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# People use 6% more electricity when there is construction near them: Study

By Grace Chua

When construction takes place next door, home-owners often close their windows and turn on the air-conditioner to block out the noise and dust.

But exactly how much more energy do they consume by doing so?

Researchers from the National University of Singapore (NUS) and the Future Cities Laboratory, a tie-up between Singapore's National Research Foundation and the Swiss Federal Institute of Technology, found that on average, people here use 6 per cent more electricity when there is construction near them.

What is more, the increase becomes permanent.

Associate Professor Sumit Agarwal of the economics, finance and real estate departments of NUS, who led the research, said the team wanted to quantify the environmental impact of various urban phenomena on households.

"We talk about an urban city that is liveable and makes people's lives better, so we thought about looking at construction activity and its impact," he said.

The researchers obtained electricity consumption data for 2009 to 2011, for more than 5,300 HDB blocks here.

When they compared the blocks that were within a kilometre of an active construction site to those beyond that range, they found that those near construction used 6 per cent more electricity on average than the rest.

That translates into an extra 36,184 kwh used by each block in a year, or enough to power about eight four-room HDB flats.

Based on electricity prices in 2009, that extra electricity cost \$9,770 per block for the year.

Prof Agarwal said that was an average figure.

Wealthier people might be more willing to spend, or have their air-conditioning on all the time anyway, he added.

The team also found that the higher electricity use remains even after the construction is completed.

"It could be a habit," Prof Agarwal said.

Households could have become used to using air-conditioning more often or at lower temperatures, and trimming back on other spending to stump up the extra cost.

He and his colleagues have submitted their work to the journal, Energy Economics.

Next, they plan to quantify other urban factors that may affect electricity consumption, such as the presence of trees nearby.

Dr Sharon Shen, 30, who lives in a Paya Lebar condominium beside a construction site, said she closes

the windows to keep mosquitoes out, and also switches on the air-conditioner for about three hours while her two toddlers nap in the afternoon.

The general practitioner said she is not surprised by the findings.

"No one wants to live in a noisy or dusty environment. And once one gets used to a certain level of comfort, it's naturally easier to stick to air-conditioning rather than the fan," she said.

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