

Briquettes from agricultural residues; an alternative clean and sustainable fuel for domestic cooking in Nasarawa State, Nigeria

ABSTRACT

In Nasarawa state, over 70% of the population are involved in subsistence farming. Varied agricultural resources are produced in millions of tons annually. Large quantity of residues is generated that are either left to rot on farmlands or disposed of by burning in open air. In many rural areas, the residues are also used in their raw form for cooking purposes which is inefficient. The disposal and use of the residues cause pollution in the environment which affects human health. Residues can provide a source of clean and renewable energy in the form of solid biofuel called briquettes through densification. Briquetting is a densification technology that converts residues with a low heating value per unit volume into high density and energy concentrated fuels. This paper offers a perspective on the potentials of agricultural residues in Nasarawa state to produce briquettes as an alternative clean and sustainable domestic cooking fuel. The paper concludes that briquettes could be economically and environmentally friendly alternative to fuelwood. The use of biomass briquettes would reduce dependence on fuelwood, environmental pollution and the amount of time spent on cooking. Adopting the briquetting technology will enhance access to clean and affordable energy in line with the 7th goal of the United Nation's Sustainable Development Goals.

Keyword: Agricultural residues; Briquettes; Domestic cooking; Fuelwood; Pollution; Sustainable fuel