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Empowering kids key to saving power

Research shows children's nudging can reduce household electricity consumption

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Rising energy consumption is a global concern.

In Singapore, electricity is the main source of energy for household consumption.

Yet, electricity generation is one of the leading sources of greenhouse gas emissions.

Our household electricity consumption is growing at an alarming pace in tandem with rapid urbanisation.

As reported by the World Bank, Singapore consumes 8,845 kilowatt hours of electricity per capita, almost double Malaysia's 4,596 kwh and higher than Japan (7,820 kwh) and Hong Kong (6,073 kwh).

On average, a Singaporean household consumes about 50,300 kwh a month, with air-conditioners and refrigeration appliances accounting for nearly two-thirds of household electricity bills.

Other than social campaigns instilling the save-energy theme and promoting energy-efficient behaviours such as not leaving appliances on standby mode, and contests such as the recent Energy-Saving Challenge by the National Energy Agency (NEA), are there simple ways to complement these measures?

30 SCHOOLS

In collaboration with NEA, the National University of Singapore Business School and School of Design and Environment studied whether getting school children to nudge their family and neighbours would help reduce consumption.

In other words, we are testing whether the saying "While we teach our children about life, our children teach us what life is about" will ring true.

If children were to teach their parents about saving the Earth, will parents listen?

Students from 30 primary and secondary schools took part in a three-month project where they were encouraged to reduce overall electricity usage at home by 10 per cent or more.

Their science and social studies teachers educated them on the hows and whys of energy conservation.

They were then expected to take these messages home and coax family members as well as neighbours to do their part in reducing electricity usage.

As Singapore gives priority in school allocation to children living within a 2km radius from a school, and parents have a strong preference to enrol their children in schools that are close to their homes, it is reasonable to expect that if children's nudging were to work, the electricity consumption of households within the participating school zone should experience a reduction in their utilities bill compared to households living beyond the 2km.

We used the monthly electricity consumption of blocks of HDB flats and condominiums/apartments in three periods — pre-project, project and post-project and compared between those living within and outside the 2km school boundary.

The simple act of getting children to coax their families to save worked.

1.8% REDUCTION

On average, households within 2km of participating schools used 1.8 per cent less electricity than families outside the school zone.

Those living in private housing reduced their average monthly electricity consumption by 2.5 per cent, while Housing Board dwellers saw a decline of 0.9 per cent in electricity consumption as compared to those living beyond the boundary.

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More encouraging is that the change in behaviour is persistent. After the project was completed, electricity consumption stayed at 1.6 per cent lower than before the project started.

We also noticed that the effectiveness of the nudging depended on whether the children were from primary or secondary school. Primary pupils appear to be more effective as households in the vicinity of participating primary schools reduced electricity consumption by 2.1 per cent compared to 1.5 per cent among those near participating secondary schools.

With rising electricity tariffs and the increasing need to protect the Earth, Singaporeans can do our part by adopting energy-saving practices.

Simply getting children to persuade or remind their family members of these practices helps electricity conservation.

Indeed, as our study shows, Singaporean children can play their part in teaching their parents about saving the Earth.

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