ESI 100326/C/016/EE

ESI

ENERGY STUDIES INSTITUTE

REVIEW ARTICLE

Benjamin TANG

Influence Behaviour to cut Energy Use

Straits Times, 26 March 2010

NUS National University of Singapore

ABSTRACT

Behaviour interventions work by subtly altering the context in which consumers make choices. This can result in more efficient use of energy and help reduce carbon emissions. As behaviour interventions in energy use can be expanded to the entire community at low cost once they are proven to be effective in energy conservation, it is a cost efficient measure that should be welcome in pragmatic Singapore.

KEY WORDS

Behaviour Interventions, Energy Policy, Labelling, Billing Design, Energy Conservation

1. Tell the average person here to use energy more efficiently and the response is likely to be: How much will it cost me and where are the biggest savings?

2. Research suggests that 'behaviour interventions' in energy use score well in terms of cost effectiveness, when compared with other energy efficiency and carbon abatement programmes. What are behavior interventions?

3. Traditional economic models assume that consumers are always rational spenders, seeking to get the best value for their money. Behavioural economists view humans in a less idealised manner. This makes for less precise theory but is arguably closer to the messiness of real life. After all, we all procrastinate or lose focus at times. Many intangible factors can influence our decisions.

4. Behaviour interventions work by subtly altering the context in which consumers make choices. This can result in more efficient use of energy and help reduce carbon emissions.

5. In Singapore, aspects of behaviour interventions have already been incorporated into energy policy. Examples include the energy labelling of household appliances, the Electricity Vending System and the design of the electricity bill. These are all attempts to improve the consumer's awareness of his electricity consumption patterns.

6. The Energy Labelling Scheme was introduced by the National Environment Agency (NEA) in January 2008. At present, it is mandatory for air-conditioners, refrigerators and clothes dryers to be labelled. These appliances were chosen

because they are relatively energy intensive and account for a significant proportion of a household's energy consumption.

7. Much thought has been given to the design of the energy labels. For example, the NEA's scheme gives appliances a rating of between zero and four ticks, with four ticks indicating that the appliance is among the best in its class for energy efficiency.

8. Ticks are chosen because most consumers associate check marks with 'correct' or 'good' things. There will be no confusion since shoppers will understand that more ticks equate to a more energy-efficient product.

9. The typically cost-conscious Singaporean would want to know if the more expensive model will eventually pay for itself in terms of energy savings. This is particularly true where the upfront costs are significant, as they are for items with long lifespans such as air-conditioning units and refrigerators.

10. Estimating an appliance's life-cycle cost at the store is no mean feat. In this case, consumers would find it useful to have information on the estimated annual electricity cost of using a particular appliance. Currently, this information is not available on the energy label.

11. Reforms are also being gradually made in the ways we pay for our electricity. A recently concluded trial run of the Energy Market Authority's Electricity Vending System allowed participating households to monitor the live consumption of electricity in dollar per hour values, via the display equipment provided. As a

result, these households voluntarily consumed less electricity during the trial period.

12. Consumers may also change their usage patterns when certain information appears in their bills. Thus SP Services' bill for domestic consumers presents the billed household's consumption over the last six months in a bar chart, as well as the national average consumption for the household's unit-type. This makes it easier for people to compare their current energy use with that in the past, as well as with their peers' use.

13. But this data could be presented in a more hard-hitting manner. For example, some electricity retailers in Australia provide such information concisely in the first page of the bill, where it is much more likely to be seen by the consumer. In Singapore, these statistics are tucked away at the end of the bill.

14. In addition, simply providing information on the national average consumption does not make as strong an impact as giving a monetary value to this difference. For example, a short statement telling the consumer that he is paying $360 more in electricity bills per annum than the average household is likely to be more effective than saying that he uses about 130kwh more electricity than his peers.

15. Behaviour interventions in energy use can be expanded to the entire community at low cost once they are proven to be effective in energy conservation. It is a cost efficient measure that should be welcome in pragmatic Singapore.

About the Author

Benjamin TANG is a Senior Economic Analyst with ESI. He graduated with an Honours (1st Class) Bachelor in Arts and Social Sciences (Economics) from the National University of Singapore. He was on the Vice Chancellor's List and had won the Silver Medal for 2nd place in the faculty Year 3 examinations. Benjamin joined ESI in May 2008 as an energy economist. His current research interests include modelling energy demand in Singapore and analyzing the relationship between oil prices and macro-economic indicators.

Prior to this, he was employed at Credit Suisse Singapore in a middle office role, supporting the Japan fixed income traders in a risk management and financial controlling capacity, and was managing the smaller and deployed extension of the team. He had earlier served internships at Shell Chemicals and the Monetary Authority of Singapore.

The Energy Studies Institute welcomes questions, feedback and comments towards its research work produced in various forms. Readers may write to Ms May Koh at esikamm@nus.edu.sg to express their views; citing the reference number of the work. We welcome all inputs directed towards the refinement and enhancement of the institute's research work.

Energy Studies Institute
National University of Singapore
29 Heng Mui Keng Terrace, Block A #10-01
Singapore 119620
Tel: (65) 6516 2000 Fax: (65) 6775 1831 Http://www.esi.nus.edu.sg