Prompting sustainable action may depend on asking the right question

Most of us agree that more needs to be done to protect the environment. New technologies are being continually developed to make our lifestyles and our homes more sustainable. But if push came to shove, would you pay to install solar panels? Ian Bright, Jessica Exton and Jay Shamji help explain how your answer would probably depend on how you were asked

The way a message is framed can influence how it is perceived. Tailoring a message to appeal to our nature or to emphasise one aspect of an argument over others, are examples of how framing can be applied to influence responses. For example, beef advertised as 95% lean mince, instead of 5% fat will appear more attractive.

The effects of framing when communicating to people about sustainability are particularly interesting. If a simple change of wording prompts more people to make their homes more sustainable, which would subsequently impact long-term energy consumption and deliver a variety of benefits, for example, people would want to know about it.

Solar tools

Solar panels available to households have the potential to significantly reduce the environmental impact homes have. Deloitte analysis suggests that if solar panels were placed on every suitable roof surface in the Netherlands, half of the country's electricity demand could be generated by the sun.

The cost savings solar panels provide are making them increasingly popular. In the year leading up to July 2019, solar power use in the UK almost doubled. US 'fact tank', Pew Research Centre, further found that more than two in five US homeowners have given serious thought to installing solar panels. Additionally, the sustainable impact of solar panels is being recognised in sunny California, where a new set of environmental standards will require most new homes built after 2020 to include solar panels.

Wording matters

Despite significantly reducing household energy bills, the initial high cost of installing solar panels will deter some prospective users. This type of challenge is consistent across many environmental decisions, with many sustainable products incurring a large initial outlay as well as a long payback period. Whether an offer to install solar panels focuses on the immediate impact or the longer-term returns will likely influence responses.

To test this, a single question about attitudes to installing solar panels was asked to all 13,000 European respondents involved in 2019's Homes and Mortgages ING International Survey. In each of the 13 countries, respondents were split into two equal groups. Each were given estimates of average energy bills for households in their country and the average cost of installing solar panels. Half were asked how much money they would need to save each year to install solar panels. The other half were asked how many years of savings they would need to justify the initial instalment costs. The questions were asked in a way that the savings each year and number of years to pay off could be compared directly.

When asked the question in different ways, Europeans on average gave different answers. A third of people (32%) said investing in solar panels wasn't worth the highest return option we provided, when the return was expressed as a monetary saving. But a much larger group (47%) said this investment wasn't worth it when they considered the number of years it would take to recoup the initial cost. People were more likely to invest in solar panels when they considered how much could be saved each year, compared to how many years of saving it would take to recoup the initial costs.

The questions

Q: What annual saving on your energy bills would make this investment worth it?

A: On average, 32% said they would need to save more than 70% of their energy bill each year (equivalent to less than 15 years repayment time) to make the investment worth it.

Respondents selected a percentage of their annual energy bill that would need to be saved between 70% (which would take approx. 15 years to repay) and 20% (which would take approx. 43 years to repay) or said 'I would need to save more than this each year'.

Q: How quickly would you need to make the total cost of solar panels bank, to make this investment worth it?

A: On average, 47% said they would need to recoup costs in less than 15 years (equivalent to more than 70% annual energy bill saving) to make the investment worth it.

Respondents selected a number of years on a range between 43 years (approx. equivalent to saving 20% of each annual energy bill) and 15 years (approx. equivalent to saving 70% of each annual energy bill) or said 'I would need to recoup my costs faster than this'.

The findings

Almost half (47%) of Europeans said that a repayment period of 15 years was too long. They did not feel that it was worth installing solar panels if it would take this long to make a full return on their investment.

Comparatively, only a third (32%) of Europeans gave the equivalent response, saying that 15 years was too long to make up their investment, when we framed this return as an annual saving on their energy bill. This was the equivalent of wanting to save more than 70% of each annual energy bill.

Driving framing

With this single question, we can't know what assumptions and calculations respondents may have made when deciding if the investment was worth it for them. Therefore, while we can see differences in the answers, we can't say exactly why they have occurred. We can however, hypothesise.

It may be that respondents who were shown the question that phrased returns on their solar panel investment in terms of annual energy savings were focusing on short-term gains. Each year they would incur a saving on their annual energy bill that would continue into the foreseeable future. This would happen immediately after installation. While this saving would be used to account for the high initial installation cost, the fact that energy bills would be reduced may have felt like a win, and therefore considered attractive.

Respondents who were shown the question that phrased returns in terms of how many years it would take to repay their investment, were however led to focus on something very different. Rather than an immediate saving, they considered the total repayment period. This may have made this option less attractive. Respondents would have had to work out the immediate financial benefits themselves as these weren't made obvious.

Time vs Money

Another reason for the different responses may be that one group viewed costs in terms of money, the other in terms of time.

'Time is money'. It's a common saying that suggests interchangeability. We *spend* money on activities, we *spend* time on others. In some cases, we can think of periods of time as 'worth' a

certain amount of money. One can be translated to the other.

But research suggests that it's normal to think about time and money differently, even if with a quick calculation we can translate one into another. And not everyone will make this translation the same way. There are many factors that impact how we think about translating the value of time into a monetary amount. While each of us has an identical number of hours in a day, admittedly with different amounts of 'free' time, not everyone has the same amount of money. While we might be able to go out and earn more money, there is arguably no way to go out and simply find more time.

One way to try and quantify the value of an hour may be to assess how much someone else is willing to pay for it, i.e. one's hourly earnings. But this will vary across individuals. The 19th century American writer and philosopher, Henry David Thoreau said: "The cost of a thing is the amount of life which is to be exchanged for it". This is also something unique to each person.

People also tend to approach decisions that involve time differently to those that involve money. For example, they can apply heuristics to simplify the process of estimating time to one that requires little cognitive analysis. Heuristics are "strategies of simplifying judgments that allow individuals to make decisions under suboptimal circumstances" and may lead to responses based on a gut reaction rather than a reasoned and calculated assessment. We are more likely to apply heuristics when thinking in terms of time, rather than money.

Context specific

These questions were asked in the context of a broader survey about the environmental impact of spending and consumption. Given this, it's worth noting that a desire to be seen as socially responsible may have influenced responses. Some may have said they would have invested in solar panels in either the monetary or time state to appear more contientious. The differences between how the questions were phrased are however interesting.

Previous research suggests that opinions and cognitive processes can be shaped, to some extent, by the wording of a question. Even if the values in a question are equivalent to one another, or lead to the same results. In this scenario, both groups had equivalent options to choose from, yet when we asked whether people would invest in solar panels with a return on investment described as an annual percentage of their energy bill saved, they were more likely to make the investment than when the return on investment was described in terms of the length of time it would take.