future

South Africa's first bioenergy atlas has been hailed as a positive step towards transforming the country into a low carbon and future clean energy hub in Africa, while simultaneously creating jobs.

The department of science and technology has launched the Bioenergy Atlas of South Africa to provide information on potential bioenergy resources and their geographic spread, proximity to infrastructure and socioeconomic impact, as well as relevant conversion technologies and feasible end-use applications.

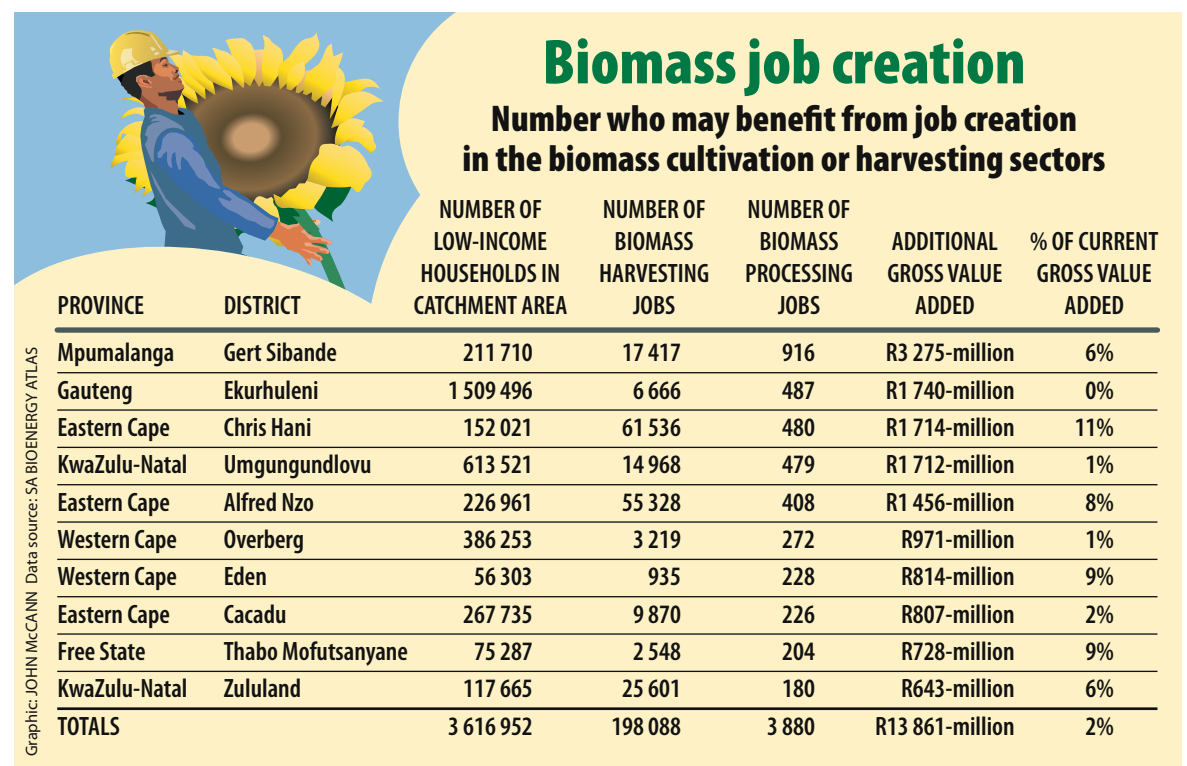
Unlike energy sources that are generated through fossil fuels like coal, oil and gas, renewable energy is a clean energy source that can contribute approximately 3 500MW of electricity equivalent

to the national energy mix over the planning horizon of 20 years.

Together with the Wind Energy Atlas of the department of energy, the Carbon Sinks Atlas of the department of environmental affairs and the Renewable Energy Toolkit as developed by Promethium Carbon to guide project development on mine-impacted land, the energy atlas is set to play an important role in establishing this low carbon future.

Most importantly, the development of a bioenergy industry could have a significant impact on job creation, seasonal and permanent, while improving access to energy.

As a resource fully exploited, the potential impact with respect to energy access is estimated at 864 000 people and job creation potential of at least 125 000, including



seasonal jobs.

The atlas projections of a percentage of the low-income population that can benefit from access to energy is 17% in the Eastern Cape (125 000 people), 34% in Kwa-Zulu Natal (365 000 people), 34% in Limpopo (268 000 people),

and 22% in North West (106 000 people).

In addition, populations may benefit from seasonal job creation in the biomass cultivation or harvesting sectors; as many as 60 000 jobs in the Eastern Cape, 35 000 in KwaZulu-Natal, and 30 000 in

Limpopo.

The estimates of manufacturing and processing jobs in the major rural areas are approximately 2 000 jobs in the Eastern Cape, 700 jobs in KwaZulu-Natal and 300 jobs in Limpopo.

To page 3