



Press Release

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Immediate Release

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### **Ground-breaking study delves into the reality of SA's residential power use**

Amid ongoing electricity supply concerns in South Africa, results of a ground-breaking study on residential energy use have been released. The South African National Energy Development Institute (SANEDI), together with the Department of Mineral Resources and Energy (DMRE) and the University of Cape Town (UCT), has completed a study to assess the impact of energy efficient appliances on electrical energy consumption in the residential sector in South Africa, while looking at possible future energy impacts for the sector.

Teslim Yusuf, Data and Knowledge Management Project Manager at SANEDI, explains: "The global residential sector consumes one fifth of the world's energy, according to the International Energy Agency. During peak periods in South Africa, the residential sector can account for up to 35% of national electricity demand. With this in mind, by improving energy efficiency in the residential sector, we can contribute to reducing that evening peak demand."

The study found that South Africa's Standards and Labelling (S&L) Programme has been effective in achieving meaningful savings in appliance energy consumption between 2015 and 2020. The highest energy savings were seen in refrigeration by a hefty margin, especially in low- and middle-income homes. "From the research sample, 98.1% of households reported owning at least one fridge, and 24% of households reported owning more than one. It stands to reason that massive energy savings can be gained from these appliances," comments Yusuf. In high-income homes, savings in water heating were dominant but was closely followed by refrigeration. Overall, the programme saw a reduction in energy intensity of 4.1% in 2020.

"The S&L Programme provides shoppers with information about the energy efficiency of an appliance with an easy-to-read label displayed on the front of the appliance. The initiative will continue to provide energy savings into the future as appliances reach their end of life, and consumers purchase newer, more modern and energy efficient appliances," says Yusuf.

With regards to lighting efficiency, the study highlights that very few households used LEDs in 2020. LEDs are more energy efficient than incandescent light bulbs and compact fluorescent lights (CFLs). “This indicates a large potential for improving the energy efficiency of lighting. The VC9109 draft lighting regulation, once adopted, aims to remove less efficient lamps from the market,” explains Yusuf. However, in the short term, and in order to change lamp purchasing behaviour towards LEDs, the study has recommended that along with power, luminous efficacy becomes a primary performance indicator on lamp packaging. This should be supported by long term, in-store information campaigns.

“Once again, consumer education is a clear priority. There is no doubt that energy efficiency must be considered at the individual level, if we are to achieve our country’s energy efficiency targets,” Yusuf comments. In line with this, the study recommends that a few, simple, quantifiable behavioural changes can reduce energy use just as much as technical interventions. The study states: “A sound long-term strategy for improving residential energy efficiency in a sustainable manner will likely involve a blend of technical and behavioural interventions.”

The study results also address the use of some much-debated household appliances. For example, the findings warn:

- While dishwashers are likely to be more energy efficient than handwashing, this is only true for a fully loaded dishwasher. For most households, the dishwasher is likely to be part-loaded most of the time.
- Induction stoves are growing in popularity, but these often consume large amounts of standby power and ultimately may consume more energy than an equivalent thermal plate. Induction plates also typically have a poor power factor.
- A washing machine’s energy efficiency is typically measured based on energy used during its longer cycles, which is very rarely used in practice. The more popular shorter and convenient cycle times tend to be hotter and less energy efficient.

“This report has improved our understanding of residential electricity use and the savings possible and is a strong starting point from which to reassess our consumption,” concludes Yusuf. The full report is available online at <https://www.sanedi.org.za/Announcements.html>

Ends 670 words

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