

# Mental accounting is impacting sustainable behavior

13 October 2020



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Mental accounting is a concept that describes the mental processes we employ to organize our resource use. Human beings tend to create separate mental budget compartments where specific acts of consumption and payments are linked. This mechanism can be counter-productive when it comes to energy consumption and can have a negative impact on attempts to reduce carbon emissions. Psychologists from the University of Geneva (UNIGE), working in collaboration with the University of Applied Sciences and Arts in Western Switzerland (HES-SO Valais), have published a perspective in the highly influential journal *Nature Energy*. The article links theories and research on mental accounting to energy and sustainability behavior, proposing concrete strategies to improve the impact of climate-control measures.

Mental accounting, a concept known by psychology researchers since the 1980s, describes how the human mind functions when performing acts of consumption. For instance, someone who has bought a cinema ticket in advance but who

cannot find it on entering the cinema will typically not buy a second ticket: their film budget has already been spent! This example illustrates our tendency to mentally segment our budgets and link them to specific acts of consumption. "These basic cognitive mechanisms can help us better understand unsustainable behavior. If they are taken into account, they could be used to fine-tune the way policy instruments are designed to fight [climate change](#), improve prevention and promote sustainable behavior," begins Tobias Brosch, professor in psychology of sustainable development at UNIGE's Faculty of Psychology and Educational Sciences and the Swiss Centre for Affective Sciences. "For this article, we used the currently ongoing discussions around the carbon tax to illustrate the impact of three mechanisms of mental accounting on behavior and to propose ways to circumvent this impact."

## Justifications, rebounds and labels

The spillover effect refers to the fact that we tend to justify one behavior by another of our behaviors. "Someone who makes the effort to cycle to work every day will use this argument to justify, to himself or others, buying a plane ticket to go on holiday to the Seychelles. A possible intervention strategy to prevent this is to encourage people to create differentiated mental accounts using targeted messages," states the psychologist.

The rebound effect explains how actions can induce a negative energy balance when people fail to adapt their budgets to a new situation. For example, people who buy an energy-efficient car may feel inclined to use it more often, canceling out potential energy savings. To tackle this phenomenon, the psychologists suggest informing people about the real energy costs of their new car so they can update their consumption budget.

Our minds create mental accounts with precise labels. The mental account that is opened when we

receive a sum of money in a specific context determines what the money will be spent on. "A monetary gift received for a birthday will be labeled 'pleasure,' and will most likely be spent on pleasurable experiences," says Professor Brosch by means of illustration. This can be problematic in the context of sustainable decision-making. For instance, the financial returns on solar panels installed at home appear only indirectly in the electricity bill and are not explicitly labeled as "energy saving." Accordingly, people will not necessarily think about reinvesting this money in new sustainable measures. "Clear labels are needed. In Switzerland, part of the carbon levy is returned to citizens via a reduction in health insurance costs. It would be better to label such an income "Climate action revenue," argues Tobias Brosch.

### **Take the right measures but don't forget your values**

The analysis carried out by the psychologists proposes concrete measures aimed at the political sphere so that pro-climate initiatives can be improved by factoring in human behavior. "We need to clearly show the price of energy, make the message salient, and demonstrate the impact of consumption on CO<sub>2</sub>-emissions through concrete feedback," says Ulf Hahnel, senior researcher at UNIGE and first author of the study.

The approaches developed in the perspective help conceptualize spending and diversify mental accounts so that individuals can better adapt their behaviors. But Hahnel warns: "Be careful to consider your values and not to fall into purely marketing-based initiatives. You cannot put sustainability labels on just any tax credit." "Bounded rationality, including mental accounting, can help introducing innovative policies for climate change mitigation in addition to price-oriented ones," adds Valentino Piana, senior economist at HES-SO, who contributed to the study.

Professor Brosch says, "Our work helps to understand behavior, how humans make choices and take decisions. Our goal isn't to abolish free will, but to provide a behavioral toolbox. Policymakers can use this knowledge to develop

strategies based not just on scientific evidence, but also on ethical considerations."

**More information:** Ulf J. J. Hahnel et al. Mental accounting mechanisms in energy decision-making and behaviour, *Nature Energy* (2020). [DOI: 10.1038/s41560-020-00704-6](https://doi.org/10.1038/s41560-020-00704-6)

Provided by University of Geneva

APA citation: Mental accounting is impacting sustainable behavior (2020, October 13) retrieved 23 November 2020 from <https://phys.org/news/2020-10-mental-accounting-impacting-sustainable-behavior.html>

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