

# RESEARCH SUMMARY

Hug, Nudge, Shove or Smack? Testing approaches to enabling consumer energy use behaviour change

2019



## Research Aim

In this research, we aimed to understand which of the four options (hug, nudge, shove, or smack) was preferred by electricity consumers, as well as the timing of delivery. We were also interested in some relevant individual differences like demographics.

## Background

- There is consistent pressure on consumers generated by the increase in electricity prices and this pressure needs to be addressed in order to achieve sustainable electricity management.
- There are two sides that can be influenced by interventions – the demand-side (those using the electricity, such as electricity consumers) or the supply-side (those supplying the electricity, such as generators, distributors and retailers).
- One key challenge that affects both sides is ‘event days’, which occur when the level of demand exceeds the ability to supply
- If the infrastructure cannot keep up with demand, then two options are available: 1) improve or increase the infrastructure (an option that will increase costs for both the suppliers and consumers) or 2) reduce the demand for electricity during event days, either by using voluntary or enforced demand control.
- This research dealt with the latter option, by examining how interventions on the demand--side can encourage consumers to use less electricity during event days, reducing the load on infrastructure and potentially keeping prices lower.

## Method & Sample

- Two sets of experiments were conducted as part of this research program. The first was a lab experiment with students and used energy efficiency as a context (Phase 1) and the second was a lab experiment with the general public, using a peak demand context (Phase 2).
- Data was collected across 10 experimental sessions, conducted at the QUT QuBE lab. Once data had been collected, it was analysed using Stata software via a range of techniques, including descriptive analysis, group difference tests, and regression analyses.
- A total of 178 general population adults took part across the ten experiments. Participants were randomly allocated to one of the five groups. These participants also had some key differences from those who participated in Phase 1, due to the general population sample used, and the higher responsibilities amongst this group for utilities bills.

## Research Team

Professor Uwe Dulleck (*Chief Investigator*)

Professor Rebekah Russell-Bennett (*Chief Investigator*)

Dr Kate Letheren (*Postdoctoral Research Fellow*)

Dr Stephen Whyte (*Postdoctoral Research Fellow*)

Mr Martin Brumpton (*PhD Candidate*)



**QUT Business School**



# Findings & Research Insights

## Insight 1: Consumers are already pro-social, and do not respond well to negative interventions

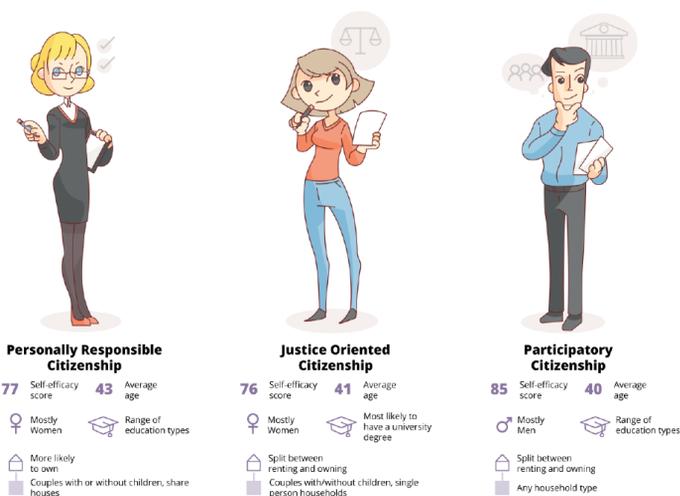
- Analysis found that none of the conditions made a significant difference to participant contributions. However, it is especially important to note that in this group (Phase 2 – peak demand context) the baseline was high, perhaps indicating that people are willing to contribute to the public good in these conditions.
- Initially we saw higher contributions for those in the ‘Shove’ condition (i.e., more pro-social behaviour and less electricity usage). This was the same in both phases. However, in the case of Phase 2, once the eight rounds were complete, the Shove and the Smack were both equally leading to less pro-social behaviour. This may indicate that a Shove is effective for a single instance of behaviour change but should not be repeated too often.

## Insight 2: There are several important individual differences

- A number of individual difference variables were also tested. In both Phase 1 and Phase 2, it was found that those who believe in being good citizens and ‘pitching in’ also tend to contribute more.
- This is not surprising as it can be expected that those who generally believe in acting for the common good would also act the same way in the scenario of reducing electricity usage for the good of all.
- Other individual difference variables tested including demographics such as age, gender, education, income and household make-up, as well as questions designed to test citizenship, honesty and self-efficacy.

## Insight 3: The response amongst the general population is fairly stable

- In the Phase 1 study there was decay (a reduction in effectiveness) over time for every condition – including the baseline – except for the Shove, which showed it was effective even over 16 rounds. In contrast, the current study found no indication that the level of cooperation was deteriorating over time in the given decision situation.
- When compared with the Phase 1 results, it can be seen that in this previous study the ‘Shove’ was the clear option to select, whereas in the current study it is effective only if used once and not repeatedly
- This change could be due to the different natures of the samples, and also to the high baseline that was seen in the current study.
- The high baseline may indicate that when it comes to event days consumers are happy to band together for the common good (provided this is not a continued request, and that they are not subjected to any negative outcomes). This may indicate a greater stability of response in the general population, as opposed to the student sample utilised in the Phase 1 study.



For more information, please contact the BEST Centre ([best@qut.edu.au](mailto:best@qut.edu.au)) or visit

<https://research.qut.edu.au/best/projects/social-exchange-energy-savings/>