

Green Premium Pricing and Investment Returns in the Hospitality Sector: A Systematic Review of Financial Viability Evidence for Eco-Hotels in Emerging Markets

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Abstract

This paper reviews the financial evidence on eco-hotel investment viability across four areas: (1) cost-benefit and ROI of green certification; (2) price elasticity of demand; (3) green lending and bank credit risk; and (4) ESG and sustainable finance in emerging markets. The review finds that green certification generates returns through both cost savings and revenue premiums, that hotel demand is generally inelastic enough to support a moderate green rate premium, that lending to green hotel borrowers reduces bank credit risk, and that blended finance from multilateral development banks is a necessary tool for making eco-hotel projects viable in Central Asian markets such as Uzbekistan. A financial viability framework and seven hypotheses for empirical testing are proposed.

Keywords: green hotel investment; ROI; price elasticity; green lending; ESG; emerging markets; Uzbekistan

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1. Introduction

Most research on green hotels focuses on tourist attitudes and intentions — why guests prefer sustainable accommodation. Far less attention has been paid to the financial question that hotel investors and banks actually face: is going green financially viable? This paper fills that gap by reviewing evidence on four financial dimensions of eco-hotel investment. It is the financial companion to Thesis 1, which examined tourists' willingness to pay (WTP) a green premium using the Theory of Planned Behavior and Contingent Valuation Method. Where

Thesis 1 established how much tourists will pay, this paper asks whether that premium — combined with cost savings and appropriate financing — is enough to justify the investment. Central Asia (Uzbekistan, Kazakhstan, Kyrgyzstan) is used as the motivating context throughout, as the region is almost entirely absent from both the green hotel finance and the green lending literatures despite its rapid tourism growth.

2. Theoretical Foundations

Five frameworks underpin the financial viability analysis. Table 1 summarises each and maps it to its specific role in Thesis 2.

Table 1. Theoretical frameworks underpinning Thesis 2

Framework	What it says	Role in Thesis 2
NPV / DCF	Investment value = discounted future cash flows minus upfront cost.	Core tool for the ROI model: certification cost is the outlay; energy savings and revenue premium are the cash flows.
Price Elasticity Theory	Demand responds to price changes; the elasticity coefficient shows how sensitive bookings are to a rate increase.	Determines whether the green room premium can be charged without losing so many bookings that net revenue falls.
Green Credit Risk Theory	A borrower's environmental performance is a real credit signal: greener borrowers default less and have more stable cash flows.	Justifies adding green certification status to a bank's hotel credit scorecard and adjusting the loan rate accordingly.
ESG Finance Theory	Environmental, social and governance factors affect long-run asset value and borrowing costs.	Motivates the inclusion of green certification in investment appraisal and supports access to MDB concessional finance.
Modern Portfolio Theory	Diversification reduces risk; assets with low default-correlation improve portfolio quality.	Green hotels may reduce a bank's credit portfolio risk by diversifying away from assets correlated with conventional cyclical downturns.

3. Evidence Across Four Financial Pillars

3.1 Cost-Benefit Analysis and ROI of Green Certification

Green certification produces two types of financial benefit. The first is cost savings from energy, water, and waste reduction — these occur regardless of whether guests notice the certification. The second is a revenue premium from higher room rates and better corporate contract access. A peer-reviewed study (PLOS ONE) found a conservative mean WTP of approximately \$1.55 per night extra for green-certified rooms — a modest but real revenue premium. An industry case study from Denver showed a \$14/night realized premium plus a significant gain in corporate contract win rate, generating around \$890,000 in additional annual revenue. The gap between these two figures is instructive: survey-based WTP tends to underestimate actual market premiums, but case studies may be unrepresentative. The NPV model for Thesis 2 should test both as a lower and upper bound.

Investment costs should be divided into three tiers: low-cost interventions (LED lighting, behaviour-change programmes) with 1–3 year payback; medium-cost upgrades (HVAC, insulation) with 3–7 years; and high-cost structural investments (solar, grey-water systems) with 8–15 years. Critically, at Uzbekistan's current commercial lending rates (around 20–24% annually), most medium-to-long payback green investments are financially unviable without concessional development-bank financing at 3–8%.

3.2 Price Elasticity of Demand

Price elasticity determines whether a hotel can actually charge a green premium without losing so many bookings that net revenue falls. A large-scale econometric study of over 2,500 US hotels (Cornell Hospitality Quarterly, 2018–2021) found that hotel demand is generally price-inelastic — moderate rate increases do not cause proportional occupancy losses. A second study using booking data across multiple markets found elasticity ranging from -0.47 for advance/pre-planned stays (very inelastic) to -1.49 for last-minute bookings (slightly elastic). The practical implication is that a green premium is most financially defensible for international tourists booking in advance — exactly the profile of visitors to Uzbekistan's heritage destinations. Domestic tourists and last-minute bookers are more price-sensitive and should be modelled under a more elastic (conservative) assumption. Importantly, all reviewed elasticity evidence comes from Western markets; Central Asian-specific estimates do not yet exist in the literature.

3.3 Green Lending and Bank Credit Risk

For a bank evaluating an eco-hotel loan in Uzbekistan, standard credit metrics (debt service coverage, loan-to-value, cash flow history) are necessary but insufficient. Green hotel projects have characteristics conventional underwriting misses: longer investment payback periods, a customer base that behaves differently from average hotel guests, and lower regulatory risk over the loan tenure if environmental standards tighten. Three key findings from the reviewed banking literature support a green hotel lending advantage. First, a panel study of BRIC-country banks found that lending to environmentally performing SMEs reduces portfolio default rates and improves net interest margin. Second, European banking research found that sustainable SME credit portfolios improve bank solvency (Z-Score), consistent with Modern Portfolio Theory's diversification logic. Third, capital markets research shows that banks with stronger green lending track records receive a valuation premium from equity investors. Together, these findings justify a modified hotel credit scorecard that: (a) gives a positive risk adjustment to green-certified borrowers; (b) stress-tests debt service coverage under three revenue scenarios (full premium, elasticity-adjusted, and no-premium); and (c) incorporates a blended interest rate where MDB concessional financing is part of the capital structure.

3.4 ESG and the Emerging-Market Finance Context

The macro context for green hotel finance in Central Asia is defined by a large sustainable-finance gap. The IMF estimates the annual SDG financing gap in developing countries at approximately \$2.5 trillion, though sustainable debt issuance by multilateral institutions grew from \$13 billion in 2017 to \$201 billion by 2021. Blended finance — combining MDB concessional capital with commercial bank funding — is the primary practical instrument for closing this gap in markets like Uzbekistan. An MDB (ADB, EBRD, or the Islamic Development Bank, all active in Uzbekistan) can provide a first-loss tranche or partial guarantee that lowers the effective cost of capital enough to make commercial co-financing viable. ESG regulatory frameworks in Asia are also shifting toward mandatory disclosure, which will increasingly make green performance a prerequisite for accessing international capital — another reason Uzbek hotel operators and banks should build green certification and reporting capacity now rather than later.

4. Synthesis of Reviewed Studies

Table 2. Key studies reviewed and their contribution to Thesis 2

Study	Method	Context	Key finding for Thesis 2
Tourist WTP for green hotel certification at 5	Survey / WTP elicitation	USA hotel guests	Mean WTP ≈ \$1.55/night extra — conservative peer-

price levels (PLOS ONE)			reviewed revenue input for the NPV model.
ENERGY STAR hotel certification case (Denver)	Industry case study	USA single property	\$14/night premium + 17pp corporate contract gain = ~\$890k incremental revenue/year. Illustrates upside but is not peer-reviewed.
Price elasticity of hotel demand, 2,500+ properties (Cornell Hospitality Quarterly)	Econometric panel model	USA hotels 2018–2021	Hotel demand is generally price-inelastic — moderate green premium unlikely to cause large occupancy losses.
Price elasticity by booking type and segment (ScienceDirect)	Large-scale data analytics	Multi-country	PED ranges from -0.47 (advance bookings) to -1.49 (last-minute) — segment matters; green premium safer for pre-planned stays.
Green SME lending and bank credit risk in BRIC economies (Elsevier)	Panel regression	BRIC banks	Green SME lending reduces portfolio default risk and raises net interest margin — green hotel loans can improve bank performance.
Sustainable lending and bank solvency (ScienceDirect)	Z-Score / panel data	European banks	Green SME credit portfolios improve bank solvency — a risk-adjusted framework template for Uzbek banks.
Sustainable finance in emerging markets (IMF Working Paper)	Policy analysis / descriptive stats	Global developing countries	SDG finance gap $\approx$ \$2.5trn/year; blended MDB instruments are the key de-risking tool for green investment in emerging markets.

5. Proposed Framework and Hypotheses

The integrated financial viability framework proposed for Thesis 2 consists of three interacting modules: (a) an NPV/IRR investment appraisal module combining cost savings, the WTP-based revenue premium from Thesis 1, and discount-rate scenarios from commercial to blended MDB rates; (b) a demand-risk module applying segment-specific price elasticity adjustments; and (c) a bank credit-assessment module that adds environmental-performance scoring to standard hotel underwriting criteria and stress-tests debt service coverage across revenue scenarios.

Three cross-pillar insights shape this framework. First, the financial case for green hotels is strongest when both the cost-saving and revenue-premium streams are included — studies focusing on only one understate or overstate the investment case. Second, financing structure is not a backdrop but a determinant of viability: at current Uzbek commercial rates, most green hotel projects need MDB co-financing to produce a positive NPV. Third, Central Asia is absent from all four evidence streams, meaning every parameter borrowed from Western or BRIC studies carries significant context-transfer uncertainty and requires local calibration.

The following seven hypotheses are proposed for empirical testing:

- H1: Green-certified hotels in Uzbekistan generate lower operating costs than non-certified comparable properties, producing a positive cost-saving NPV contribution independent of any revenue premium.
- H2: The revenue premium attributable to green certification (difference in ADR between certified and non-certified hotels) is statistically significant and positive in the Uzbek market.
- H3: Price elasticity of demand for green accommodation is lower in absolute value for international tourists than for domestic tourists in Uzbekistan.
- H4: Green hotel projects financed with a blended MDB concessional tranche produce a positive NPV; the same projects produce a negative NPV under purely commercial financing at current Uzbek lending rates.
- H5: Banks that include environmental-performance indicators in hotel credit assessments report lower non-performing loan ratios in their hospitality portfolios.
- H6: Access to MDB co-financing is the single most important enabler of green hotel investment viability in the Central Asian context.
- H7: The absence of a recognized green certification scheme calibrated to the Central Asian market is a binding constraint on both investor ROI calculations and bank underwriting.

6. Conclusion

This review synthesises financial evidence on eco-hotel viability across cost-benefit analysis, price elasticity, green lending, and emerging-market sustainable finance. The key conclusions are: green certification generates real but modest financial returns through both savings and revenue premiums; hotel demand is generally inelastic enough to sustain a moderate green rate premium, though domestic tourists are more price-sensitive; lending to green hotel borrowers reduces bank credit risk and improves portfolio performance; and blended MDB financing is a practical necessity for making eco-hotel projects viable in Uzbekistan at current commercial lending rates. Combined with the consumer-side evidence from Thesis 1, this paper provides the financial foundation for a doctoral research programme that bridges tourist willingness to pay and the investment and lending decisions that determine whether green hotels actually get built.

References

1. Amundi Research Center. (2023). ESG Thema #12: Responsible investing in Asia. Amundi Asset Management.
2. Amundi Research Center. (2026). RI Pulse: Unpacking Asia's 2025 sustainable finance playbook. Amundi Asset Management.
3. International Monetary Fund. (2021). Sustainable finance in emerging markets: Evolution, challenges and policy priorities (IMF Working Paper). IMF.
4. Markowitz, H. (1952). Portfolio selection. *Journal of Finance*, 7(1), 77–91.
5. Singh, A., & Wenjie, C. (2019). Tourist willingness to pay for local green hotel certification. *PLOS ONE*.
6. [Cornell Hospitality Quarterly price elasticity study — full citation to be added after author verification of volume, issue, and DOI.]
7. [Large-scale price elasticity by booking type — full citation to be added from ScienceDirect after author verification.]
8. [Green SME lending and bank credit risk in BRIC economies — full citation to be added from *Economic Analysis and Policy*, Elsevier, after author verification.]
9. [Sustainable lending and bank solvency, European SMEs — full citation to be added from ScienceDirect after author verification.]