# When Business Goes Green, Do Consumers Follow?: Low Carbon Policies and Consumers' Green Purchase Intentions

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## Abstract

This research explores the effect of low-carbon policies of businesses on green purchase intentions of consumers. In the research with a quantitative study design, data was gathered from 324 respondents using an online survey. The results show that the "mechanism" and "motivation" factors of low carbon behavior have a significant influence on green product purchase intention, but the "participation" factor is ineffective. Data gathered through open-ended questions have identified that environmental awareness and sustainability perceptions of consumers influence their purchasing habits. Ecological concerns and perceptions of sustainability of consumers are influencing their purchasing behaviors, with consumers' concern about the climate crisis, specifically the depletion of water resources and destruction of natural habitats, contributing to increased transition towards low-carbon products. Due to this, it has been found that businesses with low-carbon policies enhance consumer trust and build brand loyalty.



***Keywords:*** *Low Carbon, Sustainability, green purchase*

***Track:*** *Sustainability, CSR and Marketing*

## 1. Introduction

The increasing ecological concerns of consumers and the implementation of low-carbon policies by enterprises are intertwined factors influencing green purchasing intentions. In recent decades, there has been a notable shift in consumer behavior, characterized by heightened awareness regarding the environmental implications of purchasing decisions. This trend aligns with findings by Brochado et al. that suggest a growing proportion of consumers are now integrating ecological considerations into their buying behavior, demonstrating a commitment to addressing environmental issues through responsible consumption practices (Brochado et al., 2016). In the context of green purchasing, consumer trust plays a pivotal role in shaping attitudes towards eco-friendly products, particularly in the food sector. Ricci et al. establish that consumer trust significantly impacts the intention to purchase convenience foods labeled as environmentally friendly. When consumers are assured of both the environmental benefits and the ethical practices behind a product, their likelihood of engaging in green purchasing is amplified, thereby establishing a direct correlation between the ecological concerns of consumers and their purchasing intentions (Ricci et al., 2018). This reflects a broader trend where the socio-economic characteristics and awareness levels of consumers drive their purchasing patterns predominantly toward products that mitigate environmental harm—an assertion further supported by Lévay et al. (Lévay et al., 2021).

The role of enterprises in responding to these consumers' ecological concerns is critical as well. Companies that adopt low-carbon policies and sustainability practices not only fulfill regulatory obligations but also meet consumer expectations for environmentally responsible products. Such practices foster a sense of loyalty among consumers who increasingly prefer brands that demonstrate a commitment to sustainability, as outlined by Canavari and Coderoni (Canavari & Coderoni, 2020). Moreover, the importance of labeling, particularly concerning carbon footprints, cannot be overstated. Studies by Meyer et al. reveal that consumers are positively disposed to products with clear eco-labeling concerning carbon emissions, indicating that informative labeling plays a significant part in their purchasing decisions (Meyerding et al., 2019). This transparency in marketing strategies correlates with broader trends where consumers show greater loyalty and willingness to pay premiums for green products, findings that are consistent with several empirical studies addressing consumer behavior and environmental responsibility. On the consumer side, environmental concern acts as a robust predictor of green purchasing intentions. Research conducted by Suki demonstrates that the interaction of various consumption values—emotional, functional, and social—significantly influences consumers' environmentally conscious behavior (Suki, 2016). Furthermore, there is evidence that collective crises, such as the COVID-19 pandemic, have exacerbated awareness and concern regarding environmental sustainability, as highlighted by Cachero-Martínez (Cachero-Martínez, 2020). This situation propelled many consumers towards more sustainable behaviors as they increasingly recognize the risks associated with inadequate environmental stewardship.

The influence of socio-economic factors cannot be overlooked in this discourse. Studies indicate a correlation between income levels, ecological knowledge, and overall ecological concerns, thus impacting purchasing decisions (Saari et al., 2021). High-income consumers often experience increased awareness of environmental issues, translating into greater support for low-carbon products and sustainable business practices. This socio-economic consideration emphasizes the need for tailored marketing strategies that resonate effectively with diverse consumer segments. Significantly, the interplay between consumer concerns and enterprise strategies extends into policy domains. For instance, environmental regulations and the promotion of low-carbon economies shape the market landscape, influencing consumer expectations and behaviors as observed by Dienes (Dienes, 2015). Such regulations not only mandate companies to adopt ecologically sound practices but also cultivate a consumer environment that values sustainability, encouraging further green purchasing through initiative recognition and support.

Moreover, the psychological underpinnings of consumer behavior play a considerable role in their purchasing decisions regarding low-carbon products. According to Sreen et al., behavioral reasoning perspectives shed light on how consumers' underlying motivations, whether driven by concern for the environment or social acceptability, dictate their purchasing decisions towards environmentally friendly products (Sreen et al., 2021). The theory suggests that purchasing intentions can be significantly swayed by the perceived relevance of ecological concerns in a consumer’s daily life. Additionally, firms that engage proactively in environmental marketing have been shown to boost consumer trust and loyalty. Well-developed green marketing strategies, as Canavari and Coderoni illustrate, featuring information related to carbon footprints, enable companies to differentiate themselves in competitive markets and address consumer expectations for environmental accountability (Canavari & Coderoni, 2019). This trend is crucial in contexts like the dairy sector, where an emphasis on carbon footprint labeling has demonstrated an increase in consumer willingness to pay for sustainably produced goods.

Consumer intentions are further impacted by comparative environmental assessments, such as those explored by Penz et al. in the context of carbon and ecological footprints in hospitality sectors. These assessments provide insights that can be utilized by consumers to navigate their green purchasing decisions, thereby bridging the gap between consumer attitudes and real-world purchasing behaviors (Penz et al., 2019). The convergence of consumer ecological concern and enterprise response to low-carbon strategies illustrates a growing recognition of sustainability as a critical market driver. Enterprises that authentically engage with consumer concerns about environmental degradation align themselves with a growing market segment that prioritizes sustainable consumption practices. Consequently, businesses that successfully address ecological concerns through strategic low-carbon policies can enhance their market positioning, fostering consumer trust and incentivize green purchasing intentions.

Ultimately, these intertwined dynamics of consumer attitudes and corporate sustainability initiatives create a foundational shift towards a sustainable economy, necessitating ongoing interdisciplinary research to explore the nuances of these relationships further. The complexity of consumer behavior and the multi-dimensional impacts of policies on purchasing intentions highlight the pressing need for both businesses and consumers to align their objectives with ecological stewardship, resulting in a progressive push towards sustainability as a societal norm.

## 2. Methodology

In this quantitatively designed study, a questionnaire was used as the data collection tool. The survey form consists of three sections. In the first section, scale statements prepared according to a 5-point Likert scale were included, based on the study by Hu et al. (2024), while the second section contained demographic characteristics. In the third and final section, participants were asked to write down the names of businesses that come to mind in relation to low carbon behavior. During the period from 01.10.2024 data were collected online using the convenience sampling method. In the survey form, there was an information text about the purpose of the research and its potential outcomes, as well as a consent text stating that the data were collected on a voluntary basis.

### *2.1.Research model and generated hypothesis*

The proposed model of this research, designed as a descriptive study, is as shown in Figure 1, and it has changed after the validity and reliability analyses of the revised model.


H1: *Public welfare low-carbon behavior is affecting the intention of green purchasing.*

## 3. Results

*Profile of the participants:* Among the 324 individuals who voluntarily participated in the survey, 75.6% (n=245) were male; 45.7% (n=148) were at the 1st education level. In terms of education level, 51.5% (n=167) are at the 1st level. Is at the first level.

*Descriptive statistics and distribution:* When the findings of descriptive statistics for the normal distribution conditions of the statements in the scale were examined, it was found that all statements fell within the ±1.5 limit (citation), indicating that the data showed a normal distribution, and therefore, the analyses to be conducted would be parametric analyses (Table 1).

**Table 1:Descriptive Statistics**

| **Code of the item** | **N** | **Mean** | **Median** | **Skewness** | **Kurtosis** |
|---|---|---|---|---|---|
| | Valid | | | | |
| D1 | 324 | 3,84 | 4,00 | -,688 | ,289 |
| D2 | 324 | 3,83 | 4,00 | -,690 | ,332 |
| D3 | 324 | 3,07 | 3,00 | ,013 | -,734 |
| D4 | 324 | 3,87 | 4,00 | -,769 | ,667 |
| A1 | 324 | 3,87 | 4,00 | -,747 | ,530 |
| A2 | 324 | 3,96 | 4,00 | -,919 | 1,058 |
| A3 | 324 | 3,77 | 4,00 | -,663 | ,285 |
| A4 | 324 | 3,89 | 4,00 | -,952 | 1,160 |
| A5 | 324 | 3,93 | 4,00 | -,847 | ,873 |
| B1 | 324 | 3,92 | 4,00 | -,843 | 1,011 |
| B2 | 324 | 3,90 | 4,00 | -,771 | ,951 |
| B3 | 324 | 3,99 | 4,00 | -1,074 | 1,662 |
| B4 | 324 | 3,97 | 4,00 | -,910 | 1,244 |
| B5 | 324 | 3,96 | 4,00 | -,903 | 1,314 |
| C1 | 324 | 3,94 | 4,00 | -,838 | ,718 |
| C2 | 324 | 4,00 | 4,00 | -1,039 | 1,374 |
| C3 | 324 | 3,97 | 4,00 | -,976 | 1,243 |

Skewness and kurtosis values within the ±2 range indicate that the scale data are regularly distributed (George and Mallery, 2010). The conducted research indicates that parametric analysis is suitable due to the normal distribution of the data. The research findings indicate that parametric analysis is suitable due to the normal distribution of the data.

### *3.1.Validity and reliability analyses of the scales used in the study*

Exploratory factor analysis (EFA) was used to assess the validity of the scales utilized in the study. Hair et al. (2014) assert that exploratory factor analysis (EFA) is performed to ascertain the construct validity of a scale by identifying the latent factors linked with the observed variables, therefore offering insights into the scale's validity. The factor analysis commenced with the use of the Kaiser-Meyer-Olkin (KMO) test and Bartlett's test of sphericity to assess the data's appropriateness for factor analysis. The KMO test assesses sample adequacy by analyzing the partial correlations among variables. A KMO score exceeding 0.50 signifies satisfactory sample sufficiency for the scale (Field, 2013). The Bartlett's test of sphericity, conversely, assesses whether the correlations among the variables are adequate (Bartlett, 1950). Post-testing, the KMO value for the public welfare low-carbon behavior scale was determined to be 0.954, and Bartlett's test of sphericity yielded significant results (Approx X2 = 3277.433 (78), $p < 0.05$). These values demonstrate that the scale is appropriate for factor analysis. The validity and reliability analyses for this scale are displayed in Table 3, whereas those for the green purchase intention scale are shown in Table 4. The reliability of the two distinct scales included in the study were determined using Cronbach's Alpha (CA) coefficients. The CA value spans from zero to one, with elevated values signifying that the items assess the same dimension (Bujang et al., 2018). A CA value of 0.80 or higher indicates good reliability of the scales (Nakip and Yaraş, 2017). The reliability of the scale dimensions ranges from 0.846 to 0.904.

Table 2: Validity and reliability analyses

| *component* | *factor loading* | *% of Variance* | *Eigenvalues* | *CA* |
|---|---|---|---|---|
| *Mechanism(A)* | | **27,05** | **5,335** | *0,904* |
| A1 | ,778 | | | |
| A2 | ,784 | | | |
| A3 | ,587 | | | |
| A4 | ,679 | | | |
| A5 | ,590 | | | |
| Participation (B) | | 22,94 | 5,965 | **0,856** |
| B1 | ,754 | | | |
| B2 | ,652 | | | |
| B3 | ,733 | | | |
| B4 | ***deleted*** | | | |
| Motivation (C) | | 24,48 | 4,619 | 0,889 |
| B5 | ,753 | | | |
| C1 | ,806 | | | |
| C2 | ,691 | | | |
| C3 | ,573 | | | |
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy. ,954<br>Bartlett's Test of Sphericity Approx. Chi-Square 3277,433df 78 Sig. 0,000 %74,48 | | | | |

After the factor analysis, the public welfare low-carbon behavior scale was validated as a three-dimensional structure, similar to the literature. From the sub-dimensions of the scale, Mechanism was validated with five items (A1-A5), Participation with three items (B1-B3), and the motivation dimension with four items (B5, C1-C3), while the B4 item was excluded from the analysis due to its factor loading being below 0.40.The total variance explained by the analysis confirming the three-dimensional structure was 74.48%.

### *3.2. Green purchase intention scale validity reliability*

Table 3: Validity and reliability of green purchase intention

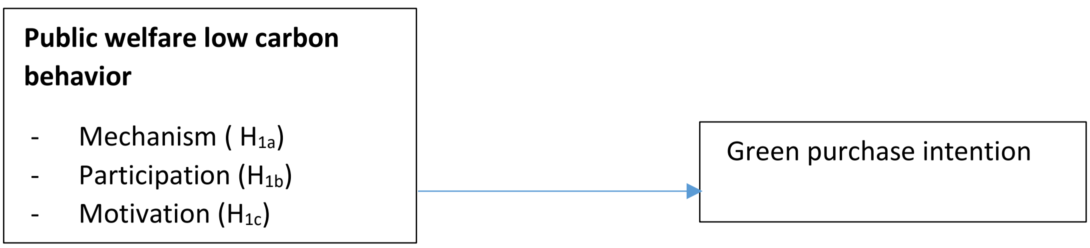
| *component* | *factor loading (fl)* | *% of Variance* | *Eigenvalues* | *Cron. Alfa* |
|---|---|---|---|---|
| *Green purchase intention (D)* | | | | |
| D1 | ,870 | **69,226** | **2,769** | *,846* |
| D2 | ,849 | | | |
| D3 | ,796 | | | |
| D4 | ,811 | | | |
| *Kaiser-Meyer-Olkin Measure of Sampling Adequacy.* | | *,791* | | |
| *Bartlett's Test of Sphericity* | *Approx. Chi-Square* | *567,681 df* | *6 Sig.* | *,000* |

After the component analysis, the green purchase intention scale was validated as a unidimensional construct, consistent with the literature (fl. > 0.40). The reliability coefficient of the one-dimensional validated scale is CA = 0.846, accounting for 69.226% of the variance.

### *3.3. Amended research framework*

Figure 2 illustrates the modified research model and the corresponding hypotheses following the validity and reliability assessments.

**Figure 2**




$H_{1a}$: Mechanism → Green purchase intention

$H_{1b}$: Participation → Green purchase intention

$H_{1c}$.Motivation → Green purchase intention

### *3.4.Hypothesis Test*

A multiple linear regression analysis was performed to evaluate the three hypotheses derived from the updated study model.

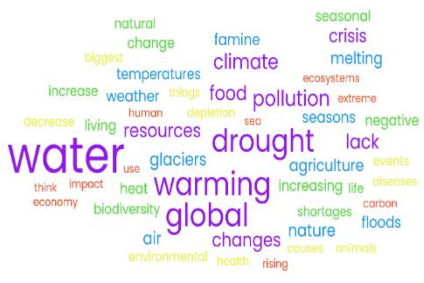
Table 4: Results of Multiple Linear Regression Analysis for H1 Hypothesis

| Model | Unstandardized Coefficients | | Standardized Coefficients | **t** | **Sig.(p)** |
|---|---|---|---|---|---|
| | **B** | **Std. Er** | **Beta** | | |
| (Constant) | ,168 | ,151 | | 1,108 | ,269 |
| Mechanism | ,616 | ,066 | ,582 | 9,310 | ,000 |
| Participation | ,063 | ,064 | ,060 | ,994 | ,321 |
| Motivation | ,212 | ,062 | ,202 | 3,385 | ,001 |

a. Dependent Variable: Green Purchase intention ; b. Predictors: (Constant), motivation, participation, mechanism
F(3) =193,850, p < 0,05. Adjusted R Square : ,642 Dublin-Watson= 2,096

Upon reviewing Table 3, the outcomes of the multiple linear regression analysis indicate that the sub-dimensions of public welfare low carbon behavior, specifically mechanism (p < .05) and motivation (p < .05), exert a positive influence on green purchase intention, whereas the participation dimension (p = .321; p > .05) demonstrates no effect. In this setting, hypotheses H1a and H1c are supported, however hypothesis H1b is not supported. In this study, open-ended questions were also asked to participants to examine consumers' perceptions of businesses conducting sustainability efforts and the negative impacts of the climate crisis. In this context, two main questions were posed to the participants:

(1) "List the businesses that come to mind with sustainability efforts." and (2) "What do you think is the biggest negative impact of the climate crisis on the world?"




Through these questions, the perceptions of consumers regarding brands, their environmental concerns, and the potential impacts of these factors on their purchasing decisions have been evaluated.

"The findings obtained indicate that sustainability and environmental concerns are significant factors shaping consumption behaviors. The brands that come to the participants' minds suggest that the sustainability practices these companies carry out leave a positive impression on consumers; therefore, they can increase brand loyalty and trust. However, the incompleteness or ambiguity of some responses indicates that consumers' awareness levels regarding sustainability are insufficient and that communication strategies in this area need to be developed.

The findings related to the second question reveal that participants have a wide range of concerns about the negative impacts of the climate crisis. The reduction of water resources, global warming, extreme temperatures, seasonal changes, and the shrinking of natural habitats have been listed as the most prominent environmental concerns of consumers. This situation indicates the perceptual foundations that could influence consumers' inclination towards environmentally friendly products and services.

Concerns about the climate crisis, on the other hand, reveal consumers' tendency to lean towards low-carbon footprint, environmentally friendly products. Especially perceptions such as the depletion of water resources and the shrinking of natural habitats increase the likelihood of consumers reshaping their lifestyles and developing behaviors aimed at reducing environmental impacts. In this context, effectively communicating sustainability efforts and eco-friendly practices to consumers will both strengthen brand image and increase consumer trust.

This information shows that consumers' perceptions of sustainability and concerns about the negative impacts of the climate crisis have a decisive effect on their purchasing behavior. The sustainability practices of well-known businesses leave a positive impression in consumers' minds, while the lack of information on the subject stands out as an important area that needs improvement in marketing and communication strategies. The environmental concerns caused by the climate crisis lead consumers to prefer more conscious and eco-friendly products; this situation presents opportunities for businesses to develop strategies that will create a competitive advantage. (figure)

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