

Extended Abstract

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Paper/Poster Title	Willingness to Pay for Sequestration and the causal impact of animal-based foods information
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Abstract prepared for presentation at the 98th Annual Conference of The Agricultural Economics Society will be held at The University of Edinburgh, UK, 18th - 20th March 2024.

Abstract	<i>200 words max</i>
<p>Individual reductions in animal-based foods are necessary to mitigate climate change. However, modifying individual consumption toward lower greenhouse gas (GHG) emissions alternatives remains challenging. One solution is offsetting GHG emissions through carbon sequestration. In this paper, we study individuals' willingness to pay to offset their GHG emission through carbon sequestration and the causal role of information provision on animal-based foods. We use a pre-registered online survey experiment with an Irish representative sample that includes a two-stage variation of a donation game. We first assess the impact of information provision on the willingness to pay for carbon sequestration. Second, using treatment comparisons and varying the nature of the information, we explore whether information provision on GHG emissions from dairy and meat production and consumption impacts the willingness to pay for carbon offsetting. In addition, we compare animal-based food information to car information to evaluate the magnitude of this source of information on GHG offsetting donations. Our results are expected to provide additional strategies for climate change mitigation from food.</p>	
Keywords	Carbon offset; information provision; survey experiment; climate change; animal-based food
JEL Code	Q5, D83, D91 see: www.aeaweb.org/jel/guide/jel.php?class=Q)
Introduction	<i>100 – 250 words</i>
<p>Global warming is expected to exceed 1.5°C between 2030 and 2052 due to human activities (IPCC, 2018). It is commonly accepted that reducing animal-based food consumption in developed countries is a key step for climate change mitigation. (Willett et al., 2018; Xu et al., 2021). However, one barrier is that individuals often underestimate their carbon footprint from food consumption and are uninformed on the impact of dietary changes. Several behavioral solutions have been proposed to modify individual consumption such as nudges (Lehner et al., 2016), carbon labeling (Vlaeminck et al., 2014; Elofsson et al., 2016; Lohmann et al., 2022), information provision (Burkhardt et al., 2023), and taxation (Schaffer, 2021). However, the difficulty of implementing policies and the long-term uncertainty of behavioral interventions in changing individual food consumption is leading to question the efficacy of these interventions.</p>	

One solution to directly mitigate climate change is to offset GHG emissions through carbon sequestration. This process is offered by private companies (e.g., EcoTree) and involves taking GHG out of the air by planting trees and restoring peatlands. For individuals, contributing to a carbon sequestration project allows them to offset GHG emissions without changing their consumption habits, although it is recommended to only offset unavoidable GHG emissions.

In this paper, we study individuals' willingness to pay for carbon sequestration alongside the role of GHG emissions information about meat and dairy on willingness to pay. Understanding the individuals' attitudes toward carbon sequestration is important for policymakers to maximize the efficacy of climate mitigation interventions and simplify their implementation, as individual consumption is difficult to observe and track.

Methodology

100 – 250 words

We use a pre-registered online survey experiment with a within-between subject design. The experiment consists of two donation games with participants from a representative sample of the Irish population. First, participants are endowed with €20 and can allocate any amount to a carbon sequestration project run by EcoTree. Second, participants are randomly allocated to one of four treatments: T1 active control, T2 dairy, T3 meat, and T4 car. The treatments provide participants with information on GHG from production and consumption of dairy, meat, and travelling by car in Ireland. The active control is similar in length but provides information on tea consumption in Ireland with no GHG information. Participants are then offered to make a second donation. One of the two donations is randomly selected and applied for payment.

We analyze the results two ways. We assess the impact of GHG information provision on donations using the within-subject design. We then compare the impact of the information source using the between-subject design. The data collection is set to run in January and February 2024.

Results

100 – 250 words

We expect that the information provision will positively impact individuals' willingness to pay to offset carbon. In particular, we expect that the baseline donation (i.e., before receiving the information) will be lower than the second donation across all treatments, except for the active control. We also expect the donations after receiving GHG information on car consumption (i.e., car treatment) to be higher than after receiving information on dairy and meat. Lastly, we expect that the donations after receiving information on GHG emissions from meat will be higher than after receiving information on GHG emissions from dairy.

Discussion and Conclusion

100 – 250 words

This paper uses a within-between subject design to assess individual willingness to pay for carbon sequestration and the causal impact of information.

This paper contributes to two strands of the literature on climate change mitigation. First, the results provide insights on the individuals' willingness to pay for a novel way of offsetting personal GHG emissions. Rather than changing behavior in the long-term and requiring sustained efforts, carbon sequestration offers individuals the opportunity to pay and offset GHG emissions through a one-time action. This result further contributes to mapping out individual preferences in relation with climate mitigation actions. Second, this paper expands the literature on the impact of information on individuals' willingness to pay. By varying the source of the information on GHG emissions (dairy, meat, or cars) we are able to assess the efficiency of the information, as well as map out subgroup preferences. Overall, the results have important policy implications as to improve climate change mitigations interventions and maximize information provision on the source of GHG emissions.