

Tackling climate change with social science

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Behavioural scientist Danie Nilsson is helping to empower Australians to make more informed choices. Credit: CSIRO

Tackling the climate challenge is requiring everyone to change the way we think about our homes, our lifestyles, and our investments.

Australians are embracing the energy transition, with rooftop solar now contributing [11.2% of Australia's electricity supply](#).

We recently surveyed Australians about the renewable energy transition and found [affordable energy for everyone was the top priority](#). We found most Australians are open to change, but views varied on the speed and extent of change of the energy transition.

So, what are our obstacles to changing?

Integrating the power of social science

Danie Nilsson is a [social scientist](#) in our Energy team. Danie works to better understand and address the human challenges behind tackling the climate challenge. She has a strong focus on community engagement to empower Australians to make more informed choices.

Danie says there's now largely consensus that we need to increase focus on the social science component of the energy transition.

"There's no point having the latest and greatest technology if people don't, can't, or won't use it or adopt it," Danie says.

"People are at the core of this transition. It requires society and individual behaviors to shift. We're starting to see a dramatic increase in the research focused on how to help everyone adopt and adapt to the changes required in a fair and equitable manner."

Empowering decision making

Danie is experiencing first-hand the challenges that come with making major changes. In the last year, she's had to make big decisions about

renovating a new home and buying a new car.

"I needed to ensure these investments aligned with my sustainability values, while also fitting our budget and other requirements," Danie says.

One of the key decisions has been whether to install rooftop solar.

"It seems like a no-brainer, but with a big outlay cost, it has been something we've had to consider. Especially when we aren't sure how much longer we will be living in this home," Danie says.

"When we decided to investigate it, I was surprised by how difficult it was for me to understand the best way to go about installing rooftop solar and who to trust... and I work in the Energy team at CSIRO!

"I know the technology is there, but I lacked confidence in knowing what was the right decision for us. This included the specifics around what we would need and how to go about it, from installing panels through to how it impacts energy bills."

So why are these decisions so hard?

Powerful obstacles to change

Danie says it's not only external constraints but internal challenges that humans face when making big decisions and changes in their lives.

"Becoming aware of the psychology behind our decision making, and the irrationality we can be prone to, brings us one step closer to empowering ourselves to making big decisions," Danie says.

"This will help us better navigate the big changes required to tackle climate change and the energy transition."

There are four key internal barriers we need to overcome: loss aversion, decision fatigue, challenging the status quo or inertia, and [choice overload](#).

So how can we overcome these obstacles?

Renewed energy for change

As we race [towards a net zero future](#) to reach ambitious climate goals, it's essential to decarbonize Australia's housing sector. This will require electrifying about eight million homes. This is not only important for environmental targets, but to ensure Australians live in homes that are comfortable, healthy, and affordable to run.

Electrifying our homes might seem like a daunting task for us. However, social science can help us through this transition.

"Social scientists are helping people to change, and we're working with government, industry and even media channels to integrate social science to support society's shift too," Danie says.

"For example, we helped to create and evaluate a television series called Renovate or Rebuild, which aimed to empower Australian households to make more energy efficient decisions with renovating their own homes."

Danie says when we tap into our motivations and drivers, and remove or minimize barriers, we are better prepared and able to make big changes in our lives. The higher the motivation and the easier a behavior is to perform, the more likely we are to act.

To help us take action, it can be helpful to identify our "why" behind the desired change.

Identify your priorities and personal drivers

Climate change is requiring us to make changes to our homes, cars and lifestyles. We're having to electrify our homes, prepare for electric vehicles (EV), and make our homes more resilient to natural disasters. However, we all have differing motivations and priorities depending on our personal circumstances.

Danie says identifying your own priorities and motivations is the first step in navigating these big life changes.

Your priorities could be driven by financial reasons (e.g., the need to minimize energy bills), values-driven (e.g., wanting to make a positive [environmental impact](#)), identity based (e.g., wanting to have the newest technology) or even logistically based (e.g., needing to upgrade a new car or switch from gas to electric appliances).

Understandably, we can have conflicting and competing priorities and drivers. For instance, finances may impede your current ability to purchase an EV despite your environmental values desiring one. However, there are [steps we can all take today to live more sustainably](#) and track us towards even bigger changes.

Making the change

Your personal drivers can inspire you to act. But having inspiration and motivation is not enough to succeed in making big changes. We all have internal barriers to taking action.

Internal barriers can be explained by human psychology. In particular, the cognitive biases (systematic processes our brain uses to understand large amounts of information) and heuristics (mental shortcuts our brain

uses to make quick judgements) that explain human behavior and decision-making.

So, how can we overcome these obstacles? Danie highlights four common internal barriers we face as humans, and how we might overcome them.

1. Overcome loss aversion

For most Australians, [affordability is the main concern in the renewable transition](#). Loss aversion is a cognitive bias that means we have double the sensitivity to outcomes considered a "loss" versus a "gain." This cognitive bias is prominent when it comes to financial decisions.

This is particularly relevant for decisions with high upfront costs. For instance, while having solar panels might save us considerable money in the long term, it requires spending a large amount upfront to install the solar panels. The upfront costs are more prominent in our decision making because we are sensitive to this initial "loss" rather than long term "gain."

To overcome loss aversion, we can pay attention to how we frame these big decisions. For instance, framing the decision and process in a way that highlights the potential benefits to be received, rather than focusing on the initial costs, can help. This could mean crunching the numbers and [calculating the long-term savings](#), and incorporating this into our household budget, to enable long-term vision.

2. Reduce choice overload

Choice overload, otherwise known as choice paralysis, is something we face when we feel overwhelmed by the sheer number of options

available to us. More choices make it more difficult to decide, as it becomes cognitively taxing and therefore we may delay acting. You might relate to this when you're struggling to pick a movie from the endless supply available on streaming services!

This is where knowing our priorities and values can help, especially for these bigger decisions. Focus on making one change at a time and narrow your options down to just a few suppliers or products that fit with your values and circumstances. And don't be too worried about your satisfaction (or rather lack thereof) taking this approach. Research shows we suffer from the "paradox of choice." This means as the number of choices available to us becomes excessive, we tend to be less happy with our choice than if we had fewer choices to start with!

To reduce choice overload, you might identify that getting a local supplier for your [solar panels](#) is a values-based priority for you. You could then identify two great local suppliers, get a quote from each, and select one for your job. This reduces the options significantly and helps minimize choice overload.

3. Challenge the status quo and overcome inertia

Another cognitive bias that can negatively impact our decision making is called "status quo bias" or "inertia." This explains humans' desire for things to remain how they currently are, despite the potential benefits achieved through change. We tend to like what is familiar and resist changing.

One example of this in action is with organ donation. Research has found high rates of organ donors in countries where they have an "opt out" policy, rather than countries like Australia where we have an "opt in" policy with lower organ donation rates.

As with all [cognitive biases](#), being aware of them is a crucial first step to overcoming them. Revisiting your carefully assessed priorities and drivers can be a catalyst to overcoming status quo bias. It's important to remind ourselves what our motivation for change is and what benefits can come from it.

The changes the energy transition requires can bring big decisions, with a big outlay, and it can be easy to put it off. But it's important to remember that the first step tends to be the hardest, and then it gets easier. Action creates momentum and builds motivation. So break down big decisions into actionable steps, bite-sized chunks of what you can do.

Ask yourself: What is one step you can take this weekend to take you closer to your goals?

4. Address decision fatigue

We only have so much cognitive ability during the day and week to make decisions. This is why some CEOs have a predetermined uniform they wear every day. This takes decision making away early in the day and saves it for more important decisions.

Research shows women are making more of the household decisions. Decision fatigue, especially at the end of the day, can be a major obstacle.

It can help to set a designated time to have discussions, do research, and plan steps. Be mindful of when you're making decisions—6pm on a workday may not be the best time for long term decisions.

Scheduling time in the early morning, on the weekend, or on a day off may be more effective, whenever you're feeling your freshest. Keep it as simple as possible—one decision per time slot.

It can also be useful to delegate decisions where possible. For instance, trusted comparison websites, or referrals and recommendations, may help you come to a decision easier.

Energized to take action

Danie is passionate about driving the social science needed to support the energy transition.

"We're in this transformative time where people are changing their lifestyles, their homes, their behaviors and everything to take part in the [energy transition](#) and address the [climate challenge](#)," Danie says.

"Social scientists are needed to better understand how to support people, because we won't reach our targets unless we successfully change human behavior. I'm really excited to be part of the change I want to create."

Provided by CSIRO

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