

Making smart meters smarter the smart way

There is much hype about how various smart grid technologies will revolutionise the energy sector. EU wide much hope hinges on the ongoing roll out of smart meters. But how exactly will smart meters help energy consumers? One idea is that they provide more timely and better feedback about energy consumed, which might help reduce waste and improve energy efficiency.

However, it is not clear to what extent consumers are susceptible to such nudges and how much scope there is to improve efficiency. It is also unclear what type of feedback should be provided and how. Providing good evidence on these issues is hard, particularly because companies are often bound by legislative constraints in what they can implement which impedes experimentation.

However, as part of the so-called Smart Meter derogation, the UK government provided energy companies with a regulatory window to trial alternative approaches to energy feedback. Together with Scottish Power and ONZO (an energy analytics firm) we designed a randomized control trial (RCT) among nearly 40,000 customers to study various types of feedback. This suggest that such nudges can potentially have a dramatic effect reducing power consumption of some consumers by as much as 12%.

However, these effects are contingent on consumers using the relevant smart phone apps which is only the case in 30% of cases. Moreover, various consumers were served by different types of smart meter installation service firms. However, we only find feedback effects for customers of one specific installer. This could imply that behavioural change could also depend on the quality of guidance given to customers.