

# Science for Environment Policy

## Greener car driving is encouraged by feedback, says Dutch study

**Motivation to practise fuel-efficient driving** may be more influenced by environmental concerns than by financial benefits, research suggests. In promoting fuel efficiency, this survey of Dutch motorists highlights the power of providing feedback to drivers – both environmental and economic – on their behaviour.

**Ongoing advances in technology** are making it easier for consumers to receive feedback on their [energy](#) use. 'Smart plugs', for example, tell you the kilowatt or monetary gains of switching off specific home appliances. Similarly, a number of in-car devices give real-time feedback on fuel consumption.

But what kind of feedback is most motivating for drivers: financial or environmental? The general assumption seems to be that personal, monetary gains are considered more worthwhile to drivers than environmental gains. But is financial feedback really more effective, given that the financial gains associated with specific eco-driving behaviours are typically quite modest? To explore the effects of feedback on driving behaviour, the researchers questioned 305 motorists in the Netherlands through an online survey.

Respondents were presented with six eco-driving actions: (1) avoiding idling (turning off the engine when stationary), (2) reducing speed, (3) avoiding overtaking, (4) turning off air conditioning, (5) removing a roof rack and (6) avoiding under-inflated tyres.

Detailed scenarios were described, where participants could choose to do one of these actions. For example, you could turn off your engine while waiting at a level crossing. However, different participants received different information on the impacts of these hypothetical actions. One group received environmental information and was told, for instance, that they would save 0.018 kg of CO<sub>2</sub> by not idling at the level crossing. A second group received economic information: €0.05 would be saved in this scenario. A third group had no information at all.

All groups were asked to what extent they found the eco-driving action worth the effort given the possible savings, and if they would carry out each eco-driving action. They rated the worthiness of savings (1= not at all worth the effort to 6= totally worth the effort) and the strength of their intention on a scale of 1-6 (1 = totally disagree I would do this to 6 = totally agree).

On average, individuals presented with environmental information found the eco-driving actions more worth the effort than those given financial information for all six actions. This suggests, say the researchers, that environmental feedback may be more motivating than financial feedback.

However, the amount of effort required for specific actions also seems to matter. Where effort is low, any type of feedback, either environmental or financial, seems sufficient to trigger people's intention to change behaviour. For actions that required more effort, such as regularly checking tyre pressure, environmental information appeared to have the most motivating effect, compared to the effects of no feedback at all.

This supported the researchers' theory that where effort is great but monetary gains are small, people consider the action not worth the effort. However, such cost/benefit reasoning does not occur when it is suggested to them that they could act altruistically, for the good of the wider environment, rather than selfishly, for the sake of a small amount of money. As a consequence, they may change for even very small benefits, despite the effort.

This study calls into question the widespread belief that green behaviour is most strongly motivated by money.



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