



Promoting Low-Carbon Choices in Philippine Tourism: A Policy Guide for Industry Leaders and Government

Introduction

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The Philippine tourism sector faces a critical sustainability challenge as post-pandemic tourism activity has rebounded, accompanied by a substantial increase in tourism-related carbon dioxide emissions. Based on the Philippine Statistics Authority's (2024) Tourism Satellite Accounts and environmental accounts, tourism-related CO₂ emissions increased from 3,922 gigagrams (Gg) in 2022 to 8,034 Gg in 2023. This measure refers to CO₂ emissions associated with tourism's energy demand and transport-related activities, rather than emissions directly measured from individual tourist trips or verified booking behavior. Although tourism remains vital to the Philippine economy, its energy- and transport-intensive activities require policy and business attention to support lower-emission choices.

The increasing prevalence of digital booking platforms in the Philippine tourism sector presents a significant opportunity to embed behavioral interventions at the point of travel decision-making, where travelers compare transport, accommodation, dining, and activity options. These digital choice environments can shape how sustainability information is noticed, understood, and acted upon during booking decisions. One promising approach is green digital nudging, which refers to subtle design interventions that guide travelers toward sustainable choices without restricting their freedom of choice (Thaler & Sunstein, 2008).

Green digital nudges, such as eco-labels, sustainability badges, and visual cues, are embedded in digital choice environments to encourage more environmentally friendly decisions. Our research finds that Filipino travelers express strong environmental concern. However, a persistent value-action gap prevents these values from consistently translating into lower-carbon choices, even within a simulated booking environment. Many travelers intend to make green choices but are deterred by cognitive overload, a perceived lack of control, or a lack of clear, simplified information at the point of booking. Although green digital nudges show promise as a practical, relatively low-cost, and potentially scalable behavioral complement to broader sustainability efforts once integrated into existing digital platforms (Berger et al., 2020; Schürmann et al., 2023), their effectiveness depends on nudge design, decision context, structural support mechanisms, and travelers' environmental consciousness (Dumpit, 2026).

Environmental concern alone does not automatically lead to lower-carbon travel choices. Digital architecture can help, but only when sustainable choices are simple, credible, and genuinely available.

This brief outlines how green digital nudges can subtly influence decision-making by simplifying sustainable booking choices, piloting socially and culturally relevant interventions, and building an enabling environment for credible and ethical nudging.

Evidence at a Glance

The policy brief draws on findings from a two-part research investigation that examines whether and how green digital nudges can promote lower-carbon travel choices among Filipino travelers through a simulated mobile travel-booking app.

Study 1 surveyed 399 Filipino travelers to examine motivational factors associated with intention to choose lower-carbon travel options. The analysis focused on attitudes toward green digital nudges, perceived social approval, perceived behavioral control, and reasons for and against green digital nudges.

Study 2 involved 384 Filipino travelers in an online experiment using simulated travel-booking scenarios. Participants were exposed to one of five green digital nudge conditions: default rules, simplification, framing, social norms, and priming combined with goal setting. The study examined whether these nudges affected simulated choices across tourism-related contexts, including transportation, accommodation, dining, and activities.

Outcome measures: Study 1 measured stated travel intentions. Study 2 measured simulated booking choices, not verified purchases or actual carbon-emission reductions.

Interpretation: Findings should be interpreted as evidence of behavioral tendencies in a simulated digital environment and validated through real-world pilots before large-scale implementation.

Summary of Facts

The following presents the key findings from the two-part investigation that directly inform the policy recommendations.

Findings from the first part of the study reveal that Filipino travelers' intention to choose lower-carbon travel options is influenced by three factors: social approval and expectations from family and close friends, their sense of capability and confidence in making lower-carbon choices, and compelling reasons for choosing lower-carbon options that green digital nudges promote. Interestingly, travelers may approve of green digital nudges without acting on them, suggesting that building favorable perceptions of nudging may be insufficient. Enhancing social support and

capability may be more effective in promoting lower-carbon travel intention among Filipino travelers.

Evidence from the online experiment shows that nudge effectiveness depends on several factors, such as the nudge type, decision context, timing of delivery, the cultural orientation of target travelers, and travelers' pre-existing level of environmental consciousness. In particular, simple, clear sustainability cues or an eco-friendly badge, consistently had a positive effect on lower-accommodation selection in the simulated booking scenario.

In the simulated accommodation booking scenario, the simplification nudge was associated with significantly higher odds of selecting the lower-carbon accommodation option among environmentally conscious travelers. Specifically, environmentally conscious travelers exposed to the simplification nudge had 12.231 times the odds of selecting the lower-carbon accommodation option compared with those not exposed to the simplification nudge (OR = 12.331; 95% CI [2.420, 61.812]). The interaction/moderation test between simplification and environmental consciousness was statistically significant (P-value = .002), indicating that the effect of the simplification nudge was conditional on travelers' level of environmental consciousness.

Although Filipino travelers show high environmental consciousness, evidence from the study reveals a persistent value-action gap, which is the misalignment between environmental values and the choices an individual makes. Even though the experimental findings suggest that green digital nudges, particularly simplification and default nudges, may help narrow this gap within a simulated booking context, they should be complemented by structural support mechanisms.

Table 1 presents the summary of findings from the two-part investigation. Significant (✓) findings support the policy recommendations. The conditional (~) finding indicates effectiveness that

depends on travelers' level of environmental consciousness. Findings marked with (-) indicate no statistically detectable effect under the specific booking context, sample, and conditions examined in the study; yet, this does not confirm that an intervention cannot work under different conditions.

Table 1. Summary of Key Findings

Study 1: Factors associated with low-carbon travel intention among Filipino travelers	
✓	Social approval from family and close friends (subjective norm) associated with intention to select low-carbon choices
✓	Sense of capability and confidence in making low-carbon choices (perceived behavioral control) associated with intention.
-	Positive attitudes towards green digital nudges; no statistically significant association with intention under tested conditions.
-	Barriers such as price and inconvenience (reasons against); no statistically significant association with intention under tested conditions.
Study 2: Experimental effects on stimulated low-carbon booking choices among Filipino travelers	
✓	Simplification - clear eco-labels, badges, and visuals cues produced a significant effect on low-carbon accommodation selection.
~	Default rules – pre-selected low-carbon transportation option produced a significant effect only among Filipino travelers with high environmental consciousness; no detectable effect among those with low environmental consciousness.
-	Framing – gain-framed message in dinning context produced no statistically significant effect on simulated booking choices under the tested conditions.
-	Social norms – anonymous normative information in activity booking produced

	no statistically significant effect on simulated booking choices under the tested conditions.
-	Priming with goal setting – pre-decisional nudges before transportation booking produced no statistically significant effect on simulated booking choices under the tested conditions.

Notably, the association between social expectations from significant others and low-carbon travel intention, alongside the limited effect of anonymous social norms nudges in the experiment, may be interpreted through a cultural lens. However, this interpretation should be treated as tentative. Filipino values such as *kapwa* and *pakikisama*, which emphasize shared identity and group harmony, may help explain why sustainability-related influence from family, close friends, or trusted community members could be more persuasive than anonymous normative cues or generic social proof messages (Pe-Pua & Protacio-Marcelino, 2000). However, the study did not directly test these mechanisms. Further research is needed to determine whether culturally grounded social cues are more effective than anonymous popularity messages in actual tourism booking environments.

Overall, green digital nudges have the potential to serve as scalable behavioral interventions in promoting sustainable tourist behavior in the Philippine tourism sector, particularly when properly designed, contextually appropriate, and supported by complementary structural measures.

Key Recommendations

Priority 1. Simplify Lower-Carbon Choices at the Point of Booking

Evidence from our study suggests that environmental consciousness alone is insufficient to consistently encourage the selection of lower-carbon options, as the value-action gap persists among Filipino travelers even in a simulated booking environment.

Although tourism businesses can raise environmental awareness and promote initiatives through persuasive messaging or advertising, tourism businesses and app developers should prioritize green digital nudges that make lower-carbon choices easier, clearer, and more cognitively accessible at the point of booking.

App developers should adopt simplification as a core design principle, developing a streamlined digital choice architecture that incorporates green digital nudges with clear, credible, and understandable environmental information. Beyond making lower-carbon options visible, app developers should focus on enhancing travelers' sense of capability and control, making it easier for them to navigate, identify, evaluate, and select lower-carbon options. When travelers feel capable and confident in making sustainable choices, their environmental values are better reflected in their booking decisions.

Priority 2. Pilot Socially and Culturally Relevant Nudges

Findings from our study reveal a divergent pattern of social influence: social approval from family and close friends is associated with intention to choose lower-carbon options, whereas anonymous normative information presented through a social norms nudge did not produce a statistically detectable effect under the tested conditions. This divergence provides a rationale for exploring whether socially and culturally relevant social cues may be more effective than anonymous popularity messages for Filipino travelers.

The divergent pattern may be partially explained by *Sikolohiyang Pilipino* as a cultural interpretive lens, specifically the Filipino value of *pakikisama* (Pe-Pua & Protacio-Marcelino, 2000), which suggests that social influence may be more powerful when it comes from one's social circle or respected community members.

Tourism businesses and app developers

should pilot and evaluate truthful and locally relevant social cues, for example, “*Travelers from your city preferred this eco-certified hotel,*” before adopting them at scale. Travelers may be more responsive to lower-carbon travel options when endorsed by people they know and trust, potentially making the nudge more personally relevant and credible. Pilot testing allows businesses to determine whether culturally relevant nudges may yield stronger effects than generic popularity cues, test nudge effectiveness across different booking contexts, and identify unintended consequences. Pilot testing in real-world scenarios is essential to determine whether the behavioral tendencies observed in simulated booking environments are held in actual tourism settings. This is a necessary step that tourism businesses should take before large-scale adoption.

Priority 3. Establish an Enabling Environment for Credible and Ethical Nudging

Although green digital nudges can guide travelers toward lower-carbon options, structural barriers, such as higher prices, limited access to sustainable options, and a lack of standardized sustainability certifications, may undermine even well-designed nudging interventions (Abeysekera et al., 2022; Bajar et al., 2024). Green digital nudges lose their environmental value when the sustainability claims they present cannot be verified; otherwise, they risk becoming instruments of greenwashing.

Policymakers should support businesses in expanding the availability and affordability of lower-carbon options by investing in lower-carbon tourism infrastructure and by developing standardized certification system can help make sustainability claims more credible, consistent, and comparable across tourism businesses. Provided that certification criteria are transparent, independently verified, periodically updated, and supported by monitoring and enforcement mechanisms. Sustainability labels and cues should be based on transparent and verifiable periodically

updated, and supported by monitoring and enforcement mechanisms. Sustainability labels and cues should be based on transparent and verifiable criteria, with clear information on what is being measured, who verifies the claim, how frequently compliance is reviewed, and what corrective measures apply when claims are inaccurate or misleading. Tourism businesses should also test nudges before wider implementation to assess effectiveness, comprehension, trust, and possible unintended consequences. Travelers who understand what green certification means and trust its credibility are more inclined to respond positively to green digital nudges that reference these standards.

Tourism businesses and app developers should design green digital nudges that are transparent, truthful, accessible, and easy to opt out of. Nudges should present verifiable sustainability information, such as estimated CO₂ emissions or certification status, in language that travelers can easily understand. Platforms should avoid deceptive practices, including unverifiable social proof, exaggerated environmental claims, hidden defaults, manipulative countdowns, and other designs. Businesses that invite travelers to donate to carbon offset programs or sustainability initiatives must be fully transparent about how contributions are managed and used, providing verifiable evidence of environmental outcomes to maintain trust and prevent greenwashing. Regulatory bodies should monitor compliance with these guidelines and align them with existing data privacy regulations to ensure responsible and accountable nudge implementation across the Philippine tourism sector.

Ethical nudging guidelines should also include safeguards for data privacy, accessibility, and inclusion. Platforms should collect only the data necessary to deliver the nudge, clearly explain how traveler data are used, and comply with applicable data privacy regulations. Green digital nudges should be accessible to users with different levels of digital literacy and to persons with disabilities, including through readable labels, plain-language explanations,

sufficient color contrast, and alternatives to color-only sustainability cues. Lower-carbon options should also be presented in ways that do not unfairly exclude travelers with limited budgets, mobility constraints, or limited access to sustainable transport and accommodation options.

Implementation Matrix

Table 2 presents an implementation matrix that tourism businesses, app developers, and policymakers can use to translate the three policy priorities into concrete and actionable steps.

Table 2. Implementation Matrix

Priority Action	Main Actors	Initial Step	Indicator
Embed clear, simple, and verified green digital nudges, such as eco-labels, green icons, and sustainability badges, at lower-carbon listings in booking platforms	App developers and tourism businesses	Conduct pilot testing of green digital nudges across different booking contexts using selected digital booking platforms	Selection rate of lower-carbon options and traveler awareness of green digital nudges
Test locally relevant social cues in digital booking platforms	App developers and research partners	Design and pilot truthful, locally relevant social-proof messages as green digital nudges in selected	

		booking contexts	Selection rate of lower-carbon options and traveler trust ratings compared to anonymous popularity cues
Develop a standardized sustainability certification and carbon labeling framework for tourism businesses	Policymakers, tourism agencies, and industry associations	Establish a technical working group to develop sustainability certification criteria and carbon labeling standards	Number of tourism businesses certified under the framework and coverage of standardized labels across booking categories
Establish ethical nudging guidelines for the design and implementation of green digital nudges in digital booking platforms	Policymakers, data privacy agencies, and tourism agencies	Draft ethical nudging guidelines for industry consultation and feedback	Compliance rate with ethical guidelines and traveler trust ratings for sustainability claims
Evaluate the effectiveness of green digital nudges in real-world booking environments	Tourism businesses, research institutions, and the government	Commission real-world pilots in collaboration with digital travel booking platforms	Selection rate of lower-carbon options and behavioral tendencies observed in real booking environments

Limitations

This policy brief is based on findings from a two-part investigation. Study 1 examined motivational factors associated with low-carbon travel intention. In contrast, Study 2 evaluated the effects of green digital nudges on simulated booking choices. The findings should therefore be interpreted as indicative of behavioral tendencies under nudging conditions rather than as direct evidence of real behavioral change. The study did not assess actual booking behavior, verified purchases, or directly measured carbon-emission reductions.

The effectiveness of green digital nudges may vary depending on booking context, nudge type and design, the timing of nudge delivery, and travelers' level of environmental consciousness. In Study 2, each nudge type was tested within a specific tourism booking context. Therefore, the study cannot fully separate the effect of the nudge type from the effect of the tourism context in which it was presented. For example, the observed effect of simplification may partly reflect the accommodation booking context, whereas the observed result for default rules may partly reflect the transportation booking context. Future studies should test the same nudge types across multiple tourism contexts to more clearly identify which effects are due to the nudge design itself and which are due to the booking context.

Real-world pilot testing should be conducted before green digital nudges are implemented at scale on digital travel-booking platforms. Such pilots should assess actual booking behavior, traveler comprehension and trust, accessibility, data privacy safeguards, and whether lower-carbon choices are genuinely available, affordable, and verifiable.

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