research highlights

ENERGY CONSERVATION BEHAVIOUR

Real-time feedback

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Energy conservation is difficult because the benefits of energy use are clearly and immediately visible (for example, a warm shower), while the costs are typically delayed and abstract (for example, an energy bill). Typical feedback interventions designed to curb energy use such as home energy reports replicate this problem because feedback is not delivered at the point when an energy-use decision is being made. To test whether making the implications of a specific behaviour salient in real-time promotes energy conservation, Verena Tiefenbeck and colleagues in Switzerland and Germany provided real-time feedback on resource consumption during an energy-intensive activity: showering.

During an initial baseline period where smart shower meters only displayed water temperature, there were no differences in energy consumption during showering between control and treatment groups. However, when smart shower meters in the treatment group also displayed real-time water use, energy consumption, and an energy efficiency rating, the treatment group used 22% less energy during showering. This translates into savings of 1.2 kWh per day and household. These savings emerged at the onset of the real-time feedback intervention, persisted over the entire two months of the study, and were driven by individuals taking shorter showers, with only minimal changes to water flow rate or temperature. This highlights the promise of real-time digital feedback as a cost-effective, easy to implement, intervention.

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