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Sustainable energy for rural community development in the eastern cape of South Africa

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Abstract

Energy is the backbone of economic development of any community or society. However, the extraction and use of energy resources has major environmental implications depending on the type of energy utilized and the conversion methods or technologies employed. The majority of people in South Africa live in rural areas that are located outside the national utility grid or they cannot afford the present energy services. In most cases these areas are endowed with biomass resources in the form of waste produced from the operation of saw mills. These wastes are usually burnt in furnaces as a means for waste management and the practice results in a number of environmental and health challenges. This research was focused on turning the saw mill waste into energy (electricity) that is used to power a community bakery for community economic empowerment. This paper will present the project development stages, the socio-economic impact as well as the carbon footprint of the project.