

# Saving Electricity CAN BENEFIT SOCIETY

Behavioural interventions can result in a reduction in the use of electricity among high-income households in South Africa.



electricity-saving tips that served as reminders.

Over the six-month study period, it was found that the Treatment group, which had received the brochures and stickers, saved from 2% to 4% on their average electricity consumption compared to the Control group, which did not receive the intervention. It was found that the control group increased its consumption by 11% over the same period. The researchers found that socio-demographic and psychological factors such as age, achievement and benevolence promoted electricity savings while the size of the household, number of rooms, and security inhibited savings.

### Save electricity, save the world

The team concluded that behavioural interventions that centred on a combination of information provision, consistent reminders, and feedback on saving performance can promote electricity conservation among high-income households. For

In South Africa, electricity generation and supply has already reached a crisis point and results in regular loadshedding and blackouts due to deteriorating infrastructure skills shortages and corruption charges within ESKOM. This, combined with a need to move away from coal-based power generation, has forced a rethink of how South Africans consume electricity. A steeply increasing price per kWh; a gap between those with access to a reliable electricity supply and those who experience “energy poverty”; and the need to reduce the strain on an already constrained power grid are just some of the factors behind the need for developing interventions for reducing electricity consumption by South Africans.

### High-income households are high electricity consumers

International studies have shown that high-income households produce more than three times the amount of carbon from electricity use than middle-

income households and more than 30 times that of low-income households. A study carried out by a team of researchers from the Department of Environmental Science at Rhodes University and the Department of Building in the School of Design and Environment at the National University of Singapore and supported by the National Research Foundation looked at the effectiveness of behavioural interventions in helping to reduce electricity consumption in high-income households in Johannesburg, South Africa.

### Energy-saving tips

The study took place over a six-month period, focusing on a sample of households in the suburb of Edenvale, Johannesburg. The average income of these households is around four times higher than South Africa’s national average and nearly all households in Edenvale have access to electricity. The participating households were divided into the Treatment and Control groups, and each was given a logbook to record their electricity consumption (in

kWh) over the study period. The households in the Treatment group were issued brochures containing information on low-cost and simple electricity saving actions such as turning-off lights in empty rooms; making use of natural light; ensuring fully loaded tumble dryers and washing machines; filling electric kettles according to the amount of water needed; cleaning out vacuum bags and refrigerators regularly; degreasing microwaves; using heat for ovens efficiently; unplugging electronic appliances that are not in use; and closing windows and doors when fans, air conditioners and heaters are in use. They were also issued with stickers containing

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high-income households, electricity is cheap and, therefore, they are less likely to reduce their consumption from a financial standpoint. Instead, the researchers see the development of an understanding of the adverse impacts of wasteful electricity consumption as key to appealing to this demographic. The researchers also highlight the need to understand electricity consumption from a morally just perspective – wasteful use by high-income households has a disproportionate impact on low-income households which

generally cannot afford alternative power sources during periods of grid instability. ■