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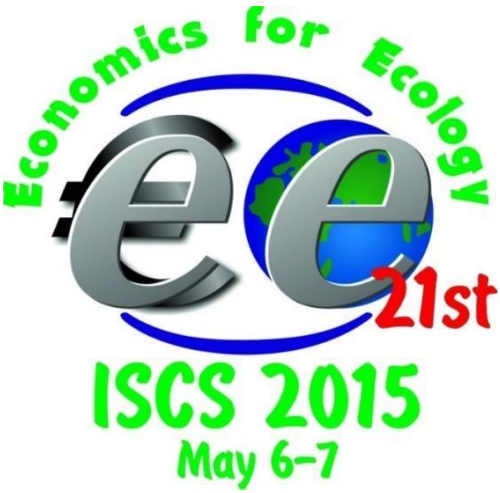

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ECONOMIC ANALYSIS OF RESOURCE SAVING IN ENERGY USE IN ZIMBABWE

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Zimbabwe is a landlocked country located in southern Africa, between the Zambezi and Limpopo rivers. It shares its borders with Zambia to the northwest, Mozambique to the east, South Africa in the south and Botswana in the southwest. Zimbabwe relies mostly on hydroelectric power. Although in rural parts of the country, 80-90% of the people depend on wood fuel and kerosene for cooking lighting. While food processing tasks like milling grain are usually carried out with diesel-powered system

Total electricity generation in 2009 was 7,900 gigawatt hours (Gwh). 53% of this was produced from renewable sources. Electricity consumption per capita in 2009 stood at 1,022-kilowatt hours (kWh). 33.9% of this total installed capacity was from hydroelectric plants. Much of Zimbabwe's electricity is produced at the Kariba Dam Hydroelectric Power Station (about 750 MW), at Hwange Thermal Power Station which has an installed capacity of 920 MW, and at three minor coal fired stations.

Problems faced with energy supply/capacity. Although national electricity access stands at 40%, access to electricity in rural areas (19%) is much lower than that in urban areas (80%) due to the prohibitive costs of extending national electricity grids. Capacity is a major concern in Zimbabwe. No new developments have occurred in the country's generation sector since the commissioning of the Hwange Coal Plant in 1988. Thus only about 60% of the country's installed capacity is available.

Furthermore, all coal-fired stations in Zimbabwe are in need of major upgrades as currently they have frequent production stops or are not producing at all. This has lead to frequent and long lasting blackouts in the country. Imports of energy from neighboring countries are not enough to solve the under capacity problem. As a result, power outages continue to affect the economic performance of industries and services. Small-scale power generators are used all over the country to ease this situation.

Energy Policy. The Zimbabwean government has plans to boost the electrification rate to 85% by 2020. To achieve this target, ZESA announced the following plans:

- Build another coal-fired power plant with a capacity of 1,400 MW

- Expand capacity at Hwange Power Station by 600 MW

These plans are being held back by the lack of resources ZESA has. In September 2011, an energy and power conference was held in Harare with the aim of boosting international awareness of the energy problems in Zimbabwe and thus attracts potential funding sources.

While a great deal more could be said about the relationship between industrialization and development the first reason to study manufacturing is that it is a key strategic sector. It has close ties to other primary sectors (agriculture and mining) and services (including commercial activities). A second, more obvious, reason is that industry is by far the largest consumer of commercial energy. Overall, manufacturing and commerce consume 45% of commercial energy, with higher proportions of total coal/coke and electricity consumption.

Zimbabwean industries can help improve the amount of energy consumption within the country, by developing energy policies and investing in more advanced technology which utilizes less energy during the production processes.

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