

SOCIAL INFLUENCE AND ECONOMIC INTERVENTIONS TO MOTIVATE ENERGY-SAVING. WHAT WORKS BETTER?

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Social influence and economic interventions to motivate energy-saving. What works better?¹

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OVERVIEW

Various governments are implementing policies that aim to stimulate energy-saving behaviour in households. This is particularly relevant to the use of cooling and/or heating home systems, a residential energy behaviour of significant importance in energy and climate policy. Common behavioural interventions are based either on social influence (peer pressure) or on economic instruments. However, while particular interventions have been found to be effective in certain settings, this effectiveness is not always persistent in time or transferrable to other settings. This lack of consensus on the interventions' effectiveness is attributed to the fact that scholarly studies often focus on whether an intervention succeeds or fails, and not on the underlying conditions that shape each result. In view of the above, this research provides a new perspective on the future design of such interventions, by exploring the factors that affect their effectiveness.

Based on a review of international studies on energy-relevant behavioural interventions published during the last 20 years, this study sets up an agenda of critical questions to identify new priority areas of research. Of central importance is whether energy interventions target the appropriate behaviour: efficiency, i.e. the purchase of efficient appliances, or conservation, i.e. daily curtailments in the use of appliances. For instance, the review indicates that social influence interventions have been mainly used to motivate conservation, while the opposite is true for economic interventions. Other important items in the agenda include whether the development of social media technology has affected energy consumers' perception of social influence, and whether individuals who have been influenced by an intervention in the past can be influenced again in the future. Finally, the relevance of this agenda is illustrated via a survey that explores the effectiveness of various interventions towards encouraging residential energy-saving behaviours in an urban setting. The results provide evidence that the

¹ This Bulletin summarises the findings from: Spandagos, C., Baark, E., Ng, T.L. and Yarime, M., "Social influence and economic intervention policies to save energy at home: Critical questions for the new decade and evidence from air-condition use", *Renewable and Sustainable Energy Reviews*, Available online: <https://doi.org/10.1016/j.rser.2021.110915>

potential for energy-saving behaviour is affected by the type of targeted behaviour, by householder personality traits (such as openness to change) and by the existence of past influence events. Peer pressure is regarded as more influential than economic measures, independently of the channel through which it is communicated, i.e. offline or online. The survey responses are not strongly affected by socio-demographic variables such as income, suggesting that low income will not be a barrier to the success of interventions.

METHODS

The research is based on a review of 55 original research papers on energy interventions. The gaps identified through this analysis lead to the formulation of critical questions for future research. In turn, the relevance of the critical questions is illustrated via a survey among 1,000 households in a large urban centre (Hong Kong). The survey contains data on householders' perceptions of several types of behavioural interventions, together with their socio-demographic information and their preferences for the use of home appliances, with a focus on space cooling systems. Statistical techniques were used to investigate the relationships between these attributes.

POLICY IMPLICATIONS

The potential of peer comparison to influence efficiency behaviour is high, but remains untapped. New policy initiatives should thus expand the scope for peer comparison interventions to target efficiency decisions. The potential to influence behaviour is equally high for both online and offline peer comparison, and independent of the number of peer interactions in the physical realm. Therefore, policy efforts to mobilise social influence at greater scale may be facilitated through social media and other online forms of communication.

Furthermore, while economic instruments are perceived by survey respondents as less effective than peer interventions, they are still deemed influential in encouraging conservation behaviour. Thus, they may be implemented as supporting components to the social influence measures. As conservation is harder to maintain, economic measures can act as an additional push to stimulate action on a regular basis.

Finally, socio-demographic characteristics should not be considered as barriers to the outreach of interventions. Instead, interventions may be strengthened when they target population groups defined by personality traits (such as openness to change), environmental knowledge and influence history. If governments acquire improved understanding of such characteristics among a population, the effectiveness of energy interventions can be enhanced.

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