



## Abstract

This poster discusses bioenergy and its potential benefits for Sudan's Sustainable Development.

## Introduction

Here are some important statistics. Not only is more than 70% of Sudan's population engaged in agriculture, but 45 % of Sudan's GDP comes from agriculture (Ahmed & Elsaied, 2017). Furthermore, Sudan is among the top twenty largest countries with arable lands ("Arable land (hectares) – Sudan," 2016) . In light of these facts, it is clear that Sudan could be able to use its fertile lands efficiently to produce bioenergy as a renewable energy source with which it can tackle many of the country's energy challenges. Sustainable development, a form of socioeconomic development that is conducted without depleting a country's natural resources, is an important consideration. **With this in mind, sustainable development using bioenergy as a renewable energy source can benefit Sudan's environment, society and economy.**

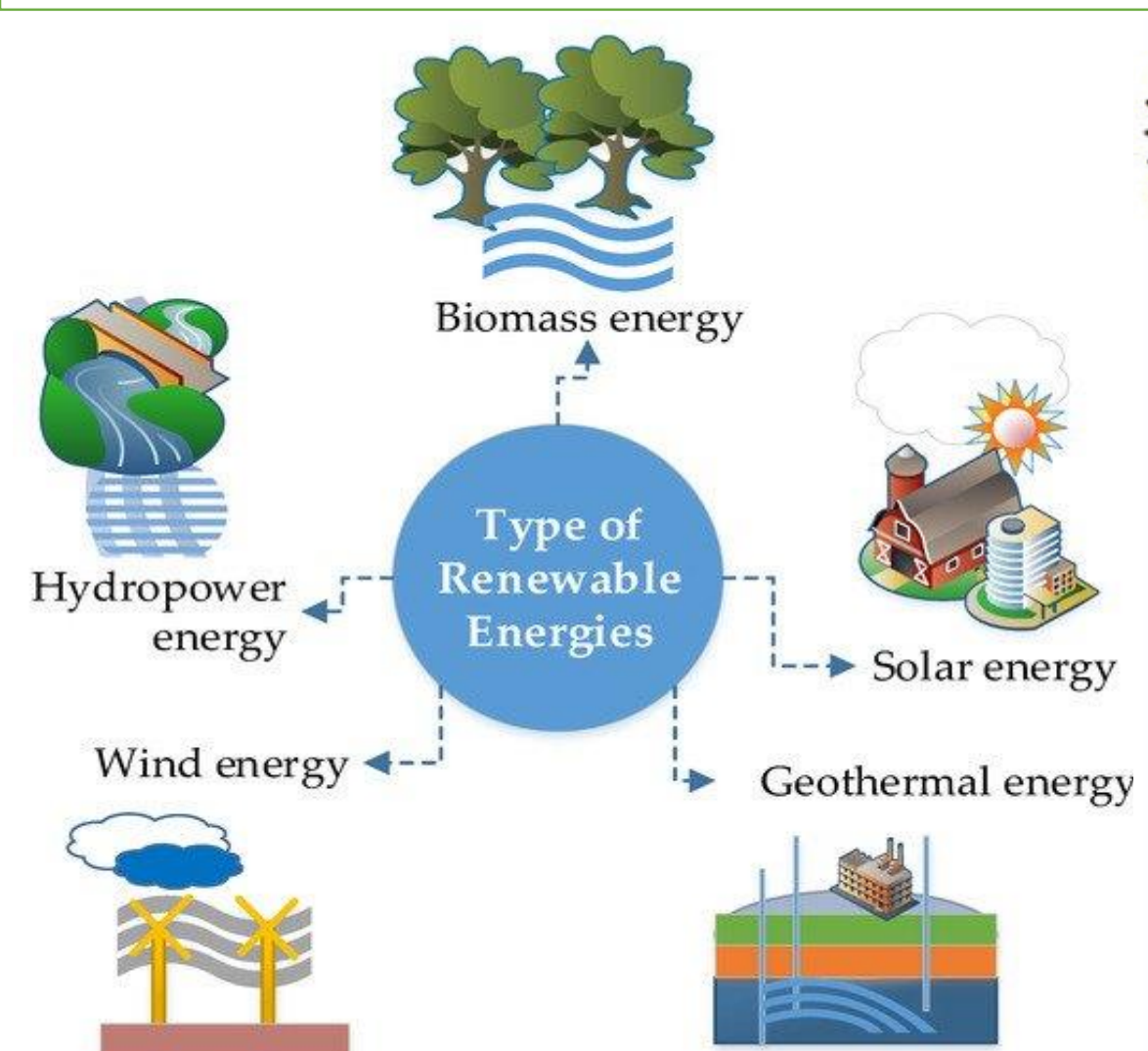


Figure 1: Avtar, R., Sahu, N., Aggarwal, A., Chakraborty, S., Kharrazi, A., Yunus, A., Dou, J., Kurniawan, T. (2019). Exploring Renewable Energy Resources Using Remote Sensing and GIS—A Review. Resources, 8(3), 149. Retrieved from <https://www.mdpi.com/2079-9276/8/3/149>

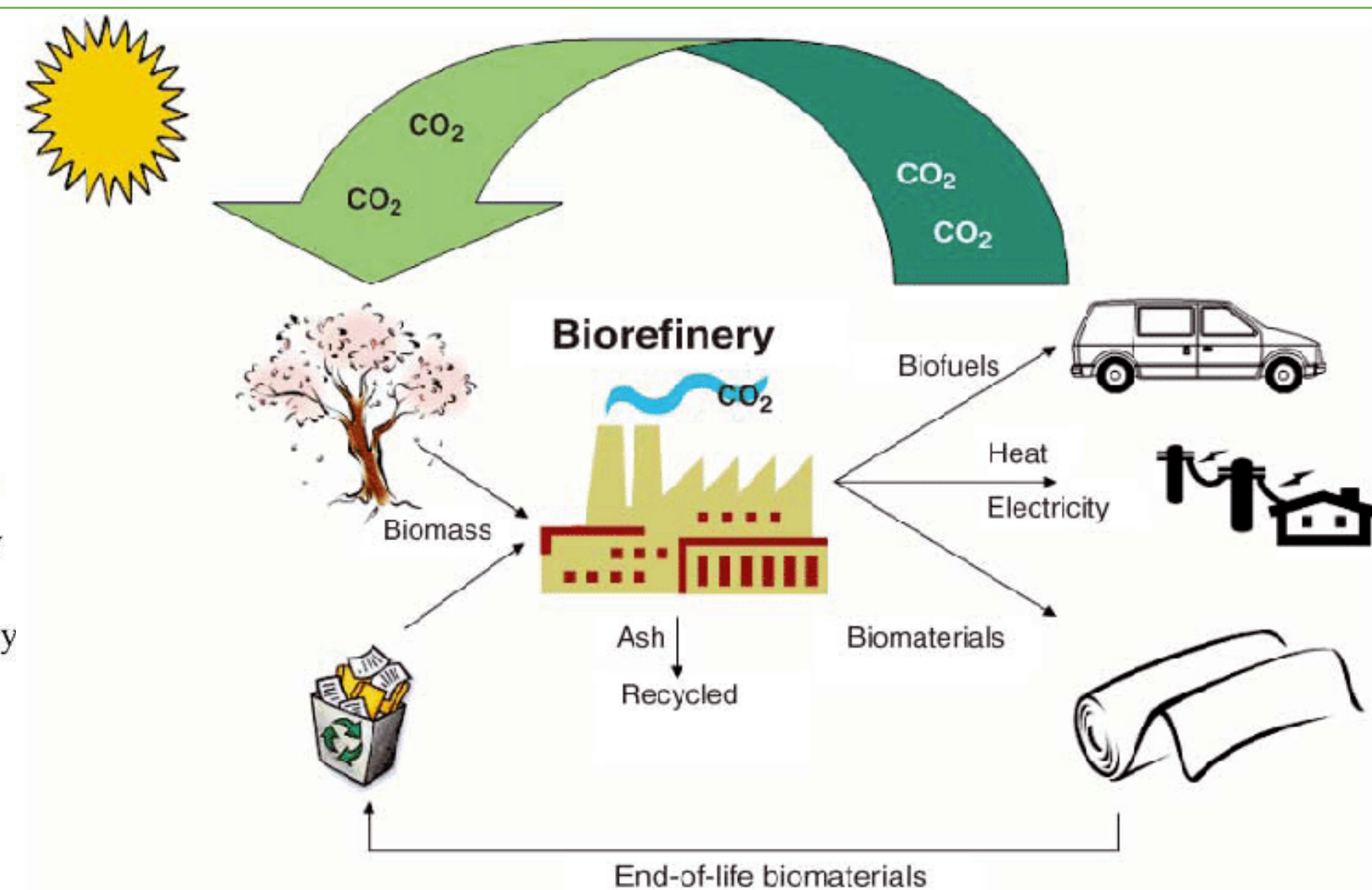


Figure 2: Bessou, C., Ferchaud, F., Gabrielle, B., & Mary, B. (2011). Biofuels, Greenhouse Gases and Climate Change. Sustainable Agriculture Volume 2, 365-468. Retrieved from [https://www.researchgate.net/publication/284829565\\_Biofuels\\_greenhouse\\_gases\\_and\\_climate\\_change](https://www.researchgate.net/publication/284829565_Biofuels_greenhouse_gases_and_climate_change)



Figure 3: Harwood, S. (2017, March 17). Everyone's talking about ... Not talking about sustainability. Retrieved July 28, 2020, from <https://www.citmagazine.com/article/1425200/everyones-talking-not-talking-sustainability>

- Increase participation of women in agriculture and irrigation especially in rural areas.
- Create income & employment opportunities.
- Protect human health from harmful fossil fuels.
- Provide a continuous supply of biofuels.

- Create biofuel production industries.
- High potential to produce Biodiesel from Jatropha plant and Bioethanol from Sugarcane, since Sudan is among the largest African countries that produce Sugarcane (Abdelraheem & Lang, n.d.)
- Reduce dependence on foreign imports.
- Generate new revenue streams by becoming energy exporter.

- Study shows that Sugarcane Ethanol can reduce 40 – 62% of GHG emissions compared to Petroleum Gasoline (Wang, Han, Dunn, Cai, & Elgowainy, 2012).
- Strengthen agriculture and efficient use of lands.

## List of References

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Ahmed, N., & Elsaied, M. (2017). Status of Agricultural Statistics in Sudan. Universal Journal of Plant Science, 5(2), 29-35. Retrieved from <http://www.hrpub.org/download/20170630/UJPS3-10309245.pdf>

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Wang, M., Han, J., Dunn, J. B., Cai, H., & Elgowainy, A. (2012). Well-to-wheels energy use and greenhouse gas emissions of ethanol from corn, sugarcane and cellulosic biomass for US use. Environmental Research Letters, 7(4). Retrieved from <https://iopscience.iop.org/article/10.1088/1748-9326/7/4/045905/pdf>

## Conclusion

“ Sustainable development is the pathway to the future we want for all. It offers a framework to generate economic growth, achieve social justice, exercise environmental stewardship and strengthen governance. ”

~ (Ban Ki-moon, 2013)

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