

Households can play a role in mitigating climate change

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Individual consumers can make conscious choices that are climate friendly and that will help with achieving the Paris Climate goals. But a secondary benefit of adopting a greener lifestyle—extra money from efficiency savings—has to be handled wisely to avoid undermining the carbon savings gained from the initial green choices.

A team of Norwegian researchers, led by Richard Wood from the Norwegian University of Science and Technology (NTNU), looked at the potential of Norwegian households to do their part to mitigate [climate change](#) and found there's room for optimism—as long as shoppers pay attention to the way they spend the extra cash they may realize from being greener consumers. Their paper, "Climate change mitigation potential of Norwegian households and the rebound effect," with Eivind Lekve Bjelle as first author, was recently published in the *Journal of Cleaner Production*.

U.S. President Donald Trump's decision to pull the United States out of the Paris Climate Agreement notwithstanding, most governments are working to find ways to meet their pledges to keep global warming below a target of 2 degrees C. Shifting away from fossil fuels, implementing efficiency measures and a host of other large-scale actions have to be taken by governments and industry to meet that goal—but research continues to show that government action simply won't be enough, say Wood, Bjelle and their co-author Kjartan Steen-Olsen.

The trio, all from NTNU's Industrial Ecology Programme, undertook an

analysis to see what Norwegian consumers could do to help make the two-degree [climate](#) goal a reality. What they found was that Norwegian consumers can make deep cuts in their [carbon](#) footprints by making wise choices. They can carpool, cut back on meat in their diets, or ditch their cars and take the bus, as just three of 34 different actions the researchers evaluated. Indeed, strong adoption of most of these changes enabled consumers to initially cut their carbon footprints by as much as 58 per cent.

"For me the most important take-home message is that Norwegian households can significantly lower their carbon footprint by actively changing their pattern of consumption," Bjelle said.

But there's a catch: Consumers face a potential pitfall after they invest in highly efficient goods or make behavioural changes so they lower their carbon emissions. For example, if consumers cut back on the amount they drive, and spend less money on other car expenses, that's good for the planet. Almost certainly, they will also find themselves with a little extra cash in their pockets. That's where the trap lies, says Steen-Olsen.

"When households take climate actions to reduce emissions, they typically also save money," he said. "This money is often spent on discretionary items with relatively high climate impacts and the net emission savings will be reduced."

This secondary effect is called the rebound effect, and can reduce the savings from the initial emission savings. In other words, consumers who took reasonable measures to cut their carbon footprints by a substantial amount—and achieved that 58 per cent reduction—could reduce their carbon footprint cuts to just 24-35 per cent if they spend the money they save on an average mix of discretionary purchases.

The researchers chose Norway as their subject partly for obvious reasons

(the university is in Norway, after all) but also because it is a relatively affluent country that also has a fairly large per capita carbon footprint. But as an affluent country, Norwegians can also afford to make the purchases and investments needed to shift to a greener, low-carbon economy, Bjelle said.

Consumers can be a positive force, Bjelle says, by buying more efficient products, or products that have a lower carbon footprint overall.

"By taking a more active role in lowering their carbon footprint, consumers can drive changes in production, which will lead to further carbon footprint reductions from environmentally beneficial changes in the supply chain," he said.

Then it's a matter of being a smart consumer with purchases, the researchers say. Cutting back on meat consumption and air travel, and making changes at home, such as eliminating food waste or washing clothes less and at a cooler temperature are all actions that can make a difference.

When purchasing goods, aim for those that are durable, that can be repaired, or clothing and furniture that will last for a long time (and thus might cost more). These are all good choices when it comes to the climate, they say.

"Consumers can focus on purchasing 'better' goods rather than necessarily less," Wood said. "Consumers should aim for purchases of goods and services that improve their quality of life, rather than material possessions. You could go to the movies, get a nice massage, or go to a concert. Those can be nice gifts, too."

Norwegian [consumers](#) are in an excellent position to show how consumer actions can lead to lower [carbon footprints](#), the researchers

observed. "I believe that Norway should be a role model on this, to lead the way towards a lifestyle associated with a lower carbon footprint," Bjelle said.

More information: Eivind Lekve Bjelle et al, Climate change mitigation potential of Norwegian households and the rebound effect, *Journal of Cleaner Production* (2017). [DOI: 10.1016/j.jclepro.2017.10.089](https://doi.org/10.1016/j.jclepro.2017.10.089)

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