SABIA NATIONAL BIOGAS CONFERENCE 2021

Transitioning towards a decarbonised circular economy

Focus on Waste to Energy

10 JUNE 2021

Alberto Borello – Secretary General

Southern Africa Biogas Industry Association

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SOUTHERN AFRICAN BIOGAS INDUSTRY ASSOCIATION

IEA Bioenergy
Technology Collaboration Programme

sanedi
South African National Energy Development Institute

WORLD BIOGAS ASSOCIATION

About us

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SOUTHERN AFRICAN
BIOGAS INDUSTRY ASSOCIATION

SOUTHERN AFRICAN BIOGAS INDUSTRY ASSOCIATION

"A single voice to drive the development of a sustainable commercial biogas sector by promoting the multiple benefits of biogas within our region."

About us

SABIA leads industry discussions with relevant governmental institutions, international organisations, NGO's and other industry associations to promote the sector, lobby for relevant legislative change, policy development and assisting members in gaining exposure.

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Achievements

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- Developing a biogas incentive scheme
- Developing biogas standards for micro e industrial scale plants
- Implementing laws for the reuse of organic waste
- Developing Environmental Norms and Standards for biogas projects
- Exclusion of biogas plants from the air emission license
- Representing a community of 1 500 stakeholders in the country

SABIA Biogas Market position paper

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www.sabia.org.za

Biogas Potential in SA

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BIOGAS BY NUMBERS

Industry/sector generation potential	Theoretical	Feasible within 5 years
Biogas potential for power generation [MW]	10 297	1 254
Average project installed size [MW]	0.5	0.5
Agricultural sector	1 179	103
Dairy sector	597	299
Piggery sector	107	53
Chicken sector	4 777	478
WWTW - Wastewater Treatment Works	210	93
MSW - Municipal Solid Waste	2 028	101
Sugarcane	1 024	53
Food processing, abattoir	175	18
Landfill	200	57
Total capacity of plants built to date 30 MW	0.3%	2.4%

Job creation	Theoretical	Feasible within 5 years
Direct permanent job creation	247 122	30 177
Development/Construction jobs in the sector	1 153 234	141 455

Biogas Potential in SA

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Carbon reduction to be separated	Theoretical	Feasible within 5 years
CO2e avoided [t/y]	81 189 768	9 889 650
% on total country emission in 2019	15%	2%

Comparison to other renewable technologies	Theoretical	Feasible within 5 years
Energy delivered to or displaced from the national grid [MWh/y]	85 462 913	10 410 158
Equivalent Wind installed capacity [MW]	35 610	4 338
Equivalent PV installed capacity [MW]	58 536	7 130
Installed peaking capacity in SA 2019 [MW]	3 570	

52BN ZAR < BIOGAS < 250BN ZAR

SA Biogas Industry Direct Local & Foreign Investment Value

South Africa, where are the opportunities?

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Municipalities that are implementing the banning of organics/food waste entering a landfill site.

Municipalities that are pursuing the right to buy electricity from IPP (i.e. Cape Town municipalities)

Private industries/ food industries that are looking to become auto sufficient

Micro digesters in rural areas (projects also supported by government)

- clean energy
- sustainable agriculture
- improve sanitation and healthier living
- promote gender equality
- waste reduction
- land restoration
- social upliftment

South Africa, what are the main drivers for the development industrial plants?

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Difficulty in procuring electricity from the National grid

Reuse of the waste produced by food processing industries or by abattoirs (rumen, blood), with consequent saving of the disposal costs of hazardous waste

Reduction of green house gas emissions due to the introduction of the carbon tax or to the voluntarily policies and strategies adopted by international owned industries in the automotive, food processing sectors and breweries that operates in SA.

Non availability of CO_2 for industrial use in some regions of the country

GOOD NEWS FOR BIOGAS SECTOR

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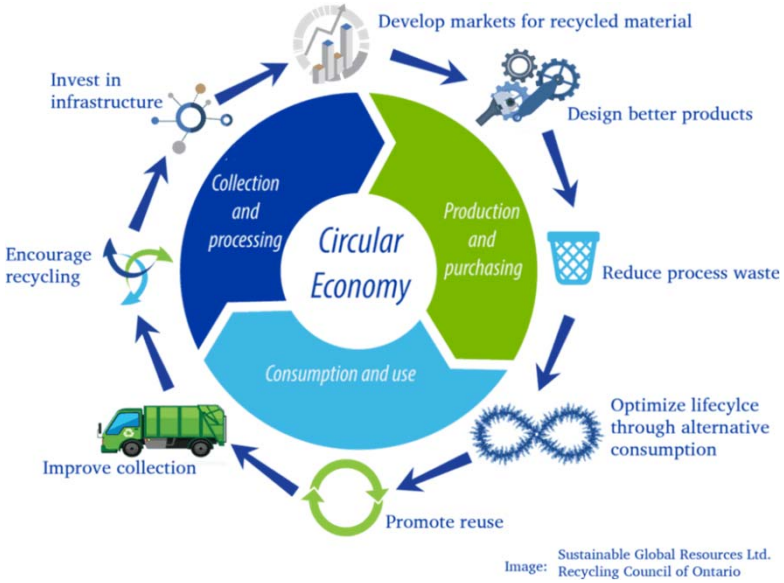
Minister of Environment, Forestry and Fisheries has indicated that the country's Covid-19 economic recovery strategy:

1. renewable energy

2. the circular economy

3. public employment programs that rehabilitate ecosystems and ecosystem services as key areas of focus for government.



GOOD NEWS FOR BIOGAS SECTOR

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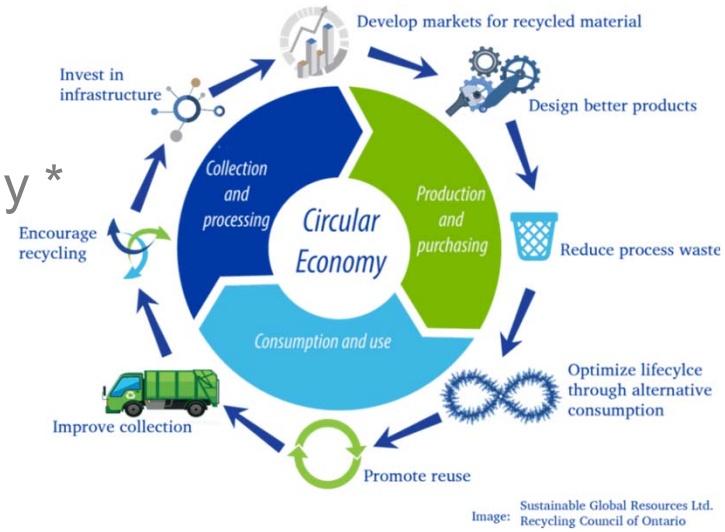
The National Waste Management Strategy (NWMS 2020), published on the 28/1/2021 moves from Waste Hierarchy to Circular Economy *



Diversion of waste from Landfill

45% in 5 years
55% in 10 years
70% in 15 years *

Development and implementation of biogas digester project linked to National School Nutrition Programme. 50 schools have biogas digesters, by 2024 *

* (source) Kgauta Mokoena - Chemical and waste management branch of DFFF - April 2021

GOOD NEWS FOR BIOGAS SECTOR

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Western Cape Government
BETTER TOGETHER.

*

Waste management licenses have to be amended with Organic Waste Diversion Plan *

source Belinda Langenhoven - Waste Management Dept of environmental Affairs and Developing Planning of Western Cape April 2021

SABIA Looking forward

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Banning of organics/food waste entering a landfill site Introduction of separate organic waste collection for treatment in biogas facilities across South Africa.

Setting of targets for the recycling of biodegradable wastes and feedstocks

Development, support and creation of the SABIA PES tariff (Payment for Ecosystem Services or Payments for Environmental Services) to stimulate the recovery of organic residues

Production of biogas through the installation of biogas technologies at

- a agri-industry processing facilities,
- b urban wastewater treatment plants
- c livestocks farms

SABIA Looking forward

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Create an enabling market environment for the capture and utilization of landfill gas at both private and public landfills

Enforce all municipalities and Eskom to buy-back surplus energy at Mega-flex rates from IPPs (Independent Power Producers)

Incentivize the energy generation and use from livestock manure via targeted policies such as specific rural schemes for micro-scale digestion that result in energy security and independence, reduced use of solid fuels for domestic cooking and heating, and reduced deforestation

Adoption of the Organic Waste Norms and Standards developed from 2016

Development of standards and certifications for safe trading and use of digestate

DEFF and NDC – JOUNT LETTER FROM WBA and SABIA

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Minister of Environment, Forestry and Fisheries

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We greatly welcomed the Integrated Resource Plan (IRP2019) with its major shift in energy policy to the benefit of renewables, implementing the IRP2019 will enable South Africa to achieve its 2030 NDC target. Biogas should play a key role in its implementation as it can be upgraded to biomethane, a sustainable gas which acts as a direct substitute for fossil natural gas.

however can be avoided when these wastes are recycled to produce biogas that is a storable flexible green gas, along with a rich-in-nutrient bio-fertiliser, digestate. The biogas industry can therefore greatly contribute to South Africa's transition away from coal and increase its energy independence while also restore the country's soil health and displace fossil fuel derived fertilisers.

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gas which acts as a direct substitute for fossil natural gas. While electrification and hydrogen are often earmarked as a future solution for the energy transition, their implementation will be highly disruptive and costly, and in the case of the latter, remain hampered by technological barriers. Biomethane is able to

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NPC 2016/318998/08

[1] https://www.iea.org/reports/outlook-for-biogas-and-biomethane-prospects-for-organic-growth

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SOME OF OUR SUPPORTERS

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Get Involved!
Be Part of the Solution!

write to

secretary@sabia.org.za

and sign up to our newsletter

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