

## Valorization of Biomass Waste Materials, a Biorefinery Concept

Government initiatives in advancing the circular bioeconomy in South Africa

Sekoai, Patrick T; Sebogodi, Keolebogile R; Johakimu, Jonas K; Chunilall, Viren

### **Abstract**

The concept of a circular economy is receiving widespread attention among various stakeholders in South Africa as this scientific approach allows the management of waste streams in a sustainable and environmentally conscious manner while creating new value chains through the synthesis of high-value-added products such as fuels, chemicals, additives, etc. As opposed to the linear model that embraces the take, produce, and discard approach, the circular model embraces the recycle, reuse, and reduce approach, which involves the circularity of the wastes, leading to minimum and/or zero waste during the downstream process. Despite the various socioeconomic benefits that can be achieved from the circular biobased processes, various bottlenecks must be addressed before their full implementation. This chapter discusses the government initiatives to advance circular biobased opportunities in South Africa. The limitations that delay the progress of this technology are also discussed. The study also provides suggestions that could help fast-track the scalability of circular biobased technologies in South Africa.