## Nudges for nudgers

Behavioural interventions are an important instrument in the energy-policy toolkit. However, researchers and policymakers should consider their own bounded rationality in these efforts.

nergy use is not immediately visible to consumers, and is embedded in habits that are difficult to break. Consequently, policies that implement behavioural interventions, such as social comparisonbased home energy reports<sup>1</sup>, real-time feedback on energy-intensive activities<sup>2</sup> or e-mails that promote time-of-use tariff enrolment<sup>3</sup>, have an important role to play in promoting changes to energy consumption behaviour that support transitions to sustainable energy systems and carbon reduction goals. But given their explicit goal - to change people's behaviour - they raise a number of moral issues, particularly as the same behavioural science principles that can 'nudge' people toward better choices, such as enrolling in retirement plans, can also be used to encourage self-defeating behaviour to the benefit of a public or private sector entity, for instance offering a free trial that leads to automatic subscription if consumers do not opt-out (so-called sludge)<sup>4</sup>.

Ethical guidelines suggest that nudges should be transparent, allow easy optout and encourage behaviour that will improve the public welfare of those being nudged<sup>5</sup>. What this leaves unclear is how the public interest is identified, and by whom. Behavioural interventions that nudge people to use less electricity or purchase more energy-efficient appliances inherently carry a value judgment about what constitutes 'good' behaviour. Indeed, even if there is universal agreement that a nudge promotes - or is even necessary for - public welfare, this is contingent on time and place. For instance, the exclusion of women from many professions was often presented as being in their best interest, and this was not disputed. Likewise, our understanding of what constitutes a healthy diet is constantly changing. Though it may seem obvious today that energy consumption must be curbed and energy-efficient options adopted, it is simply impossible to foresee what aspects of programmes aimed at achieving these ends will seem abhorrent or misguided to future generations, either due to changes in social norms or scientific understanding. There is already evidence for the latter in the case of 'clean diesel' vehicles, which consumers were encouraged to adopt, but which are not really as clean as first believed.

Moreover, policy agendas and research programmes are created by people; no

matter how benevolent or committed to "nudges for good"<sup>4</sup>, they are still subject to the same systematic cognitive barriers, biases and limits to rationality that nudges are meant to overcome in the first place. For instance, long-term studies of behavioural intervention policies are relatively rare because academic and political incentives discourage studies where the main outcome measure will only be reported far in the future<sup>6</sup>. This is consistent with the cognitive phenomenon known as delay discounting the tendency to discount future rewards in favour of short-term gains. However, long-term studies are needed to delineate the temporal dynamics of intervention impacts, which are critical for policy design and implementation: how long does an intervention need to be in place to promote lasting changes in behaviour? Do these effects persist once an intervention is removed, or do initial gains from an intervention diminish over time even if the intervention remains in place? Research on social comparison-based home energy reports found that at the beginning of the trial, behaviour change was triggered when homeowners received the report, but then returned to previous levels. However, after two years these action-backsliding cycles were attenuated to ultimately reveal more persistent conservation behaviour<sup>1</sup>. Studying the intervention over two years painted a clearer picture of what is required for socialcomparison reports to promote meaningful and lasting behaviour change, providing better evidence for what a national roll-out should look like for maximum effect. To encourage more long-term studies of this kind, perhaps nudgers need to be nudged: we need interventions that nudge the people funding, studying and implementing nudges to overcome so-called present biases.

Interviews with UK government social researchers, who commission, translate and evaluate research for policymakers, suggest that the value of behavioural economics for policy is that nudges can be tested using methods that produce clear quantitative outcomes, which can then be integrated with economic models to estimate costs<sup>7</sup>. In any trial it is important to be clear about how success will be measured. However, choices about what impacts are important are subjective. A preference for easy to measure, quantitative indicators places financial considerations above impacts on wellbeing and ignores potential social costs of implementation. As an example, behavioural interventions designed to curb home energy use are considered successful when they reduce the amount of energy used, demonstrate cost effectiveness and provide financial savings for consumers. But many behaviours that could reduce home energy use, such as thermostat settings, necessarily affect all members of a household. Thus individual action to save energy may be constrained by social dynamics, such as the desire to avoid interpersonal conflict<sup>8</sup>. A successful intervention might therefore be defined as one that, in addition to reducing energy consumption, also encourages cooperation among housemates, enhancing social cohesion.

Scientists are trained to be objective, but are still only human. Best practice in qualitative research requires authors to explicitly reflect on their role as researchers and how their pre-existing perspectives might have influenced data collection and interpretation. Quantitative analysis itself might be more neutral, but researchers still decide what questions to ask, how a problem is framed and what outcomes will be measured. Taking a cue from qualitative traditions, researchers studying behavioural interventions could be asked to be explicit about their goals to make people behave differently, justify why the behaviour they want to encourage is the 'right' one, and how this is a product of social and cultural context — both of the people being nudged, and the researchers and policymakers doing the nudging. 

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## References

- 1. Allcott, H. & Rogers, T. Am. Econ. Rev. 10, 3003-3037 (2014).
- 2. Tiefenbeck, V. et al. Manag. Sci. 64, 1458–1476 (2018).
- 3. Nicolson, M., Huebner, G. M., Shipworth, D. & Elam, S.
- Nat. Energy 2, 17073 (2017).
- Thaler, R. H. Science 361, 431 (2018).
  Thaler, R. H. & Sunstein, C. R. Nudge
- . Thaler, R. H. & Sunstein, C. R. Nudge: Improving Decisions About Health, Wealth and Happiness (Yale University Press, New Haven, 2008).
- Sanders, M., Snijders, V. & Hallsworth, M. Behav. Pub. Policy. https://doi.org/10.1017/bpp.2018.17 (2018).
- Hampton, S. & Adams, R. Energy Res. Soc. Sci. 46, 214–224 (2018).
- Outcault, S., Sanguinetti, A. & Pritoni, M. Energy Res. Soc. Sci. (in the press).