

Review of: "An Individual Decision-Making Model for Taking Climate-Friendly Action"

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Reading this article proved incredibly timely for me. It offers an insightful perspective on the individual's role in addressing the climate crisis. I teach the Design Course to chemical engineering students in their senior year. The curriculum primarily focuses on understanding the causes of CO₂ emissions from chemical processes and exploring design strategies to minimize these emissions. Additionally, we delve into broader societal issues relevant to engineers to spark discussions in and out of the classroom.

In responding to students' requests, I recently developed a lecture on Climate Change and Global Warming and prepared slides to facilitate our conversation. However, the conclusion of this lecture seemed to be overly laden with a sense of doom and gloom. I realized the missing piece was a clear articulation of the actionable steps individuals—especially our soon-to-be-graduated chemical engineers—could take to effect meaningful change. I concluded the presentation by examining various activities and their associated CO₂ emissions, aiming to empower students with the knowledge to make informed personal choices. Yet, this approach inadvertently raised a critical question: Can individual actions, which might seem like mere sacrifices, truly influence the broader outcome of the climate crisis?

This reflection led me to recognize the need for a comprehensive framework in my understanding of how an individual can have a positive impact on addressing the climate crisis. Thus, the timing of this paper could not have been better. Upon reading, I found the paper tackled the complex issue of the individual's role in climate action through a well-structured and logical argument.

The arguments are clearly developed and follow logically, introducing a framework individuals can use to evaluate their actions and behaviours to combat climate change. It moves beyond simplistic solutions, like eschewing plastic straws or reusable bags, proposing a comprehensive strategy for evaluating ongoing personal and behavioral adjustments aimed at substantial CO₂ emission reduction. This approach is not just about adopting immediate changes but encourages a longer-term commitment to altering lifestyles and behaviours meaningfully. It discusses how individuals might feel their actions do not make a significant impact and the negative role that free riders have on those who might be making sacrifices, economically or in quality of life, to reduce their carbon footprint. It examines the role a person can play either through personal action, through institutions and structures that the individual has control or influence over, or by influencing the behavior of others. The idea that our behaviors might be able to drive change by causing social norms to reach a tipping point, thereby resulting in society's attitudes shifting towards embracing technology and lifestyle changes that will lead to more sustainable lifestyles, is an empowering concept. It frames the individual's actions as a powerful,

albeit indirect, means of solving this global crisis.

The paper does not consider the impact of addressing the climate change crisis on society if the individual's actions are not well informed. We have yet to solve the problem of storing large quantities of energy to get us through seasons or times of fluctuation in the availability of renewable resources, or even how to transport energy intercontinentally from regions rich in renewable energy resources to those regions not as well endowed. Moving away completely from fossil fuels before we have solutions for these problems could cause harm and suffering to certain sectors of society. Some proposed solutions, such as using biomass as an energy crop, may harm the environment if we do not care for the soil and its fertility while harvesting energy crops. The cost of many new green technologies is still very high, and using green ammonia as a fertilizer could significantly increase the cost of food, making vulnerable communities food insecure. We are essentially entering a time of technological revolution, and we must expect that we will make mistakes along the way; more importantly, we must realize that we need to learn from these missteps and make corrections. To do this quickly and effectively, we need well-informed people whose behaviours and actions push us in sensible and achievable directions. It would be interesting to consider if the actions of well-intentioned but perhaps misinformed influencers could tip society in directions that are not sustainable or that cause unintended harm in the long term.

This paper provides a practical and adaptable framework for personal and professional endeavours. This resource helped me to think about how the individual could be empowered to address a global crisis.